

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

BROOK + WHITTLE LTD,

Plaintiff,

v.

NESTLÉ USA, INC., ET AL.,

Defendants.

Case No. 2:24-CV-00735-JRG-RSP

**DEFENDANTS' SUPPLEMENTAL P.R. 3-3 AND 3-4
INVALIDITY CONTENTIONS AND DISCLOSURES**

I. PRELIMINARY STATEMENT

Pursuant to Rules 3-3 and 3-4 of the Patent Local Rules for the Eastern District of Texas, the Court's Standing Order Regarding Subject-Matter Eligibility Contentions ("Standing Order"), and the Court's Docket Control Order (Dkt. No. 16), Defendants Nestlé USA, Inc. ("NUSA") and Fuji Seal International, Inc. ("FSI") (collectively, "Defendants") submit the following Supplemental Invalidity Contentions in connection with the above-captioned case.

These Supplemental Invalidity Contentions address claims 1-19 ("Asserted Claims") of U.S. Patent No. 11,961,422 ("the '422 Patent" or "Asserted Patent"), which are alleged by Plaintiff Brook + Whittle, Ltd. ("B+W") to be infringed by Defendants in B+W's Disclosure of Asserted Claims and Infringement Contentions ("Infringement Contentions"). In the Infringement Contentions, B+W alleges that the labels used on NUSA's Nesquick and Coffee mate products ("Accused Products") infringe the Asserted Claims. B+W's Infringement Contentions are deemed to be its final contentions under P. R. 3-6. Should the Court permit B+W to later assert different or additional infringement theories with respect to the Asserted Claims, Defendants reserve the right to supplement these Supplemental Invalidity Contentions to assert invalidity under those different or additional infringement theories. Defendants also reserve the right to supplement these Supplemental Invalidity Contentions in response to information learned in fact or expert discovery, including the identification of additional prior art.

These Supplemental Invalidity Contentions are based in whole or in part on Defendants' present understanding of the Asserted Claims and B+W's application of the Asserted Claims to the Accused Products demonstrated in B+W's Infringement Contentions, including priority dates of the Asserted Patent and each of the Asserted Claims recited therein.

Moreover, these Supplemental Invalidity Contentions are responsive at least to the same level of specificity as B+W's Infringement Contentions. In preparing these Supplemental Invalidity Contentions, Defendants took into account B+W's apparent claim constructions, to the extent such constructions could be gleaned from B+W's Infringement Contentions. Such apparent claim constructions may be inconsistent with the constructions Defendants ultimately will propose in this case. By including prior art that would anticipate or render obvious the Asserted Claims based on B+W's disclosed or apparent claim constructions, or based on any other particular claim construction, it shall not be assumed or understood that Defendants are adopting said claim constructions, nor should it be assumed or understood that Defendants are admitting to the accuracy of any particular claim construction. The Court has established separate deadlines for the parties' proposed claim constructions, and Defendants will disclose their proposed constructions according to those deadlines. Solely for the purpose of these Supplemental Invalidity Contentions, Defendants may, if necessary, apply alternative, and even inconsistent, claim construction positions. Defendants reserve all rights to amend these Supplemental Invalidity Contentions after the Court issues its claim construction ruling, or if the Court permits B+W to amend its Infringement Contentions.

Defendants do not concede that B+W's Infringement Contentions meet the specificity required under P. R. 3-1, and Defendants provide these Supplemental Invalidity Contentions without waiving any right to receive from B+W more complete and specific Infringement Contentions as discovery proceeds in this case. Moreover, nothing in these Supplemental Invalidity Contentions and Disclosures shall in any way be construed as an admission that any of the Accused Products, or any of Defendants' other products, infringe any of the Asserted Claims.

Defendants also reserve the right to challenge the priority date of the Asserted Patent, or

any of the Asserted Claims. To date, B+W has failed to satisfy its burden to show that the Asserted Patent or any of the Asserted Claims are entitled to an earlier effective filing date than the June 30, 2023 filing date of the patent application that issued as the Asserted Patent. Defendants further reserve the right to assert invalidity under any provision of the Patent Act, 35 U.S.C. § 1, et seq., subject to further discovery and investigation including the identification of evidence that may be relevant to any invalidity defense that subsequently arises in this case.

Defendants' investigation in connection with this lawsuit is continuing. These Supplemental Invalidity Contentions are based on information obtained to date. Among other things, discovery is still underway, witnesses remain to be deposed, and the Court has yet to construe any terms of the Asserted Claims. Accordingly, Defendants' Supplemental Invalidity Contentions are subject to modification, amendment, or supplementation in accordance with the Court's Docket Control Order, the Local and Patent Rules of this Court, or the Federal Rules of Civil Procedure as this action progresses and additional information is obtained.

II. P. R. 3-3 DISCLOSURES

Defendants identify the following prior art to the Asserted Patent. Defendants contend that the prior art references disclosed below generally relate to the subject matter of the Asserted Patent and at least serve as background art for the claimed invention of the Asserted Patent. Defendants expressly reserve the right to at least use and rely on any of the prior art cited herein to establish or otherwise support Defendants' contentions as to what was known in the state of the art of the Asserted Patent.

A. Prior Art that Allegedly Anticipates or Renders Obvious the Asserted Claims

1. Patents and Published Patent Applications

The following prior art patents and published patent applications invalidate the Asserted Claims and/or provide background regarding the state of the art at the time of the alleged invention:

CHART	REFERENCE	ORIGIN	DATE OF ISSUE OR PUBLICATION
1	2017114041 ("Kitano")	JP	June 29, 2017
2	11,358,363 ("Schurr")	US	June 14, 2022
3	7,807,255 ("Tsuchida")	US	October 5, 2010
4	2019/0055043 ("Matsunaga")	US	February 21, 2019
5	2016/0361939 ("Keulders")	US	December 15, 2016
6	2007083518 ("Sugimori")	JP	April 5, 2007
7	2015/004314 ("Mitchell I")	WO	January 15, 2015
8	2004250040 ("Ota")	JP	September 9, 2004
9	9,102,191 ("Yamada")	US	August 11, 2015
10	2023/0287189 ("Takahashi")	US	September 14, 2023
11	2022/0389214 ("Lee")	US	December 8, 2022
12	4111874 ("Masato")	JP	December 16, 2004
13	2009/0233067 ("Doornheim")	US	September 17, 2009
14	7,182,997 ("Murschall")	US	February 27, 2007
15	2003200966 ("Kanamori")	JP	July 15, 2003
16	2015/058184 ("Nair")	WO	April 23, 2015
17	2006/0155007 ("Huber")	US	July 13, 2006
18	2016/0136934 ("Mitchell II")	US	May 19, 2016
19	2017/0223879 ("Mitchell III")	US	August 3, 2017
20	2009/214535 ("Sasaki")	JP	September 24, 2009
21	5,395,681 ("Hargarter")	US	March 7, 1995
22	2021/0394468 ("Peters")	US	December 23, 2021

2. Non-Patent Publications

The following prior art non-patent publications invalidate the Asserted Claims and/or provide background regarding the state of the art at the time of the alleged invention:

CHART	REFERENCE	ORIGIN	DATE OF ISSUE OR PUBLICATION
23	Nordic Pulp		2009

3. Items Offered for Sale or Publicly Used or Known

The following prior art products or devices invalidate the Asserted Claims and/or provide background regarding the state of the art at the time of the alleged invention.

CHART	REFERENCE	ORIGIN	DATE OF ISSUE OR PUBLICATION
25	Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")	US	2020
26	Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")	US	2018

B. Anticipation and Obvious Combinations

The following chart indicates whether each item of prior art identified above anticipates any Asserted Claim or renders it obvious.

CHART	REFERENCE	ANTICIPATES	RENDERS OBVIOUS
1	Kitano	1-7, 10, 11, 14-16, 19	8, 9, 12, 13, 17, 18
2	Schurr	1-7, 10, 11, 14-16, 19	8, 9, 12, 13, 17, 18
3	Tsuchida	1-7, 10, 11, 14-16, 18, 19	8, 9, 12, 13, 17
4	Matsunaga	1-8, 10, 11, 14-17, 19	9, 12, 13, 18
5	Keulders	1-11, 14-17, 19	12, 13, 18
6	Sugimori	1-3, 5, 6, 10-11, 16, 18, 19	4, 7-9, 12-15, 17
7	Mitchell I	19	1-18
8	Ota	19	1-18
9	Yamada	-	1-19
10	Takahashi	-	1-19
11	Lee	-	1-19
12	Masato	-	1-19
13	Doornheim	-	1-19
14	Murschall	-	1-19
15	Kanamori	-	1-19
16	Nair	-	1-19
17	Huber	-	1-19
18	Mitchell II	-	1-19
19	Mitchell III	-	1-19
20	Sasaki	-	1-19
21	Hargarter	-	1-19
22	Peters	-	1-19
25	Gatorade	1-3, 5-19	1-19
26	Febreze	-	4

The following chart identifies combinations of prior art that if combined or modified by a person of ordinary skill in the art ("POSITA") would make the Asserted Claims obvious:

COMBINED REFERENCES	ASSERTED CLAIMS
Kitano + POSITA	1-19
Schurr + POSITA	1-19
Tsuchida + POSITA	1-19
Matsunaga + POSITA	1-19
Keulders + POSITA	1-19
Sugimori + POSITA	1-19
Kitano + Matsunaga	1-8, 10, 11, 14-17, 19
Kitano + Keulders	1-11, 14-17, 19
Kitano + Mitchell I	1-7, 10, 11, 14-16, 17-19
Kitano + Ota	1-7, 10, 11, 14-16, 19
Kitano + Yamada	1-7, 10, 11, 14-16, 19
Kitano + Takahashi	1-7, 10, 11, 14-16, 18, 19
Kitano + Lee	1-7, 10, 11, 14-16, 18, 19
Kitano + Masato	1-11, 14-17, 19
Kitano + Doornheim	1-11, 14-16, 19
Kitano + Murschall	1-7, 10, 11, 14-16, 18, 19
Kitano + Nair	1-11, 14-19
Schurr + Matsunaga	1-8, 10, 11, 14-17, 19
Schurr + Keulders	1-11, 14-17, 19
Schurr + Mitchell I	1-7, 10, 11, 14-16, 17-19
Schurr + Ota	1-7, 10, 11, 14-16, 19
Schurr + Yamada	1-7, 10, 11, 14-16, 19
Schurr + Takahashi	1-7, 10, 11, 14-16, 18, 19
Schurr + Lee	1-7, 10, 11, 14-16, 18, 19
Schurr + Masato	1-11, 14-17, 19
Schurr + Doornheim	1-11, 14-16, 19
Schurr + Murschall	1-7, 10, 11, 14-16, 18, 19
Schurr + Nair	1-11, 14-19
Tsuchida + Matsunaga	1-8, 10, 11, 14-17, 19
Tsuchida + Keulders	1-11, 14-17, 19
Tsuchida + Mitchell I	1-7, 10, 11, 14-16, 17-19
Tsuchida + Ota	1-7, 10, 11, 14-16, 19
Tsuchida + Yamada	1-7, 10, 11, 14-16, 19
Tsuchida + Takahashi	1-7, 10, 11, 14-16, 18, 19
Tsuchida + Lee	1-7, 10, 11, 14-16, 18, 19

COMBINED REFERENCES	ASSERTED CLAIMS
Tsuchida + Masato	1-11, 14-17, 19
Tsuchida + Doornheim	1-11, 14-16, 19
Tsuchida + Murschall	1-7, 10, 11, 14-16, 18, 19
Tsuchida + Nair	1-11, 14-19
Matsunaga + Keulders	1-11, 14-17, 19
Matsunaga + Mitchell I	1-7, 10, 11, 14-16, 17-19
Matsunaga + Ota	1-7, 10, 11, 14-16, 19
Matsunaga + Yamada	1-7, 10, 11, 14-16, 19
Matsunaga + Takahashi	1-7, 10, 11, 14-16, 18, 19
Matsunaga + Lee	1-7, 10, 11, 14-16, 18, 19
Matsunaga + Masato	1-11, 14-17, 19
Matsunaga + Doornheim	1-11, 14-16, 19
Matsunaga + Murschall	1-7, 10, 11, 14-16, 18, 19
Matsunaga + Nair	1-11, 14-19
Keulders + Matsunaga	1-8, 10, 11, 14-17, 19
Keulders + Mitchell I	1-11, 14-19
Keulders + Ota	1-7, 10, 11, 14-16, 19
Keulders + Yamada	1-7, 10, 11, 14-16, 19
Keulders + Takahashi	1-7, 10, 11, 14-16, 18, 19
Keulders + Lee	1-7, 10, 11, 14-16, 18, 19
Keulders + Masato	1-11, 14-17, 19
Keulders + Doornheim	1-11, 14-16, 19
Keulders + Murschall	1-7, 10, 11, 14-16, 18, 19
Keulders + Nair	1-11, 14-19
Sugimori + Matsunaga	1-8, 10, 11, 14-17, 19
Sugimori + Keulders	1-11, 14-17, 19
Sugimori + Mitchell I	1-7, 10, 11, 14-16, 17-19
Sugimori + Ota	1-7, 10, 11, 14-16, 19
Sugimori + Yamada	1-7, 10, 11, 14-16, 19
Sugimori + Takahashi	1-7, 10, 11, 14-16, 18, 19
Sugimori + Lee	1-7, 10, 11, 14-16, 18, 19
Sugimori + Masato	1-11, 14-17, 19
Sugimori + Doornheim	1-11, 14-16, 19
Sugimori + Murschall	1-7, 10, 11, 14-16, 18, 19
Sugimori + Nair	1-11, 14-19
Yamada + Huber + Nair	1-19
Kitano + Matsunaga + POSITA	1-19
Kitano + Keulders + POSITA	1-19

COMBINED REFERENCES	ASSERTED CLAIMS
Kitano + Mitchell I + POSITA	1-19
Kitano + Ota + POSITA	1-19
Kitano + Yamada + POSITA	1-19
Kitano + Takahashi + POSITA	1-19
Kitano + Lee + POSITA	1-19
Kitano + Masato + POSITA	1-19
Kitano + Doornheim + POSITA	1-19
Kitano + Murschall + POSITA	1-19
Kitano + Nair + POSITA	1-19
Schurr + Matsunaga + POSITA	1-19
Schurr + Keulders + POSITA	1-19
Schurr + Mitchell I + POSITA	1-19
Schurr + Ota + POSITA	1-19
Schurr + Yamada + POSITA	1-19
Schurr + Takahashi + POSITA	1-19
Schurr + Lee + POSITA	1-19
Schurr + Masato + POSITA	1-19
Schurr + Doornheim + POSITA	1-19
Schurr + Murschall + POSITA	1-19
Schurr + Nair + POSITA	1-19
Tsuchida + Matsunaga + POSITA	1-19
Tsuchida + Keulders + POSITA	1-19
Tsuchida + Mitchell I + POSITA	1-19
Tsuchida + Ota + POSITA	1-19
Tsuchida + Yamada + POSITA	1-19
Tsuchida + Takahashi + POSITA	1-19
Tsuchida + Lee + POSITA	1-19
Tsuchida + Masato + POSITA	1-19
Tsuchida + Doornheim + POSITA	1-19
Tsuchida + Murschall + POSITA	1-19
Tsuchida + Nair + POSITA	1-19
Matsunaga + Keulders + POSITA	1-19
Matsunaga + Mitchell I + POSITA	1-19
Matsunaga + Ota + POSITA	1-19
Matsunaga + Yamada + POSITA	1-19
Matsunaga + Takahashi + POSITA	1-19
Matsunaga + Lee + POSITA	1-19
Matsunaga + Masato + POSITA	1-19

COMBINED REFERENCES	ASSERTED CLAIMS
Matsunaga + Doornheim + POSITA	1-19
Matsunaga + Murschall + POSITA	1-19
Matsunaga + Nair + POSITA	1-19
Keulders + Matsunaga + POSITA	1-19
Keulders + Mitchell I + POSITA	1-19
Keulders + Ota + POSITA	1-19
Keulders + Yamada + POSITA	1-19
Keulders + Takahashi + POSITA	1-19
Keulders + Lee + POSITA	1-19
Keulders + Masato + POSITA	1-19
Keulders + Doornheim + POSITA	1-19
Keulders + Murschall + POSITA	1-19
Keulders + Nair + POSITA	1-19
Sugimori + Matsunaga + POSITA	1-19
Sugimori + Keulders + POSITA	1-19
Sugimori + Mitchell I + POSITA	1-19
Sugimori + Ota + POSITA	1-19
Sugimori + Yamada + POSITA	1-19
Sugimori + Takahashi + POSITA	1-19
Sugimori + Lee + POSITA	1-19
Sugimori + Masato + POSITA	1-19
Sugimori + Doornheim + POSITA	1-19
Sugimori + Murschall + POSITA	1-19
Sugimori + Nair + POSITA	1-19
Kitano + Keulders + Mitchell I	1-11, 14-19
Kitano + Keulders + Nair	1-11, 14-19
Kitano + Masato + Mitchell I	1-11, 14-19
Kitano + Masato + Nair	1-11, 14-19
Kitano + Nair + Mitchell I	1-11, 14-19
Schurr + Keulders + Mitchell I	1-11, 14-19
Schurr + Keulders + Nair	1-11, 14-19
Schurr + Masato + Mitchell I	1-11, 14-19
Schurr + Masato + Nair	1-11, 14-19
Schurr + Nair + Mitchell I	1-11, 14-19
Tsuchida + Keulders + Mitchell I	1-11, 14-19
Tsuchida + Keulders + Nair	1-11, 14-19
Tsuchida + Masato + Mitchell I	1-11, 14-19
Tsuchida + Masato + Nair	1-11, 14-19

COMBINED REFERENCES	ASSERTED CLAIMS
Tsuchida + Nair + Mitchell I	1-11, 14-19
Matsunaga + Keulders + Mitchell I	1-11, 14-19
Matsunaga + Keulders + Nair	1-11, 14-19
Matsunaga + Masato + Mitchell I	1-11, 14-19
Matsunaga + Masato + Nair	1-11, 14-19
Matsunaga + Nair + Mitchell I	1-11, 14-19
Keulders + Yamada + Mitchell I	1-11, 14-19
Keulders + Yamada + Nair	1-11, 14-19
Keulders + Takahashi + Mitchell I	1-11, 14-19
Keulders + Takahashi + Nair	1-11, 14-19
Keulders + Lee + Mitchell I	1-11, 14-19
Keulders + Lee + Nair	1-11, 14-19
Sugimori + Keulders + Mitchell I	1-11, 14-19
Sugimori + Keulders + Nair	1-11, 14-19
Sugimori + Masato + Mitchell I	1-11, 14-19
Sugimori + Masato + Nair	1-11, 14-19
Sugimori + Nair + Mitchell I	1-11, 14-19
Yamada + Huber + Keulders + Mitchell I	1-19
Yamada + Huber + Keulders + Nair	1-19
Yamada + Huber + Masato + Mitchell I	1-19
Yamada + Huber + Masato + Nair	1-19
Yamada + Huber + Nair + POSITA	1-19
Keulders + Yamada + Mitchell I + POSITA	1-19
Keulders + Yamada + Nair + POSITA	1-19
Keulders + Takahashi + Mitchell I + POSITA	1-19
Keulders + Takahashi + Nair + POSITA	1-19
Keulders + Lee + Mitchell I + POSITA	1-19
Keulders + Lee + Nair + POSITA	1-19
Kitano + Yamada + Keulders + Mitchell I	1-11, 14-19
Kitano + Yamada + Keulders + Nair	1-11, 14-19
Kitano + Yamada + Masato + Mitchell I	1-11, 14-19
Kitano + Yamada + Masato + Nair	1-11, 14-19
Kitano + Yamada + Nair + Mitchell I	1-11, 14-19
Kitano + Takahashi + Keulders + Mitchell I	1-11, 14-19
Kitano + Takahashi + Keulders + Nair	1-11, 14-19
Kitano + Takahashi + Masato + Mitchell I	1-11, 14-19
Kitano + Takahashi + Masato + Nair	1-11, 14-19
Kitano + Takahashi + Nair + Mitchell I	1-11, 14-19

COMBINED REFERENCES	ASSERTED CLAIMS
Kitano + Lee + Keulders + Mitchell I	1-11, 14-19
Kitano + Lee + Keulders + Nair	1-11, 14-19
Kitano + Lee + Masato + Mitchell I	1-11, 14-19
Kitano + Lee + Masato + Nair	1-11, 14-19
Kitano + Lee + Nair + Mitchell I	1-11, 14-19
Schurr + Yamada + Keulders + Mitchell I	1-11, 14-19
Schurr + Yamada + Keulders + Nair	1-11, 14-19
Schurr + Yamada + Masato + Mitchell I	1-11, 14-19
Schurr + Yamada + Masato + Nair	1-11, 14-19
Schurr + Yamada + Nair + Mitchell I	1-11, 14-19
Schurr + Takahashi + Keulders + Mitchell I	1-11, 14-19
Schurr + Takahashi + Keulders + Nair	1-11, 14-19
Schurr + Takahashi + Masato + Mitchell I	1-11, 14-19
Schurr + Takahashi + Masato + Nair	1-11, 14-19
Schurr + Takahashi + Nair + Mitchell I	1-11, 14-19
Schurr + Lee + Keulders + Mitchell I	1-11, 14-19
Schurr + Lee + Keulders + Nair	1-11, 14-19
Schurr + Lee + Masato + Mitchell I	1-11, 14-19
Schurr + Lee + Masato + Nair	1-11, 14-19
Schurr + Lee + Nair + Mitchell I	1-11, 14-19
Tsuchida + Yamada + Keulders + Mitchell I	1-11, 14-19
Tsuchida + Yamada + Keulders + Nair	1-11, 14-19
Tsuchida + Yamada + Masato + Mitchell I	1-11, 14-19
Tsuchida + Yamada + Masato + Nair	1-11, 14-19
Tsuchida + Yamada + Nair + Mitchell I	1-11, 14-19
Tsuchida + Takahashi + Keulders + Mitchell I	1-11, 14-19
Tsuchida + Takahashi + Keulders + Nair	1-11, 14-19
Tsuchida + Takahashi + Masato + Mitchell I	1-11, 14-19
Tsuchida + Takahashi + Masato + Nair	1-11, 14-19
Tsuchida + Takahashi + Nair + Mitchell I	1-11, 14-19
Tsuchida + Lee + Keulders + Mitchell I	1-11, 14-19
Tsuchida + Lee + Keulders + Nair	1-11, 14-19
Tsuchida + Lee + Masato + Mitchell I	1-11, 14-19
Tsuchida + Lee + Masato + Nair	1-11, 14-19
Tsuchida + Lee + Nair + Mitchell I	1-11, 14-19
Matsunaga + Yamada + Keulders + Mitchell I	1-11, 14-19
Matsunaga + Yamada + Keulders + Nair	1-11, 14-19
Matsunaga + Yamada + Masato + Mitchell I	1-11, 14-19

COMBINED REFERENCES	ASSERTED CLAIMS
Matsunaga + Yamada + Masato + Nair	1-11, 14-19
Matsunaga + Yamada + Nair + Mitchell I	1-11, 14-19
Matsunaga + Takahashi + Keulders + Mitchell I	1-11, 14-19
Matsunaga + Takahashi + Keulders + Nair	1-11, 14-19
Matsunaga + Takahashi + Masato + Mitchell I	1-11, 14-19
Matsunaga + Takahashi + Masato + Nair	1-11, 14-19
Matsunaga + Takahashi + Nair + Mitchell I	1-11, 14-19
Matsunaga + Lee + Keulders + Mitchell I	1-11, 14-19
Matsunaga + Lee + Keulders + Nair	1-11, 14-19
Matsunaga + Lee + Masato + Mitchell I	1-11, 14-19
Matsunaga + Lee + Masato + Nair	1-11, 14-19
Matsunaga + Lee + Nair + Mitchell I	1-11, 14-19
Keulders + Yamada + Masato + Mitchell I	1-11, 14-19
Keulders + Yamada + Masato + Nair	1-11, 14-19
Keulders + Yamada + Nair + Mitchell I	1-11, 14-19
Keulders + Takahashi + Masato + Mitchell I	1-11, 14-19
Keulders + Takahashi + Masato + Nair	1-11, 14-19
Keulders + Takahashi + Nair + Mitchell I	1-11, 14-19
Keulders + Lee + Masato + Mitchell I	1-11, 14-19
Keulders + Lee + Masato + Nair	1-11, 14-19
Keulders + Lee + Nair + Mitchell I	1-11, 14-19
Sugimori + Yamada + Keulders + Mitchell I	1-11, 14-19
Sugimori + Yamada + Keulders + Nair	1-11, 14-19
Sugimori + Yamada + Masato + Mitchell I	1-11, 14-19
Sugimori + Yamada + Masato + Nair	1-11, 14-19
Sugimori + Yamada + Nair + Mitchell I	1-11, 14-19
Sugimori + Takahashi + Keulders + Mitchell I	1-11, 14-19
Sugimori + Takahashi + Keulders + Nair	1-11, 14-19
Sugimori + Takahashi + Masato + Mitchell I	1-11, 14-19
Sugimori + Takahashi + Masato + Nair	1-11, 14-19
Sugimori + Takahashi + Nair + Mitchell I	1-11, 14-19
Sugimori + Lee + Keulders + Mitchell I	1-11, 14-19
Sugimori + Lee + Keulders + Nair	1-11, 14-19
Sugimori + Lee + Masato + Mitchell I	1-11, 14-19
Sugimori + Lee + Masato + Nair	1-11, 14-19
Sugimori + Lee + Nair + Mitchell I	1-11, 14-19
Kitano + Yamada + Keulders + Mitchell I + POSITA	1-19
Kitano + Yamada + Keulders + Nair + POSITA	1-19

COMBINED REFERENCES	ASSERTED CLAIMS
Kitano + Yamada + Masato + Mitchell I + POSITA	1-19
Kitano + Yamada + Masato + Nair + POSITA	1-19
Kitano + Yamada + Nair + Mitchell I + POSITA	1-19
Kitano + Takahashi + Keulders + Mitchell I + POSITA	1-19
Kitano + Takahashi + Keulders + Nair + POSITA	1-19
Kitano + Takahashi + Masato + Mitchell I + POSITA	1-19
Kitano + Takahashi + Masato + Nair + POSITA	1-19
Kitano + Takahashi + Nair + Mitchell I + POSITA	1-19
Kitano + Lee + Keulders + Mitchell I + POSITA	1-19
Kitano + Lee + Keulders + Nair + POSITA	1-19
Kitano + Lee + Masato + Mitchell I + POSITA	1-19
Kitano + Lee + Masato + Nair + POSITA	1-19
Kitano + Lee + Nair + Mitchell I + POSITA	1-19
Schurr + Yamada + Keulders + Mitchell I + POSITA	1-19
Schurr + Yamada + Keulders + Nair + POSITA	1-19
Schurr + Yamada + Masato + Mitchell I + POSITA	1-19
Schurr + Yamada + Masato + Nair + POSITA	1-19
Schurr + Yamada + Nair + Mitchell I + POSITA	1-19
Schurr + Takahashi + Keulders + Mitchell I + POSITA	1-19
Schurr + Takahashi + Keulders + Nair + POSITA	1-19
Schurr + Takahashi + Masato + Mitchell I + POSITA	1-19
Schurr + Takahashi + Masato + Nair + POSITA	1-19
Schurr + Takahashi + Nair + Mitchell I + POSITA	1-19
Schurr + Lee + Keulders + Mitchell I + POSITA	1-19
Schurr + Lee + Keulders + Nair + POSITA	1-19
Schurr + Lee + Masato + Mitchell I + POSITA	1-19
Schurr + Lee + Masato + Nair + POSITA	1-19
Schurr + Lee + Nair + Mitchell I + POSITA	1-19
Tsuchida + Yamada + Keulders + Mitchell I + POSITA	1-19
Tsuchida + Yamada + Keulders + Nair + POSITA	1-19
Tsuchida + Yamada + Masato + Mitchell I + POSITA	1-19
Tsuchida + Yamada + Masato + Nair + POSITA	1-19
Tsuchida + Yamada + Nair + Mitchell I + POSITA	1-19
Tsuchida + Takahashi + Keulders + Mitchell I + POSITA	1-19
Tsuchida + Takahashi + Keulders + Nair + POSITA	1-19
Tsuchida + Takahashi + Masato + Mitchell I + POSITA	1-19
Tsuchida + Takahashi + Masato + Nair + POSITA	1-19
Tsuchida + Takahashi + Nair + Mitchell I + POSITA	1-19

COMBINED REFERENCES	ASSERTED CLAIMS
Tsuchida + Lee + Keulders + Mitchell I + POSITA	1-19
Tsuchida + Lee + Keulders + Nair + POSITA	1-19
Tsuchida + Lee + Masato + Mitchell I + POSITA	1-19
Tsuchida + Lee + Masato + Nair + POSITA	1-19
Tsuchida + Lee + Nair + Mitchell I + POSITA	1-19
Matsunaga + Yamada + Keulders + Mitchell I + POSITA	1-19
Matsunaga + Yamada + Keulders + Nair + POSITA	1-19
Matsunaga + Yamada + Masato + Mitchell I + POSITA	1-19
Matsunaga + Yamada + Masato + Nair + POSITA	1-19
Matsunaga + Yamada + Nair + Mitchell I + POSITA	1-19
Matsunaga + Takahashi + Keulders + Mitchell I + POSITA	1-19
Matsunaga + Takahashi + Keulders + Nair + POSITA	1-19
Matsunaga + Takahashi + Masato + Mitchell I + POSITA	1-19
Matsunaga + Takahashi + Masato + Nair + POSITA	1-19
Matsunaga + Takahashi + Nair + Mitchell I + POSITA	1-19
Matsunaga + Lee + Keulders + Mitchell I + POSITA	1-19
Matsunaga + Lee + Keulders + Nair + POSITA	1-19
Matsunaga + Lee + Masato + Mitchell I + POSITA	1-19
Matsunaga + Lee + Masato + Nair + POSITA	1-19
Matsunaga + Lee + Nair + Mitchell I + POSITA	1-19
Keulders + Yamada + Masato + Mitchell I + POSITA	1-19
Keulders + Yamada + Masato + Nair + POSITA	1-19
Keulders + Yamada + Nair + Mitchell I + POSITA	1-19
Keulders + Takahashi + Masato + Mitchell I + POSITA	1-19
Keulders + Takahashi + Masato + Nair + POSITA	1-19
Keulders + Takahashi + Nair + Mitchell I + POSITA	1-19
Keulders + Lee + Masato + Mitchell I + POSITA	1-19
Keulders + Lee + Masato + Nair + POSITA	1-19
Keulders + Lee + Nair + Mitchell I + POSITA	1-19
Gatorade + POSITA	1-19
Gatorade + POSITA (including Mitchell III)	4
Gatorade + Febreze	4

In addition to the motivations to combine or modify prior art references discussed in the attached charts, a POSITA would have been motivated to combine or modify the prior art references above with a reasonable expectation of success based on many considerations, sources, or reasons, including, but not limited to, the disclosure of the references themselves, including

interrelated teachings of multiple references; the knowledge, skill, or creativity of a POSITA, who is a person of ordinary creativity, not an automaton; the background or state of the art before the effective filing date of the purported invention claimed in the Asserted Patent, including demands known in the design community or pressures present in the marketplace; and the nature of the problems/objectives allegedly addressed by the Asserted Patent.

Moreover, under Supreme Court and Federal Circuit precedent, the following includes a non-exhaustive list of rationales for finding a claim obvious based on a purported combination or modifications of prior art: (1) combining prior art elements according to known methods to yield predictable results; (2) simple substitutions of one known element for another to obtain predictable results; (3) use of a known technique to improve similar devices (methods, or products) in the same way; (4) applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; (5) obvious to try—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; (6) known work in one field of endeavor may prompt variations of it for use in either the same field or a different field based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; (7) some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art references teachings to arrive at the claimed invention.

One or more of these or other rationales apply in considering the obviousness of the Asserted Claims. As an initial matter, the scope and content of the prior art is extensive as heat shrink label technologies, including both light-blocking and recyclable features, existed well before the earliest possible effective filing date of the Asserted Claims. The prior art demonstrates two clear, established goals in the field: creating shrink labels that effectively block light to protect

package contents, and developing recyclable shrink label solutions that are compatible with PET container recycling streams.

For example, as demonstrated by JP2017114041A ("Kitano"), EP1616695A1 ("Tsuchida I"), JP2007083518A ("Sugimori"), and JP2003200966A ("Kanamori"), it would have been obvious to a POSITA to incorporate light-blocking features into shrink labels to address the known problem of protecting container contents from light-induced degradation. And, as demonstrated in US2023/0287189A1 ("Takahashi"), US2022/0389214A1 ("Lee"), and JP4111874A ("Mosato"), which disclose alternative implementations of recyclable heat shrink labels compatible with PET containers, it would have been obvious to a POSITA to look to these references for implementing recyclable configurations to achieve predictable results.

Further, before the earliest possible effective filing date of the Asserted Claims, manufacturers producing heat shrink labels faced design demands and market pressures, as well as related logistical challenge, of meeting both light-blocking and recyclability requirements while maintaining label functionality. Particularly, such motivations included the desire to recycle the heat shrink file along with the container to which it was attached as demonstrated at least by US2022/0389214 ("Lee"). Accordingly, a POSITA would have been motivated to combine the well-known light-blocking techniques with established recyclable materials and structures. As numerous prior art references demonstrate (see e.g., Kitano and U.S. Pat. No. 11,358,363 ("Schurr"), both features were already being implemented in heat shrink label systems, and a POSITA would have been motivated to incorporate these known solutions to enhance shrink label functionality in predictable ways.

Accordingly, for claims directed to recyclable shrink labels comprising PET with light blocking and recyclable features, including that the label is recyclable with a PET container (e.g.,

Claims 1, 14, and 19), a POSITA would have been motivated to combine or modify the references set forth above with a reasonable expectation of success at least to satisfy demands of the design community and market pressures, combining prior art elements according to known methods yielding predictable results or implementing known techniques to known products or elements to effect desired improvements with predictable results. The combination or modification of prior art references above would also have been obvious to try to the extent that, in so doing, a POSITA would have been choosing from a finite number of identifiable, predictable solutions, with a reasonable expectation of success.

Further, claims reciting more particular compositions to be used for light blocking (e.g., Claims 10, 11), a POSITA would again have been motivated to combine known elements, using known techniques, to achieve a predictable result inasmuch as the more particularized compositions were known in the art, disclosed in prior art references, or within the knowledge and skill of a POSITA and would have at least been obvious to try to the extent that, in so doing, a POSITA would have been choosing from a finite number of identifiable, predictable solutions, with a reasonable expectation of success.

For claims that are further directed to employing additional layers for the recyclable shrink labels of Claims 1, 14, and 19 to include, for example, an indicia layer and/or a high opacity layer, and further recite the location thereof (e.g., Claims 2, 3, 4, 15, 16), in addition to these features being disclosed in several of the cited references, such additional features, limitations, or elements would at least be obvious design choices or product optimizations within the knowledge and skill of a POSITA, which could be implemented using known elements and known techniques to reach a predictable result with a reasonable expectation of success.

And for claims further reciting desired product characteristics such as shape, seams, shrink-

ability or the density of composition (e.g., Claims 5, 6, 7, 8, 9, 12, 13, 17, 18), in addition to these features being disclosed in several of the cited references, such additional features, limitation, or elements would, again, at least be obvious design choices or product optimizations within the knowledge and skill of a POSITA, which could be implemented using known elements and known techniques to reach a predictable result with a reasonable expectation of success.

C. Claim Charts

The enclosed charts identify where specifically in each alleged item of prior art each limitation of each of the Asserted Claims can be found. Although Defendants have identified at least one citation per limitation, where present, for the prior art references in the charts included herewith, each and every disclosure of the same limitation in the same reference is not necessarily identified. In other words, in the enclosed charts, Defendants have cited representative portions of the prior art references that show disclosure of the limitations of the Asserted Claims. Where a prior art reference contains additional, uncited portions disclosing the same claim limitation, Defendants may rely on any cited and uncited portions of the prior art references to challenge the validity of the Asserted Claims.

To the extent any limitation is not found to be disclosed or taught by a particular prior art reference, Defendants contend that any such omitted limitation or omitted combination of limitations is inherently or implicitly disclosed or taught by a particular prior art reference, would have been known or obvious to a person of ordinary skill in the art at the time of the invention, or that the omitted limitation is disclosed or taught by another prior art reference and in combination with the particular prior art reference would have rendered the Asserted Claim invalid.

The enclosed charts notwithstanding, Defendants reserve the right to rely on any prior art references disclosed in connection with P.R. 3-4 or previously disclosed by either party for any

purpose, including, but not limited to, describing the state of the art or knowledge of a skilled artisan at the time of the claimed invention or as an invalidating reference alone or in combination with other references. In other words, Defendants contend that a person of ordinary skill in the art would have been motivated to modify and/or combine the disclosures of any prior art reference identified in or produced in connection with these Invalidity Contentions or previously disclosed by either party, in view of and/or with any other prior art reference identified in or produced in connection with these Invalidity Contentions or previously disclosed by either party.

D. Invalidity Based on 35 U.S.C. § 112

The following chart indicates grounds of invalidity based on indefiniteness under 35 U.S.C. § 112(b) or lack of enablement or lack of written description support under 35 U.S.C. § 112(a) for the Asserted Claims:

CHART	DESCRIPTION
24	Invalidity Based on 35 U.S.C. § 112

These Invalidity Contentions are based on information known to Defendants as of the date below with respect to the Asserted Claims. Because discovery is ongoing, Defendants anticipate that additional relevant prior art may become known during this litigation. Defendants have not yet completed their investigation of the claims and defenses in this case, including an analysis of matters relating to the validity or enforceability of the Asserted Claims. Also, at the time of this disclosure, the litigation is in its early stages with subsequent rulings from the Court, including claim construction rulings, as well as expert discovery yet to occur.

By providing these Invalidity Contentions, Defendants do not waive any objections to the disclosure of information or material protected by the attorney-client privilege, work product doctrine, or any other applicable privilege or immunity. Moreover, by providing these Invalidity Contentions, Defendants also do not waive or forfeit any objections they have raised or may raise

in the future regarding the sufficiency or propriety of any disclosure from B+W.

III. P. R. 3-4 DISCLOSURES

Provided in connection with these Invalidity Contentions are (a) source code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of the Accused Products identified by B+W in its P. R. 3-1(c) chart that are in the possession, custody, or control of either Defendant and (b) a copy of each item of prior art identified pursuant to P. R. 3-3(a), including English translations of portions relied upon. By agreement of the parties, Defendants P.R. 3-4 production shall be served on or before January 9, 2025. Defendants reserve the right to supplement their production as Defendants obtain additional prior art references, documentation, products, or corroborating evidence concerning invalidity during the course of discovery.

Dated: February 25, 2025

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CERTIFICATE OF SERVICE

I hereby certify that on February 25, 2025, the foregoing was served on counsel of record
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Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano"), which was filed on December 25, 2015, and published on June 29, 2017, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Kitano invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Kitano discloses a "recyclable shrink label."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">When the laminate of the present invention is applied to a shrink label, it is also possible to make the light shielding layer thinner, for example, 0.4 μm or less, or even 0.2 μm or less, in consideration that light shielding properties increase after heat shrinkage. Even when a thin light shielding layer is provided in this manner, the transmittance of visible light (380 to 780 nm, particularly a wavelength of 500 to 600 nm) after heat shrinkage can be set to one-half or less before heat shrinkage according to the shrinkage ratio.</p> <p>[0021].</p> <p style="padding-left: 40px;">The above white ink was further printed on a shielding layer of the light shielding laminate obtained above by a gravure printing method to provide a layer imparting slipperiness of 0.5 μm in thickness to produce a light shielding shrink film.</p> <p style="padding-left: 40px;">This light shielding shrink film was cut into a product label (160 mm width), a sewing machine for opening the film (0.4 mm perforating blade length, 1.6 mm perforation interval) was inserted at the same time, both end portions were overlapped so as to form a cylinder with the slipperiness imparting layer inside, a mixed solvent (50% by volume of dioxofuran, 50% by volume of methyl ethyl ketone) was applied to the overlap portions, and the substrate layer (PET film for shrink) was dissolved to form a cylindrical shrink label. The location corresponding to the superimposition part is not provided with various printing layers.</p> <p>[0036].</p> <p><i>See also, e.g., Figs. 1-5.</i></p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
	<p>Further, to the extent the preamble of claim 1 is found to be limiting, Kitano also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 1 of the '422 Patent, Kitano discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 1 of the '422 Patent.</p>
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Kitano discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">In the present invention, the substrate layer may use various resins mainly composed of polyolefin resins such as low-density polyethylene, medium-density polyethylene, high-density polyethylene, linear low-density polyethylene, polypropylene, and ethylene-propylene copolymers, ionomer resins, ethylene-acrylate copolymers, ethylene-ethyl acrylate copolymers, polybutene resins, polymethylpentene resins, polyacrylate resins, polyacrylic resins, polyacrylonitrile resins, polyethylene terephthalate (PET) and polyethylene naphthalate, polyamide resins such as nylon, polystyrene resins, polyvinyl chloride resins, polyvinylidene chloride resins, saponified ethylene-vinyl carbonate copolymers, polycarbonate resins, fluorine resins, and synthetic resins such as cellophane and vinylon.</p> <p style="padding-left: 40px;">These may be used alone, two or more resins may be blended, or a multilayer film in which two or more layers are laminated may also be used. Furthermore, even when these films are unstretched, they may be stretched in a uniaxial direction, biaxial directions, or the like. Furthermore, the film may be a heat-shrinkable stretching film or may be non-heat-shrinkable.</p> <p>[0012].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in Figures 1-5.</p> <p>Figs. 1-5.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Kitano discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">When applied to back printing, PET film, polystyrene-based resin film, hybrid film of PET and polystyrene-based resin, and the like are preferable because high transparency is obtained.</p> <p style="padding-left: 40px;">A person having ordinary skill in the art may select the thickness of the film constituting the substrate layer as appropriate depending on the packaging application and the like, but this is not particularly limited and is selected as appropriate within a range that does not impair heat resistance, rigidity, mechanical aptitude, appearance, and the like, with 5 to 90 μm being preferable, and 9 to 70 μm being desirable.</p> <p>[0014].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Kitano discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">As a result of various studies, the present inventors have found that the above object is achieved by a reflective light shielding laminate having a substrate layer, a shielding layer, and a light shielding layer adjacent to the shielding layer, wherein the light shielding layer is one or more layers formed by printing white ink, and the light shielding layer is a layer formed by printing light shielding ink containing binder resin and aluminum particles.</p> <p>[0007].</p> <p style="padding-left: 40px;">(Comparative Example 1)</p> <p style="padding-left: 40px;">A light shielding laminate was produced in the same manner as in example 1, except that, instead of a silver ink containing aluminum paste, a gray ink containing a gray pigment (a mixed pigment composed of titanium dioxide and carbon black) that had been conventionally used as a light shielding ink was used as the light shielding ink.</p> <p>[0041].</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
	<p>In the laminate of the present invention, it is preferable to provide a light shielding layer such that transmittance is 10% or less and furthermore 3% or less over a region of visible light having a wavelength of 500 to 600 nm. In addition, when the substrate layer is a heat-shrinkable film, it is preferable to provide a light shielding layer so that the laminate after the desired heat shrinkage has transmittance within the above range.</p> <p>[0020].</p> <p><i>See also, e.g.,</i> Fig. 1-5.</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Kitano discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Kitano discloses:</p> <p>(Example 1)</p> <p>(Production of reflective light shielding laminate)</p> <p>As a light shielding ink, a non-leafing type aluminum paste (TFG light shielding silver made by Dainichiseika Chemicals & Color Mfg. Co., Ltd., flaked aluminum particles, average particle size of 7 μm and average thickness of 0.2 μm, aluminum particle content of about 10% by mass)</p> <p>[0034].</p> <p><i>See also, e.g.,</i> 0038].</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Kitano discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">Aluminum particles exhibit high whiteness and luster, and excellent light shielding properties are obtained by reflection. Furthermore, when the substrate layer is composed of a heat-shrinkable film, for example, when used as a shrink label packaging material, the light shielding layer composed of aluminum particles takes on a dense surface shape after heat shrinkage, and the gap between the particles becomes even smaller, and an even higher light shielding property can be exhibited. Therefore, the shrink label composed of the laminate of the present invention can exhibit sufficiently excellent light shielding properties after heat shrinkage, even when light shielding ink containing aluminum particles are printed in a thin layer, peeling does not readily occur between ink agglomerates due to rubbing and external impact, and this can be produced at a low cost.</p> <p style="padding-left: 40px;">When the aluminum particles are in a scale form, they may be either of a leafing type or a non-leafing type.</p> <p>[0019].</p> <p style="padding-left: 40px;">(Comparative Example 1)</p> <p style="padding-left: 40px;">A light shielding laminate was produced in the same manner as in example 1, except that, instead of a silver ink containing aluminum paste, a gray ink containing a gray pigment (a mixed pigment composed of titanium dioxide and carbon black) that had been conventionally used as a light shielding ink was used as the light shielding ink.</p> <p>[0041].</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 1	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Kitano discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">The cylindrical shrink label obtained above was supplied to an automatic label mounting device and cut to the required length. Next, the contents (yoghurt beverage) were loaded into a PET bottle and sealed, the cylindrical shrink label described above was adhered to the outer surface of this PET bottle, and the shrink label was applied from the lower end of the mouth to the bottom of the PET bottle through a shrink tunnel heated at 90°C for 10 seconds by a steam heater.</p> <p>[0037].</p> <p>Further, Kitano also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 1 of the '422 Patent, Kitano discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 2	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Kitano discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Kitano also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">As illustrated in FIG. 2, a pattern printing layer 4 may be provided between the substrate layer 1 and the shielding layer 2, wherein printing ink is back printed on the substrate layer 1. Alternatively, as illustrated in FIG. 3, a pattern printing layer 6 may be provided on an opposite side (outer surface side) from the surface on which the shielding layer of the substrate layer is provided so as to be printed by front printing the printing ink. Prior to front printing, the white ink may be solid printed on the substrate layer to provide the white ink layer 5. In addition, a surface protection layer composed of an overprint varnish (OP varnish) or the like may be provided on the picture printing layer 6.</p> <p>[0011].</p> <p><i>See also, e.g.</i>, Figs. 2, 3.</p>

CLAIM 3	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Kitano discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Kitano also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">As the white ink in the present invention, conventional white ink may be used, in which a white pigment is added to a binder resin for inks such as ordinary gravure ink or offset ink, any adjuvant or the like is added as necessary, and mixed with a solvent, diluent, or the like. Here, the white pigment is not particularly limited, and titanium oxide, calcium carbonate, magnesium carbonate, and mixtures composed of two or more of these may be used, but titanium oxide, which is the most common pigment, is preferably used for cost reasons and the like.</p> <p>[0016].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 4	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Kitano discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Kitano also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">As illustrated in FIG. 2, a pattern printing layer 4 may be provided between the substrate layer 1 and the shielding layer 2, wherein printing ink is back printed on the substrate layer 1. Alternatively, as illustrated in FIG. 3, a pattern printing layer 6 may be provided on an opposite side (outer surface side) from the surface on which the shielding layer of the substrate layer is provided so as to be printed by front printing the printing ink. Prior to front printing, the white ink may be solid printed on the substrate layer to provide the white ink layer 5. In addition, a surface protection layer composed of an overprint varnish (OP varnish) or the like may be provided on the picture printing layer 6.</p> <p>[0011].</p> <p><i>See also, e.g.</i>, Figs. 2, 3.</p>

CLAIM 5	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Kitano discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Kitano also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 6	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Kitano discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Kitano also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p>FIG. 6 is a schematic perspective view illustrating a cylindrical shrink label as one form of a light shielding shrink film composed of a laminate of the present invention. As illustrated in FIG. 6, the heat-shrinkable laminate of the present invention may be made configured as a (innermost layer) light shielding layer/shielding layer/substrate layer (outermost layer), and an upper end part 7a and an lower end part 7b, which are both end portions thereof, may be overlapped, and the overlapped portions may be bonded via thermal bonding or adhesive, or a seal portion may be formed by a solvent seal, forming a light shielding shrink label composed of a cylindrical body. Note that the light shielding shrink label may be in the form of a tube.</p> <p>[0028].</p> <p><i>See also, e.g., Fig. 6.</i></p>

CLAIM 7	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Kitano discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>Kitano also discloses "the heat shrink film comprises a seam." For example:</p> <p>FIG. 6 is a schematic perspective view illustrating a cylindrical shrink label as one form of a light shielding shrink film composed of a laminate of the present invention. As illustrated in FIG. 6, the heat-shrinkable laminate of the present invention may be made configured as a (innermost layer) light shielding layer/shielding layer/substrate layer (outermost layer), and an upper end part 7a and an lower end part 7b, which are both end portions thereof, may be overlapped, and the overlapped portions may be bonded via thermal bonding or adhesive, or a seal portion may be formed by a solvent seal, forming a light shielding shrink label composed of a cylindrical body. Note that the light shielding shrink label may be in the form of a tube.</p> <p>[0028].</p> <p><i>See also, e.g., Fig. 6.</i></p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 8	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Kitano discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Kitano also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">When heat-shrinkable, in addition to those formed by a single layer, a heat-shrinkable film having a laminated configuration formed by laminating multiple layers may also be used. In addition, uniaxially-oriented heat-shrinkable films are usually used, but biaxially-oriented heat-shrinkable films that balance vertical and horizontal shrinkage may also be used as necessary for applications.</p> <p style="padding-left: 40px;">A person having ordinary skill in the art may adjust the heat shrinkage factor of the heat-shrinkable film as appropriate according to the application, but for example, a heat-shrinkable resin film produced by adjusting the heat shrinkage factor in the TD direction to 50% to 90% when the film is uniaxially extended in the direction perpendicular to the flow of the film (TD direction) using a tenter method or the like and immersed in warm water at 90°C for 10 seconds may be used. Here, the heat shrinkage factor is a number obtained by the following formula.</p> <p style="padding-left: 40px;">Heat shrinkage ratio (%) = (dimensions before heating - dimensions after heating) / (dimensions before heating) × 100</p> <p>[0013].</p> <p>Further, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 8 of the '422 Patent, Kitano discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 8	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 9	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Kitano discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Kitano also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">When heat-shrinkable, in addition to those formed by a single layer, a heat-shrinkable film having a laminated configuration formed by laminating multiple layers may also be used. In addition, uniaxially-oriented heat-shrinkable films are usually used, but biaxially-oriented heat-shrinkable films that balance vertical and horizontal shrinkage may also be used as necessary for applications.</p> <p style="padding-left: 40px;">A person having ordinary skill in the art may adjust the heat shrinkage factor of the heat-shrinkable film as appropriate according to the application, but for example, a heat-shrinkable resin film produced by adjusting the heat shrinkage factor in the TD direction to 50% to 90% when the film is uniaxially extended in the direction perpendicular to the flow of the film (TD direction) using a tenter method or the like and immersed in warm water at 90°C for 10 seconds may be used. Here, the heat shrinkage factor is a number obtained by the following formula.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 9	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
	<p>Heat shrinkage ratio (%) = (dimensions before heating - dimensions after heating) / (dimensions before heating) × 100</p> <p>[0013].</p> <p>Further, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 9 of the '422 Patent, Kitano discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 10	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Kitano discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Kitano also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.0]-[1.7] and [3]. For example:</p> <p style="padding-left: 40px;">As the white ink in the present invention, conventional white ink may be used, in which a white pigment is added to a binder resin for inks such as ordinary gravure ink or offset ink, any adjuvant or the like is added as necessary, and mixed with a solvent, diluent, or the like. Here, the white pigment is not particularly limited, and titanium oxide, calcium carbonate, magnesium carbonate, and mixtures composed of two or more of these may be used, but titanium oxide, which is the most common pigment, is preferably used for cost reasons and the like.</p> <p>[0016].</p> <p style="padding-left: 40px;">(Comparative Example 1)</p> <p style="padding-left: 40px;">A light shielding laminate was produced in the same manner as in example 1, except that, instead of a silver ink containing aluminum paste, a gray ink containing a gray pigment (a mixed pigment composed of titanium dioxide and carbon black) that had been conventionally used as a light shielding ink was used as the light shielding ink.</p> <p>[0041].</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 11	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	Kitano discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i> Kitano also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i>

CLAIM 12	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	Kitano discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i> This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 13	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Kitano discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Kitano discloses an "article."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">(Covering of bottle)</p> <p style="padding-left: 40px;">The cylindrical shrink label obtained above was supplied to an automatic label mounting device and cut to the required length. Next, the contents (yoghurt beverage) were loaded into a PET bottle and sealed, the cylindrical shrink label described above was adhered to the outer surface of this PET bottle, and the shrink label was applied from the lower end of the mouth to the bottom of the PET bottle through a shrink tunnel heated at 90°C for 10 seconds by a steam heater.</p> <p>[0037].</p> <p><i>See also, e.g., Figs. 1-5.</i></p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 14	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
<p>[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and</p>	<p>Kitano discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">(Production of shrink label)</p> <p style="padding-left: 40px;">The above white ink was further printed on a shielding layer of the light shielding laminate obtained above by a gravure printing method to provide a layer imparting slipperiness of 0.5 μm in thickness to produce a light shielding shrink film.</p> <p style="padding-left: 40px;">This light shielding shrink film was cut into a product label (160 mm width), a sewing machine for opening the film (0.4 mm perforating blade length, 1.6 mm perforation interval) was inserted at the same time, both end portions were overlapped so as to form a cylinder with the slipperiness imparting layer inside, a mixed solvent (50% by volume of dioxofuran, 50% by volume of methyl ethyl ketone) was applied to the overlap portions, and the substrate layer (PET film for shrink) was dissolved to form a cylindrical shrink label. The location corresponding to the superimposition part is not provided with various printing layers.</p> <p>[0036].</p> <p style="padding-left: 40px;">(Covering of bottle)</p> <p style="padding-left: 40px;">The cylindrical shrink label obtained above was supplied to an automatic label mounting device and cut to the required length. Next, the contents (yoghurt beverage) were loaded into a PET bottle and sealed, the cylindrical shrink label described above was adhered to the outer surface of this PET bottle, and the shrink label was applied from the lower end of the mouth to the bottom of the PET bottle through a shrink tunnel heated at 90°C for 10 seconds by a steam heater.</p> <p>[0037].</p> <p><i>See also, e.g., Fig. 6.</i></p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 14	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Kitano discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f].</p> <p>For example, Kitano discloses:</p> <p style="padding-left: 40px;">(Covering of bottle) The cylindrical shrink label obtained above was supplied to an automatic label mounting device and cut to the required length. Next, the contents (yoghurt beverage) were loaded into a PET bottle and sealed, the cylindrical shrink label described above was adhered to the outer surface of this PET bottle, and the shrink label was applied from the lower end of the mouth to the bottom of the PET bottle through a shrink tunnel heated at 90°C for 10 seconds by a steam heater.</p> <p>[0037].</p>

CLAIM 15	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Kitano discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>Kitano also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">(Covering of bottle) The cylindrical shrink label obtained above was supplied to an automatic label mounting device and cut to the required length. Next, the contents (yoghurt beverage) were loaded into a PET bottle and sealed, the cylindrical shrink label described above was adhered to the outer surface of this PET bottle, and the shrink label was applied from the lower end of the mouth to the bottom of the PET bottle through a shrink tunnel heated at 90°C for 10 seconds by a steam heater.</p> <p>[0037].</p> <p><i>See also, e.g., Fig. 6.</i></p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 16	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Kitano discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>Kitano also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">As illustrated in FIG. 2, a pattern printing layer 4 may be provided between the substrate layer 1 and the shielding layer 2, wherein printing ink is back printed on the substrate layer 1. Alternatively, as illustrated in FIG. 3, a pattern printing layer 6 may be provided on an opposite side (outer surface side) from the surface on which the shielding layer of the substrate layer is provided so as to be printed by front printing the printing ink. Prior to front printing, the white ink may be solid printed on the substrate layer to provide the white ink layer 5. In addition, a surface protection layer composed of an overprint varnish (OP varnish) or the like may be provided on the picture printing layer 6.</p> <p>[0011].</p> <p><i>See also, e.g.</i>, Figs. 2, 3.</p>

CLAIM 17	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Kitano discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>Kitano also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [8].</p>

CLAIM 18	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Kitano discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Kitano also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 18	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
	<p>Further, Kitano also inherently discloses the PET is crystallizable. For example, the PET disclosed in Kitano includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 18 of the '422 Patent, Kitano discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 19	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Kitano discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p> <p>Further, to the extent the preamble of claim 19 is found to be limiting, Kitano also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 19 of the '422 Patent, Kitano discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Kitano discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	<p>Kitano discloses "the heat shrink film having a thickness from 15 μm to 100 μm." <i>See above</i>, [1.b].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Kitano discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i>, [1.c].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>
[19.d] a high opacity layer comprising a white pigment,	<p>Kitano discloses "a high opacity layer comprising a white pigment." <i>See above</i>, [3].</p> <p><i>See also, e.g.</i>, Figs. 1-5.</p>

Chart 1 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2017114041 ("Kitano")

CLAIM 19	
'422 Patent Claim Limitation	Kitano Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Kitano discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f]. <i>See also, e.g.</i>, Figs. 1-5.</p> <p>Further, Kitano also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Kitano includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Kitano is the same as that of the "shrink label" of claim 19 of the '422 Patent, Kitano discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent No. 11,358,363 ("Schurr"), which was filed on June 4, 2018, and issued on June 14, 2022, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Schurr invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 1	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Schurr discloses a "recyclable shrink label."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">In view of the small proportion of the first polymer ply A in the heat-shrinkable film, the film overall can be recycled easily, since this small proportion of dark pigment is hardly or not noticeable in terms of colour when the reused material is used in other plastic materials.</p> <p>8:32-36.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Schurr discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">Polyesters mean routine polymers in the art which result from esterification of divalent or higher-valent carboxylic acids with divalent or higher-valent alcohols, including copolyesters. Non-limiting examples of the acid components of corresponding polyesters are dicarboxylic acids, for example terephthalic acid Non-limiting examples of the alcohol components of corresponding polyesters are diols such as 1,2-ethanediol However, the first polymer ply A and the second polymer ply B in polyester-containing heat-shrinkable films are not limited to dicarboxylic acids and diols; rather, higher-valent carboxylic acids and/or higher-valent alcohols can also be used. The polyester of the first polymer ply A and the polyester of the second polymer ply B can comprise, independently of each other, one or more acid components and/or one or more diol components, polyesters including both homopolyesters and copolyesters. The polymers of the first polymer ply A and of the second polymer ply B can be identical to or different from each other.</p> <p>2:59-3:27.</p> <p style="padding-left: 40px;">Heat-shrinkable film according to claim 1, wherein at least one of the surfaces which face away from each other of the first polymer ply A and of the second polymer ply B is smooth.</p> <p>Claim 3.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 1	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	<p>Schurr discloses "the heat shrink film having a thickness from 15 µm to 100 µm."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">The invention relates to a heat-shrinkable film comprising a first polymer ply A comprising at least one dark pigment, a second polymer ply B comprising at least one white pigment, wherein the thickness ratio of the first ply A is in the range of 5:95 to 50:50, the film has a thickness of 20 µm bis 100 µm...</p> <p>Abstract.</p> <p><i>See also, e.g.,</i> claim 1, 2:26-27, 7:47-58.</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Schurr discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">The first polymer ply A and/or the second polymer ply B can consist solely of the polymer(s) and the dark pigment(s) or the white pigment(s) or can comprise further constituents which may also be constituents of other plies of the heat-shrinkable film...</p> <p>5:63-67.</p> <p style="padding-left: 40px;">The dark pigments can be used individually or in combinations of two or more dark pigments. In a particular embodiment, the dark pigment comprises fine metal particles or consists solely thereof. In a further particular embodiment, the dark pigment comprises both fine metal particles and soot and/or carbon black, or consists thereof. According to yet another particular embodiment, the dark pigment comprises soot and/or carbon black, or consists solely of soot and/or carbon black. The average particle diameter of the soot and/or carbon black is preferably within a range of 20 nm to 100 nm. With soot and/or carbon black, a pigment is advantageously used which provides an effective light barrier across the entire relevant wavelength range of 360 nanometres to 750 nm, in particular within a wavelength range of 360 to 560 nm, and has no disadvantageous properties during the stretching required for producing a heat-shrinkable film.</p> <p>8:38-54.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 1	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Schurr discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">The at least one dark pigment can be an inorganic or an organic dark pigment. Non-limiting examples of inorganic dark pigments and in particular black pigments are pigments based on fine metal particles, for example with a diameter of up to not more than a few micrometres, and also pigments based on metal compounds such as iron oxide brown or iron oxide black, mixed iron manganese oxides, spinel black (copper chromites such as $\text{Co}(\text{Cr,Fe})_2\text{O}_4$), $\text{Cu}(\text{Cr,Fe,Mn})_2\text{O}_4$).</p> <p>6:18-26.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Schurr discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">The at least one dark pigment can be an inorganic or an organic dark pigment. Non-limiting examples of inorganic dark pigments and in particular black pigments are pigments based on fine metal particles, for example with a diameter of up to not more than a few micrometres, and also pigments based on metal compounds such as iron oxide brown or iron oxide black, mixed iron manganese oxides, spinel black (copper chromites such as $\text{Co}(\text{Cr,Fe})_2\text{O}_4$), $\text{Cu}(\text{Cr,Fe,Mn})_2\text{O}_4$). Non-limiting examples of organic dark pigments and in particular black pigments are aniline black (CAS 13007-86-8), pigment mixtures available under the collective name "pigment black", bone char, graphite, (charcoal), and soot, in particular carbon black.</p> <p>6:18-30.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 1	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Schurr discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">In view of the small proportion of the first polymer ply A in the heat-shrinkable film, the film overall can be recycled easily, since this small proportion of dark pigment is hardly or not noticeable in terms of colour when the reused material is used in other plastic materials.</p> <p>8:32-36.</p> <p style="padding-left: 40px;">In contrast to this, the heat-shrinkable films described herein or the hoses manufactured therefrom provide a possibility of making a transparent object light-impermeable. When the object is recycled, the material of the films or hoses can be separated from the material of the transparent object by processes known in the art, for example on the basis of differing densities, so that the transparent material of the object can be used again as a transparent material after the recycling process.</p> <p>15:54-63.</p> <p>Further, Schurr also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Schurr includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 1 of the '422 Patent, Schurr discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 2	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Schurr discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The films are intended to provide several functions. For example, it should be possible to print on them, to indicate the contents of the wrapped object, for example. To this end, it is necessary that the colour of the film does not have a disruptive effect on a printing ink to be applied.</p> <p>1:9-11.</p> <p style="padding-left: 40px;">Accordingly, printing ink adheres well to the surface while at the same time the surface having a roughness allows motifs to be printed with sufficient detail. For printing before heat-shrinking of the film, the proportions of the motif of the print are preferably selected such that the motif is reproduced correctly after heat-shrinking of the heat-shrinkable film is complete.</p> <p>12:66-13:5.</p>

CLAIM 3	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Schurr discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The object is achieved in a further aspect by a process for producing a heat-shrinkable film as described herein, the process comprising: providing a first polymer A which comprises at least one dark pigment; providing a second polymer B which comprises at least one white pigment; coextruding a pre-film comprising a first polymer ply A and a second polymer ply B; setting the pre-film to a stretching temperature; and stretching the pre-film to obtain a heat-shrinkable film.</p> <p>1:9-11.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 4	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Schurr discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Schurr also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The films are intended to provide several functions. For example, it should be possible to print on them, to indicate the contents of the wrapped object, for example. To this end, it is necessary that the colour of the film does not have a disruptive effect on a printing ink to be applied.</p> <p>1:9-11.</p>

CLAIM 5	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Schurr discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Schurr also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 6	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Schurr discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Schurr also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">The film or the hose preferably at least partially wraps the object, for example a bottle or can, and effectively protects the surface of the object covered by the film or hose from the entry of light.</p> <p>15:40-43.</p>

CLAIM 7	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Schurr discloses the "recyclable shrink label according to claim 6." <i>See above</i>, [1.pre]-[1.f], [6].</p> <p>Schurr also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">The object is achieved according to a further aspect by a hose which comprises a heat-shrinkable film as described above. The hose can be produced using a procedure known in the art, in which two edges of a heat-shrinkable film are joined to each other. Production takes place for example by heat sealing or solution sealing starting from a heat-shrinkable film; the heat-shrinkable film can accordingly be sealed by heat or by solvent.</p> <p>15:11-18.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 8	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Schurr discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The object is achieved in a first aspect by a heat-shrinkable, uniaxially stretched film comprising a first polymer ply A which comprises at least one dark pigment, and also comprising a second polymer ply B, which comprises at least one white pigment, wherein the light transmission of the film is not more than 12%, for example not more than 10%, preferably not more than 5%; the film has a thickness of 20 µm to 100 µm; the thickness ratio of the first polymer ply A to the second polymer ply B is in the range of 5:95 to 50:50; and the film after 15 seconds in a water bath at 95° C. exhibits shrinkage in the range of 20% to 85%.</p> <p>2:20-30.</p> <p>Further, the shrink label disclosed in Schurr includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 8 of the '422 Patent, Schurr discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 9	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Schurr discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he film has a thickness of 20 μm to 100 μm; the thickness ratio of the first polymer ply A to the second polymer ply B is in the range of 5:95 to 50:50; and the film after 15 seconds in a water bath at 95° C. exhibits shrinkage in the range of 20% to 85%. To achieve heat-shrinkability, the heat-shrinkable film is stretched in one direction; the stretching results in the film after 15 seconds in a water bath at a temperature of 95° C. exhibiting shrinkage in a main shrinking direction in the range of 20% to 85%, for example 50 to 75%, for instance 65% to 75%.</p> <p>2:26-35.</p> <p>Further, the shrink label disclosed in Schurr includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 9 of the '422 Patent, Schurr discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 10	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Schurr discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Schurr also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">The at least one white pigment can be an inorganic or an organic white pigment. Non-limiting examples of inorganic white pigments are barium sulphate, calcium carbonate, titanium dioxide, zinc oxide, zinc sulphide or mixtures of two or more representatives thereof.</p> <p>7:7-11.</p>

CLAIM 11	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Schurr discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Schurr also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 12	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Schurr discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label." For example:</p> <p style="padding-left: 40px;">To block the light transmission sufficiently in interaction with the white pigments of the second polymer ply B and at the same time to provide a white polymer ply B which is not spoiled by the effect of the dark pigments of the first polymer ply A, the weight percentage of the dark pigment(s) in the first polymer ply A is preferably at least 0.5 wt %, in particular at least 0.75 wt %. The weight percentage of the dark pigment(s) in the first polymer ply A is preferably not more than 6%, in particular not more than 4 percent by weight, for example 0.5 to 3.5 percent by weight, for instance 0.75 to 3.0 percent by weight. The proportion of the dark pigment(s) in the entire film is for example 0.05 wt % to 3.0 wt %, for instance 0.05 wt % to 2.0 wt % or 0.1 wt % to 2.0 wt %, but, with regard to a film having the lowest possible content of dark pigment, the objectives of sufficiently low light transmission and a surface of the second polymer ply B which appears white for printing purposes can also be achieved by films having a proportion of the dark pigment(s) within the range of 0.05 wt % to 1.0 wt %, for example 0.1 wt % to 1.0 wt % or 0.1 wt % to 0.9 wt %.</p> <p>6:54-7:7.</p> <p>This limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 13	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Schurr discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Schurr discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component." For example:</p> <p style="padding-left: 40px;">To block the light transmission sufficiently in interaction with the white pigments of the second polymer ply B and at the same time to provide a white polymer ply B which is not spoiled by the effect of the dark pigments of the first polymer ply A, the weight percentage of the dark pigment(s) in the first polymer ply A is preferably at least 0.5 wt %, in particular at least 0.75 wt %. The weight percentage of the dark pigment(s) in the first polymer ply A is preferably not more than 6%, in particular not more than 4 percent by weight, for example 0.5 to 3.5 percent by weight, for instance 0.75 to 3.0 percent by weight. The proportion of the dark pigment(s) in the entire film is for example 0.05 wt % to 3.0 wt %, for instance 0.05 wt % to 2.0 wt % or 0.1 wt % to 2.0 wt %, but, with regard to a film having the lowest possible content of dark pigment, the objectives of sufficiently low light transmission and a surface of the second polymer ply B which appears white for printing purposes can also be achieved by films having a proportion of the dark pigment(s) within the range of 0.05 wt % to 1.0 wt %, for example 0.1 wt % to 1.0 wt % or 0.1 wt % to 0.9 wt %.</p> <p>6: 54-7:7.</p> <p>This limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 14	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Schurr discloses an "article."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">The film or the hose preferably at least partially wraps the object, for example a bottle or can</p> <p>15:40-41.</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Schurr discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Schurr discloses:</p> <p style="padding-left: 40px;">Heat-shrinkable polymer films are commonly used to wrap other objects. These objects are commonly objects consisting of plastic or glass, such as bottles, tubs or boxes for storage. The films are intended to provide several functions. . . . To this end, it is necessary that the colour of the film does not have a disruptive effect on a printing ink to be applied. Furthermore, the films should have, as far as possible, suitable haptics so that they can be held in the hand in a secure and slip-free manner. In particular if the objects such as bottles or tubs are intended to accommodate foodstuffs, for example, beverage bottles, yoghurt pots or tubs for salad and the like, it is necessary to keep the passage of light into the interior of the bottles, tubs or boxes as low as possible to minimise the loss in quality of the stored foodstuffs during the storage period.</p> <p>1:6-21.</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 14	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Schurr discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">The film or the hose preferably at least partially wraps the object, for example a bottle or can, and effectively protects the surface of the object covered by the film or hose from the entry of light.</p> <p>15:40-42.</p>

CLAIM 15	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Schurr discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Schurr also discloses "the first surface of the heat shrink film faces the external surface of the container." <i>For example</i>:</p> <p style="padding-left: 40px;">The film or the hose preferably at least partially wraps the object, for example a bottle or can, and effectively protects the surface of the object covered by the film or hose from the entry of light.</p> <p>15:40-42.</p>

CLAIM 16	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Schurr discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>Schurr also discloses "the indicia layer is disposed on the first surface." <i>For example</i>:</p> <p style="padding-left: 40px;">The films are intended to provide several functions. <i>For example</i>, it should be possible to print on them, to indicate the contents of the wrapped object, for example. To this end, it is necessary that the colour of the film does not have a disruptive effect on a printing ink to be applied.</p> <p>1:9-11.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 17	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Schurr discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>Schurr also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p>

CLAIM 18	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Schurr discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Schurr also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p> <p>Further, Schurr also inherently discloses the PET is crystallizable. For example, the PET disclosed in Schurr includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 18 of the '422 Patent, Schurr discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 19	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Schurr discloses a "recyclable shrink label." <i>See above</i> , [1.pre]. Further, to the extent the preamble of claim 19 is found to be limiting, Schurr also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Schurr includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 19 of the '422 Patent, Schurr discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Schurr discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Schurr discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Schurr discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Schurr discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].

Chart 2 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 11,358,363 ("Schurr")

CLAIM 19	
'422 Patent Claim Limitation	Schurr Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Schurr discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.e].</p> <p>Further, Schurr also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Schurr includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Schurr is the same as that of the "shrink label" of claim 19 of the '422 Patent, Schurr discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent No. 7,807,255 ("Tsuchida"), which was filed on October 21, 2005, and issued on October 5, 2010, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Tsuchida invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 1	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Tsuchida discloses a "recyclable shrink label."</p> <p>For example, Tsuchida discloses:</p> <p style="padding-left: 40px;">The present invention also provides a shrink label comprising the heat-shrinkable opaque white film, and a preprinted ink label layer arranged on or above a surface of the front layer of the film.</p> <p>2:15-18.</p> <p><i>See also, e.g., Fig 1.</i></p> <p>Further, to the extent the preamble of claim 1 is found to be limiting, Tsuchida also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 1 of the '422 Patent, Tsuchida discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 1 of the '422 Patent.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 1	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Tsuchida discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Tsuchida discloses:</p> <p>A poly(ethylene terephthalate) resin composition for forming back and front layers [(titanium dioxide)/(PET resin) (weight ratio)=20/80] was prepared by blending a poly(ethylene terephthalate) resin (PET resin) [a product of Eastman Chemical Company under the trade name of "Embrace"] with a PET resin [a product of SUMIKA COLOR CO., LTD. under the trade name of "EPM-7670"] white master batch containing 50 percent by weight of titanium dioxide (TiO₂). Separately, a poly(ethylene terephthalate) resin composition for forming a core layer [(titanium dioxide)/carbon black]/(PET resin) (weight ratio)=20/0.05/79.95] was prepared by blending a PET resin [a product of Eastman Chemical Company under the trade name of "Embrace"] with the white master batch, and a PET resin [a product of SUMIKA COLOR CO., LTD. under the trade name of "EPM-8400"] master batch containing 30 percent by weight of carbon black. These resin compositions were fed to an extruder equipped with a T-die, were coextruded at a temperature of 250° C., the extrudate was cooled with a chill roll, was drawn 4.5 times in a widthwise direction and thereby yielded a long heat-shrinkable film having a three-layer configuration and having a thickness of 50 μm (ratio of thickness of layers: (front layer)/(core layer)/(back layer)=3/1/3).</p> <p>13:27-49.</p> <p>A heat-shrinkable film having a three-layer configuration was prepared by the procedure of EXAMPLE 14, except for using a poly(ethylene terephthalate) resin composition for forming a core layer having a compositional ratio (by weight) of (titanium dioxide)/carbon black)/(PET resin) of 20/0.2/79.8.</p> <p>13:54-61.</p> <p>The first surface and the second surface opposite of the first surface are shown in Figure 1.</p> <p>Fig. 1.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 1	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Tsuchida discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Tsuchida discloses:</p> <p>The thickness of the heat-shrinkable opaque white film 4 can be set as appropriate within ranges not adversely affecting properties such as handleability, appearance, imperviousness to light, and heat-shrinkability. It is, for example, about 10 to about 200 μm, and preferably about 30 to about 70 μm. The thickness of the core layer 2 is generally about 1% to about 80%, preferably about 5% to about 50%, and specifically preferably about 5% to about 30% of the total thickness of the heat-shrinkable opaque white film 4.</p> <p>7:19-27.</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Tsuchida discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Tsuchida discloses:</p> <p>Specifically, the present invention provides a heat-shrinkable opaque white film comprising a core layer; and white back and front layers, the core layer having a chromatic color with low transparency to light at wavelengths of 380 to 500 nm or an achromatic color.</p> <p>1:63-67.</p> <p>When the heat-shrinkable opaque white film 4 according to the present invention has an achromatic layer as the core layer 2, it can have a very low light transmission factor in the ultraviolet and visible-light regions. The light transmission factor, for example, at wavelengths of 200 to 400 nm is generally 3% or less, and preferably 1% or less. The light transmission factor at wavelengths of 400 to 600 nm is generally 5% or less, and 3% or less. The light transmission factor can be adjusted, for example, by adjusting the content of a black colorant or white colorant in the core layer 2 and/or the thickness of the core layer 2.</p> <p>8:28-38.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 1	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
<p>[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,</p>	<p>Tsuchida discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Tsuchida discloses:</p> <p style="padding-left: 40px;">The average particle diameter of a white pigment such as titanium dioxide, if used as the white colorant, is, for example, about 0.01 to about 10 μm, preferably about 0.01 to about 5 μm, and more preferably about 0.1 to about 1 μm.</p> <p>4:24-27.</p> <p style="padding-left: 40px;">The average particle diameter of a black pigment such as carbon black, if used as the black colorant, is, for example, about 0.001 to about 10 μm, and preferably about 0.01 to about 1 μm.</p> <p>4:64-67.</p>
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Tsuchida discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Tsuchida discloses:</p> <p style="padding-left: 40px;">The black core layer 2 can comprise the resin component and a black colorant. The black colorant is not specifically limited and can be any of known black pigments, of which carbon black is typically preferred.</p> <p>4:45-48.</p> <p style="padding-left: 40px;">The core layer 2 can comprise the resin component and a chromatic colorant which is capable of preventing light (is impervious to light)... The chromatic colorant can be, for example, any of yellow pigments, red pigments, and brown pigments.</p> <p>5:24-26.</p> <p style="padding-left: 40px;">The chromatic color of the core layer 2 can be substantially fully masked by adding a white colorant to the core layer 2.</p> <p>6:5-7.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 1	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Tsuchida discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Tsuchida discloses:</p> <p>The container body is not specifically limited, as long as it is formed from a light-transmittable material. It can be any article such as plastic bottles and glass bottles. Examples of materials for the plastic bottles are thermoplastic resins . . . including polyester resins such as poly(ethylene terephthalate)s</p> <p>9:14-19.</p> <p>[R]ecycled materials such as failed printed films, borders on the periphery of films, and film pieces with printed portions can be effectively used as the resin material.</p> <p>6:15-17.</p> <p>Further, Tsuchida also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 1 of the '422 Patent, Tsuchida discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 2	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Tsuchida discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Tsuchida also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention comprises the heat-shrinkable opaque white film and a preprinted ink label layer arranged on or above a surface of the front layer.</p> <p>3:5-8.</p> <p style="padding-left: 40px;">The preprinted ink label layer 5 is a layer having, for example, character information such as trade name or design as a result of printing.</p> <p>8:49-51.</p> <p><i>See also, e.g., Fig. 1.</i></p>

CLAIM 3	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Tsuchida discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Tsuchida also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">Each of the white front layer 1 and the white back layer 3 can independently comprise the resin component and a white colorant. Such white colorants are not limited and include white pigments such as titanium dioxide, antimony white, zinc sulfide, and zinc white.</p> <p>4:7-12.</p> <p style="padding-left: 40px;">The white front layer 1 and the white back layer 3 include, in addition to a layer colored with the white colorant, a layer looking white, cloudy (milky) or opaque white as a result typically of foaming or mixing of two or more immiscible resins.</p> <p>4:37-41.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 4	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Tsuchida discloses the "recyclable shrink label of claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>Tsuchida also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention comprises the heat-shrinkable opaque white film and a preprinted ink label layer arranged on or above a surface of the front layer.</p> <p>3:5-8.</p> <p><i>See also, e.g., Fig. 1.</i></p>

CLAIM 5	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Tsuchida discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Tsuchida also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above, [1.a].</i></p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 6	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Tsuchida also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention can be formed into a tubular or cylindrical shrink label, for example, by forming the preprinted ink label layer on a surface of the front layer of the heat-shrinkable opaque white film, cutting the resulting article to a long slit with a desired width, rolling the cut article into a cylinder so that the preprinted ink label layer faces outward . . . and cutting the article to a desired length.</p> <p>9:1-10.</p> <p><i>See also, e.g., Fig. 1.</i></p>

CLAIM 7	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Tsuchida discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>Tsuchida also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">[T]he both ends of [the film] were adhered with each other and thereby yielded a long tube.</p> <p>10:28-29.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 8	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Tsuchida also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he heat-shrinkage percentage of a uniaxially stretched film is generally about 20% to about 90%, and preferably about 30% to about 70% in a main drawing direction when the film is immersed in hot water at 90°C for ten seconds.</p> <p>8:16-20.</p> <p>Further, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 8 of the '422 Patent, Tsuchida discloses each and every limitation of claim 8 of the '422 Patent, even if Tsuchida were to be found not to explicitly disclose the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 9	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Tsuchida also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he heat-shrinkage percentage of a uniaxially stretched film is generally about 20% to about 90%, and preferably about 30% to about 70% in a main drawing direction when the film is immersed in hot water at 90°C for ten seconds.</p> <p>8:16-20.</p> <p>Further, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 9 of the '422 Patent, Tsuchida discloses each and every limitation of claim 9 of the '422 Patent, even if Tsuchida were to be found not to explicitly disclose the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 10	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Tsuchida discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Tsuchida also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Such white colorants are not limited and include white pigments such as titanium dioxide, antimony white, zinc sulfide, and zinc white.</p> <p>4:10-12.</p>

CLAIM 11	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Tsuchida also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 12	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 14	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Tsuchida discloses an "article."</p> <p>For example, Tsuchida discloses:</p> <p style="padding-left: 40px;">The labeled container according to the present invention can be produced, for example, by supplying the tubular shrink label to an automatic labeling apparatus, cutting the label to a desired length according to necessity, allowing the label to fit over an article to be applied (container body) continuously, and subjecting the same to heat shrinkage by allowing the same to pass through a steam tunnel or hot-air tunnel at a predetermined temperature.</p> <p>9:24-31.</p> <p><i>See also, e.g.,</i> Fig. 1</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Tsuchida discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Tsuchida discloses:</p> <p style="padding-left: 40px;">The container body is not specifically limited, as long as it is formed from a light-transmittable material. It can be any article such as plastic bottles and glass bottles. Examples of materials for the plastic bottles are thermoplastic resins that can undergo blow molding, including polyester resins such as poly(ethylene terephthalate)s.</p> <p>9:14-19.</p> <p><i>See also, e.g.,</i> Fig. 1.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Tsuchida discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See</i> above, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">The labeled container according to the present invention comprises a container body and the shrink label according to the present invention applied on or above the container body.</p> <p>9:11-13.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 15	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Tsuchida discloses the "article according to claim 14." <i>See above, [1], [14.pre]-[14.b].</i></p> <p>Tsuchida also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The 'front layer' means a layer which constitutes an outside layer when applied to a container and is to be printed typically with a design upon the preparation of a label. The 'back layer' means a layer lying near to a container when formed into a label.</p> <p>2:48-51.</p> <p><i>See also, e.g., Fig. 1.</i></p>

CLAIM 16	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Tsuchida discloses the "recyclable shrink label according to claim 2." <i>See above, [1.pre]-[1.f], [2].</i></p> <p>Tsuchida also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention comprises the heat-shrinkable opaque white film and a preprinted ink label layer arranged on or above a surface of the front layer.</p> <p>3:5-8.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 17	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Tsuchida discloses the "recyclable shrink label according to claim 8." <i>See</i> above, [1.pre]-[1.f], [8].</p> <p>Tsuchida also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See</i> above, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 18	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Tsuchida discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Tsuchida also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p> <p>Further, Tsuchida also inherently discloses the PET is crystallizable. For example, the PET disclosed in Tsuchida includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 18 of the '422 Patent, Tsuchida discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 19	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Tsuchida discloses a "recyclable shrink label." <i>See above</i> , [1.pre]. Further, to the extent the preamble of claim 19 is found to be limiting, Tsuchida also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 19 of the '422 Patent, Tsuchida discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Tsuchida discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Tsuchida discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Tsuchida discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c]. <i>See also, e.g.</i> , Fig. 1.
[19.d] a high opacity layer comprising a white pigment,	Tsuchida discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3]. <i>See also, e.g.</i> , Fig. 1.

Chart 3 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,807,255 ("Tsuchida")

CLAIM 19	
'422 Patent Claim Limitation	Tsuchida Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Tsuchida discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>Further, Tsuchida also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Tsuchida includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Tsuchida is the same as that of the "shrink label" of claim 19 of the '422 Patent, Tsuchida discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga"), which was filed on September 26, 2018, and published on February 21, 2019, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Matsunaga invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 1	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Matsunaga discloses a "recyclable shrink label."</p> <p style="padding-left: 40px;">As illustrated in FIGS. 1 and 2, a heat-shrinkable tubular label 1 used in a production process according to the present embodiment includes a tubular body 2 that is shrinkable by heat at least in the circumferential direction, and a heat-sensitive adhesive layer 3 provided on at least part of the inner surface of the tubular body 2.</p> <p>[0064].</p> <p>Further, to the extent the preamble of claim 1 is found to be limiting, Matsunaga also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Matsunaga includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Matsunaga is the same as that of the "shrink label" of claim 1 of the '422 Patent, Matsunaga discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 1 of the '422 Patent.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Matsunaga discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">Examples of the material of the heat-shrinkable film include one kind selected from among thermoplastic resins such as polyester based resins such as polyethylene terephthalate and polylactic acid; olefin based resins such as polyethylene, polypropylene, and cyclic olefin; polystyrene based resins such as polystyrene and styrene-butadiene copolymer; a polyamide based resin; and a vinyl-chloride based resin, and a mixture of two or more kinds selected from among the thermoplastic resins.</p> <p>[0085].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in Figures 1-4.</p> <p>Fig. 1-4.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 1	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Matsunaga discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">The thickness of the heat-shrinkable film is not particularly limited, but is, for example, 20 μm to 100 μm for a synthesis resin film, and is, for example, 50 μm to 500 μm for a foamed resin film.</p> <p>[0087].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Matsunaga discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">In an optical viewpoint, the heat-shrinkable film may be transparent or opaque.</p> <p>[0078].</p> <p style="padding-left: 40px;">In this description, "opaque" describes a state in which a number disposed on the back surface side under the above-described condition cannot be determined from the front surface side through the film or the layer (state in which the number cannot be recognized).</p> <p>[0080].</p> <p style="padding-left: 40px;">When expressed in the whole light transmissivity, the index of opaqueness is, for example, equal to or lower than 30%, and preferably equal to or lower than 20%.</p> <p>[0082].</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 1	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Matsunaga discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">The heat-sensitive adhesive layer may be transparent or opaque, but is normally colorless transparent.</p> <p>[0112].</p> <p style="padding-left: 40px;">The thickness of the heat-sensitive adhesive layer is not particularly limited, but is normally approximately 3 μm to 30 μm.</p> <p>[0125].</p> <p style="padding-left: 40px;">An ultraviolet-absorbing heating agent is contained in at least either one of the label base 4 and the heat-sensitive adhesive layer 3.</p> <p>[0140].</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Matsunaga discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">Examples of the ultraviolet-absorbing heating agent include organic materials such as a benzophenone based compound, a salicylate based compound, a cyanoacrylate based compound, a benzoate based compound, a benzotriazole based compound, and a triazine based compound; and inorganic materials such as titanium dioxide, zinc oxide, and carbon black. These ultraviolet-absorbing heating agents may be used alone or in mixture of two or more kinds thereof.</p> <p>[0142].</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 1	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Matsunaga discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">The heat-shrinkable tubular label 1 is applied onto an optional adherend by heat-shrinking.</p> <p>[0165].</p> <p style="padding-left: 40px;">The adherend is not particularly limited. Typical examples of the adherend include various containers such as a beverage container of coffee or the like, a seasoning container, a food container of instant noodle or the like, a sanitary container of shampoo or the like, a detergent container, a cosmetic container, and a medical container; and an item itself such as a machine part.</p> <p>[0166].</p> <p style="padding-left: 40px;">The material of an outer surface part of the adherend is not particularly limited, but is, for example, synthesis resin, glass, metal, or ceramic.</p> <p>[0167]. <i>See also, e.g.</i>, [0168].</p> <p>Further, Matsunaga also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Matsunaga includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Matsunaga is the same as that of the "shrink label" of claim 1 of the '422 Patent, Matsunaga discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 2	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Matsunaga discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Matsunaga also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The design print layer is provided mainly for decoration. The design print layer is a print layer on which, for example, desired characters and figures are displayed in a single color or in two or more colors. In the design print layer, normally, display of characters and the like is formed in color ink, and typically, opaque and transparent parts are mixed. The design print layer can be formed through single color printing or multicolor printing with conventionally well-known color ink by a conventionally well-known printing method such as a gravure printing method. The thickness of the design print layer is, for example, 0.1 μm to 5 μm.</p> <p>[0088].</p> <p><i>See also, e.g.</i> Figs. 8, 11, 14.</p>

CLAIM 3	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Matsunaga discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Matsunaga also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The base print layer showing white can be formed, for example, by printing white ink containing white pigment in a solid state by a conventionally well-known printing method. Examples of the white pigment include titanium dioxide, zinc oxide, calcium carbonate, clay, and alumina white.</p> <p>[0092].</p> <p><i>See also, e.g.</i> Fig. 11.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 4	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Matsunaga discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>Matsunaga also discloses "an indicia layer." For example:</p> <p>The design print layer 61 is provided on the back surface side of the heat-shrinkable film 5 to prevent damage. However, the design print layer 61 may be provided on the front surface side of the heat-shrinkable film 5 (not illustrated). In the illustrated example, the design print layer 61 is directly provided on the back surface of the heat-shrinkable film 5. When the design print layer 61 is provided on the back surface side, the heat-shrinkable film 5 that is transparent (preferably, colorless transparent) is used. While, when the design print layer 61 is provided on the front surface side, the heat-shrinkable film 5 that is transparent or opaque may be used.</p> <p>[0092].</p> <p>The base print layer showing white can be formed, for example, by printing white ink containing white pigment in a solid state by a conventionally well-known printing method. Examples of the white pigment include titanium dioxide, zinc oxide, calcium carbonate, clay, and alumina white.</p> <p>[0128].</p> <p>The base print layer 63 is provided on the back surface of the design print layer 61. When the base print layer 63 is provided on the back surface of the design print layer 61, for example, the design print layer 61 is entirely opaque, and accordingly, the heat-shrinkable tubular label 1 is achieved in opaque tone.</p> <p>[0198].</p> <p>The heat-sensitive adhesive layer 3 is provided on the back surface side of the base print layer 63.</p> <p>[0199].</p> <p><i>See also, e.g.</i> Fig. 11.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 5	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	Matsunaga discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i> Matsunaga also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above, [1.a].</i>

CLAIM 6	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i> Matsunaga also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example: Normally, as illustrated in FIG. 1, the heat-shrinkable tubular label 1 is opened in a tubular shape when applied onto an adherend. [0157]. <i>See also, e.g. Fig. 1.</i>

CLAIM 7	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	Matsunaga discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i> Matsunaga also discloses "the heat shrink film comprises a seam." For example: The method of adhering the back surface of the first side end part 41 and the front surface of the second side end part 42 is, for example, welding using solvent or adhesion using an adhesive agent. The site where the parts are overlapped and adhered together is a sealing part 43. [0156]. <i>See also, e.g. Fig. 2.</i>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 8	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Matsunaga discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Matsunaga also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">In this description, "heat-shrinkable" expresses the property of shrinkage at least in the main stretching direction at heating to a heat-shrink temperature (for example, 60° C. to 200° C.).</p> <p>[0073].</p> <p style="padding-left: 40px;">The heat-shrinkage rate of the heat-shrinkable film in the lateral direction (main stretching direction) is not particularly limited, but is preferably equal to or higher than 40%, more preferably equal to or higher than 50%, and still more preferably equal to or higher than 60%. The heat shrinkage rate in the lateral direction is preferably as high as possible. However, since heat-shrinking naturally has limit, the heat shrinkage rate in the lateral direction is lower than 100% in theory, and normally equal to or lower than 90%. When the heat-shrinkable film is a film that changes by heat in the longitudinal direction, the heat shrinkage rate in the longitudinal direction is, for example, -3 to 20%, and preferably 1 to 10%. The negative sign in the heat shrinkage rate means expansion by heat.</p> <p>[0076].</p> <p style="padding-left: 40px;">In this description, the heat shrinkage rate is a ratio between the length (original length) of the film before heating and the length (length after immersion) of the film after immersion in hot water of 100° C. for 10 seconds, and is calculated by substituting into the equation below. Heat shrinkage rate (%)=[{(Original length in the lateral direction or the longitudinal direction) (Length after immersion in the lateral direction or the longitudinal direction)}/{(Original length in the lateral direction or the longitudinal direction)}]x100.</p> <p>[0077].</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 9	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.	<p>Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Matsunaga also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." <i>See above, [8].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 10	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Matsunaga discloses the "recyclable shrink label according to claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>Matsunaga also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above, [1.pre]-[1.f] and [3]. For example:</i></p> <p style="padding-left: 40px;">The base print layer showing white can be formed, for example, by printing white ink containing white pigment in a solid state by a conventionally well-known printing method. Examples of the white pigment include titanium dioxide, zinc oxide, calcium carbonate, clay, and alumina white.</p> <p>[0092]. <i>See also, e.g. Fig. 11.</i></p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 11	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f]. Matsunaga also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See</i> above, [1.e].

CLAIM 12	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f]. This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 13	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Matsunaga discloses an "article."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">The heat-shrinkable tubular label 1 is applied onto an optional adherend by heat-shrinking.</p> <p>[0165].</p> <p style="padding-left: 40px;">The adherend is not particularly limited. Typical examples of the adherend include various containers such as a beverage container of coffee or the like, a seasoning container, a food container of instant noodle or the like, a sanitary container of shampoo or the like, a detergent container, a cosmetic container, and a medical container; and an item itself such as a machine part.</p> <p>[0166].</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 14	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
<p>[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and</p>	<p>Matsunaga discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Matsunaga discloses:</p> <p style="padding-left: 40px;">The heat-shrinkable tubular label 1 is applied onto an optional adherend by heat-shrinking.</p> <p>[0165].</p> <p style="padding-left: 40px;">The adherend is not particularly limited. Typical examples of the adherend include various containers such as a beverage container of coffee or the like, a seasoning container, a food container of instant noodle or the like, a sanitary container of shampoo or the like, a detergent container, a cosmetic container, and a medical container; and an item itself such as a machine part.</p> <p>[0166].</p> <p style="padding-left: 40px;">The material of an outer surface part of the adherend is not particularly limited, but is, for example, synthesis resin, glass, metal, or ceramic.</p> <p>[0167].</p> <p><i>See also, e.g.,</i> [0168].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 14	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Matsunaga discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">The heat-shrinkable tubular label 1 is applied onto an optional adherend by heat-shrinking. [0165].</p>

CLAIM 15	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Matsunaga discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Matsunaga also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The heat-shrinkable tubular label 1 is applied onto an optional adherend by heat-shrinking. [0165].</p> <p style="padding-left: 40px;">The adherend is not particularly limited. Typical examples of the adherend include various containers such as a beverage container of coffee or the like, a seasoning container, a food container of instant noodle or the like, a sanitary container of shampoo or the like, a detergent container, a cosmetic container, and a medical container; and an item itself such as a machine part. [0166].</p> <p>As illustrated in FIGS. 1 and 2, a heat-shrinkable tubular label 1 used in a production process according to the present embodiment includes a tubular body 2 that is shrinkable by heat at least in the circumferential direction, and a heat-sensitive adhesive layer 3 provided on at least part of the inner surface of the tubular body 2. [0064].</p> <p><i>See also, e.g.</i> Figs. 2, 9.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 16	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Matsunaga discloses the "recyclable shrink label according to claim 2." <i>See above, [1.pre]-[1.f], [2].</i></p> <p>Matsunaga also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The design print layer 61 is provided on the back surface side of the heat-shrinkable film 5 to prevent damage. However, the design print layer 61 may be provided on the front surface side of the heat-shrinkable film 5 (not illustrated). In the illustrated example, the design print layer 61 is directly provided on the back surface of the heat-shrinkable film 5. When the design print layer 61 is provided on the back surface side, the heat-shrinkable film 5 that is transparent (preferably, colorless transparent) is used. While, when the design print layer 61 is provided on the front surface side, the heat-shrinkable film 5 that is transparent or opaque may be used.</p> <p>[0128].</p> <p><i>See also, e.g. Figs. 4, 5, 8, 11, 12.</i></p>

CLAIM 17	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Matsunaga discloses the "recyclable shrink label according to claim 8." <i>See above, [1.pre]-[1.f], [8].</i></p> <p>Matsunaga also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." <i>See above, [9].</i></p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 18	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Matsunaga discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Matsunaga also inherently discloses the PET is crystallizable. For example, the PET disclosed in Matsunaga includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Matsunaga is the same as that of the "shrink label" of claim 18 of the '422 Patent, Matsunaga discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 19	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Matsunaga discloses a "recyclable shrink label." <i>See</i> above, [1.pre]. Further, to the extent the preamble of claim 19 is found to be limiting, Matsunaga also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Matsunaga includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Matsunaga is the same as that of the "shrink label" of claim 19 of the '422 Patent, Matsunaga discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Matsunaga discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See</i> above, [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Matsunaga discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See</i> above, [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Matsunaga discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See</i> above, [1.c].
[19.d] a high opacity layer comprising a white pigment,	Matsunaga discloses "a high opacity layer comprising a white pigment." <i>See</i> above, [3].

Chart 4 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2019/0055043 ("Matsunaga")

CLAIM 19	
'422 Patent Claim Limitation	Matsunaga Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Matsunaga discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.e].</p> <p>Further, Matsunaga also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Matsunaga includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Matsunaga is the same as that of the "shrink label" of claim 19 of the '422 Patent, Matsunaga discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders"), which was filed on June 15, 2016, and published on December 15, 2016, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Keulders invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 1	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Keulders discloses a "recyclable shrink label."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">The multilayer shrink film of the present invention may be provided in form of a roll, from which individually cut labels may be produced, if desired. After graphical information has been printed onto the inkjet printable layer, the (printed) multilayer shrink film of the present invention preferably may be provided in form of a sleeve, more preferably in form of a shrink sleeve label.</p> <p>[0062].</p> <p><i>See also, e.g., Fig. 1.</i></p> <p>Further, to the extent the preamble of claim 1 is found to be limiting, Keulders also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 1 of the '422 Patent, Keulders discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 1 of the '422 Patent.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 1	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Keulders discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">These films comprise a mono- or biaxially oriented (stretched) polymer plastic film which reverts from its oriented to its relaxed state when heat is applied, thus shrinking and conforming tightly to the surface of the articles it is covering.</p> <p>[0007].</p> <p style="padding-left: 40px;">The thermoplastic polymers in the shrink base layer of the multi-layer shrink film of the present invention may preferably be selected from the group consisting of (co)polyvinyl chloride, (co)polystyrene, (co)polyolefins, (co)polyesters as well as mixtures, blends and copolymers thereof, more preferably from the group consisting of polyvinyl chloride (PVC), glycol-modified polyethylene terephthalate (PETG), polystyrene (PS), styrene-butadiene copolymer, polypropylene (PP), polyethylene (PE), polylactic acid (PLA) and cyclic olefin copolymer/polyethylene (COC/PE) as well as mixtures, blends and copolymers thereof. Both said (co)polymers as well as the films made thereof, which optionally may already be mono- or biaxially oriented and can be used as received in the shrink base layer of the multi-layer shrink film of the present invention, are commercially available. For ecological reasons it may, however, be preferred that the shrink base layer does not comprise PVC.</p> <p>[0029].</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 1	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Keulders discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">In the multi-layer shrink film of the present invention the shrink base layer preferably may have a thickness in the range of from, more preferably of from 10 to 150 μm, even more preferably of from 15 to 100 μm and most preferably of from 20 to 90 μm, determined according to ISO 534.</p> <p>[0059].</p> <p style="padding-left: 40px;">The inkjet printable layer preferably may have a thickness in the range of from 1 to 100 μm, more preferably of from 2.5 to 75 μm, even more preferably of from 5 to 60 μm and most preferably of from 10 to 55 μm, determined according to ISO 534.</p> <p>[0060].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Keulders discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">Further, it should be possible to independently provide all individual layers as well as the whole multi-layer film either in a substantially colorless and transparent form, or in a semitransparent form or in an opaque form or in an optionally white or colored form in order to offer a maximum freedom of design when using such films for decorating and/or labelling articles. Herein the terms "transparent" refer to a light transmittance of at least 60%, determined according to DIN 53417 or ISO 22891, "semitransparent" to a light transmittance of between 10% and 60% and "opaque" to a light transmittance of from 0% to 10%, respectively.</p> <p>[0008].</p> <p style="padding-left: 40px;">In opaque or semitransparent, optionally white or colored multi-layer shrink films, one or more layers may contain white or colored pigments, dyes or fillers as well as voids which are able to scatter visible light."</p> <p>[0010]. <i>See also, e.g., Fig. 1.</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 1	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	Keulders discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ." For example, Keulders discloses: Said pigments or fillers preferably may be present in an amount ranging from 0.1 to 10 wt.-%, based on the total weight of the inkjet printable layer. Particulate fillers may be preferred, in particular those having a medium particle size dv50 being in the range of from 0.1 to 50 μm . [0049].
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	Keulders discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof." For example, Keulders discloses: Suitable particles and fillers include particulate silica, alumina or its hydroxides, polyolefins, polyacrylates, polymethacrylates, polyurethanes, polyamides, polyureas as well as mixtures thereof , without being limited to these. [0050].

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 1	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Keulders discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">After drying the printed multi-layer shrink film comprising the shrink layer, the printed inkjet layer and the intermediate adhesive layer was cut to form a label. Said label was tightly wrapped around a PET bottle with the printed side facing the PET bottle and fixed by applying a strip of adhesive between the two opposing edges of the wrapped around label in order to hold the printed multi-layer shrink film in position.</p> <p>[0109].</p> <p>Further, Keulders also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 1 of the '422 Patent, Keulders discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 2	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Keulders discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Keulders also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Special colors can be achieved by using metallic or white inks. White inks are particularly suitable to increase the opacity of colored areas when printed in the back of these colors</p> <p>[0021].</p> <p style="padding-left: 40px;">In addition to the at least one shrink base layer and the inkjet printable layer, the multi-layer shrink film of the present invention optionally may comprise one or more further layer(s).</p> <p>[0056].</p> <p><i>See also, e.g.,</i> Fig. 1.</p>

CLAIM 3	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Keulders discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Keulders also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">In opaque or semitransparent, optionally white or colored multi-layer shrink films, one or more layers may contain white or colored pigments, dyes or fillers as well as voids which are able to scatter visible light</p> <p>[0010].</p> <p style="padding-left: 40px;">Special colors can be achieved by using metallic or white inks. White inks are particularly suitable to increase the opacity of colored areas when printed in the back of these colors</p> <p>[0021].</p> <p><i>See also, e.g.,</i> Fig. 1.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 4	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Keulders discloses the "recyclable shrink label of claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>Keulders also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">In opaque or semitransparent, optionally white or colored multi-layer shrink films one or more layers may contain white or colored pigments, dyes or fillers as well as voids which are able to scatter visible light.</p> <p>[0010].</p> <p style="padding-left: 40px;">Special colors can be achieved by using metallic or white inks. White inks are particularly suitable to increase the opacity of colored areas when printed in the back of these colors, i.e. underlying them. This printing technique allows high quality printing onto colored or metallic articles and/or the provision of a metallic or white background, e.g. on transparent materials.</p> <p>[0021].</p> <p style="padding-left: 40px;">The multi-layer shrink film of the present invention may comprise one or more additional layer(s) . . . selected from the group comprising additional ink receiving layers, adhesive layers, barrier layers, primer layers, seal layers, layers to adapt the color of the multilayer shrink film, layers for enhancing the mechanical and/or thermal resistance of the multilayer shrink film, and combinations thereof</p> <p>[0057].</p>

CLAIM 5	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).</p>	<p>Keulders discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Keulders also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above, [1.a].</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 6	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	Keulders discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i> Keulders also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example: <p style="padding-left: 40px;">The multilayer shrink film of the present invention . . . preferably may be provided in form of a sleeve, more preferably in form of a shrink sleeve label.</p> [0062].

CLAIM 7	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	Keulders discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i> Keulders also discloses "the heat shrink film comprises a seam." For example: <p style="padding-left: 40px;">Techniques for establishing the sleeve by seaming two opposing edges of a shrink film are well known in the art and include for instance laser or thermal welding, solvent bonding, gluing using e.g. standard or UV hot melts or pressure-sensitive adhesives, without being limited to these.</p> [0062].

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 8	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Keulders discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Keulders also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Preferably the shrink layer itself may show a dimensional change of at least 5%, more preferably of at least 10% in at least one of transverse direction (TD) or machine direction (MD), both determined according to ASTM 2732-14 at 95° C. for 15 sec in water. More preferably, the dimensional change of the shrink layer may be high, i.e. at least 20%, even more preferably at least 30%, still even more preferably at least 40%, and most preferably may range from 45% to 99% in one of TD or MD.</p> <p>[0030].</p> <p>Further, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 8 of the '422 Patent, Keulders discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 9	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Keulders discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Keulders also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Preferably the shrink layer itself may show a dimensional change of at least 5%, more preferably of at least 10% in at least one of transverse direction (TD) or machine direction (MD), both determined according to ASTM 2732-14 at 95° C. for 15 sec in water. More preferably, the dimensional change of the shrink layer may be high, i.e. at least 20%, even more preferably at least 30%, still even more preferably at least 40%, and most preferably may range from 45% to 99% in one of TD or MD..</p> <p>[0030].</p> <p>Further, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 9 of the '422 Patent, Keulders discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 10	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Keulders discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Keulders also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Special colors can be achieved by using metallic or white inks. White inks are particularly suitable to increase the opacity of colored areas when printed in the back of these colors, i.e., underlying them.</p> <p>[0021].</p> <p style="padding-left: 40px;">Suitable particles and fillers include particulate silica, alumina or its hydroxides, polyolefins, polyacrylates, polymethacrylates, polyurethanes, polyamides, polyureas as well as mixtures thereof, without being limited to these. Further suitable particulate materials include . . . aluminum hydroxide, barite, barium sulfate, gypsum, calcium sulfate, copoly(methylmethacrylate/divinylbenzene), polystyrene, copoly(vinyltoluene/t-butylstyrene/methacrylic acid), and the like.</p> <p>[0050].</p>

CLAIM 11	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Keulders discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Keulders also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 12	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Keulders discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Keulders discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 14	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Keulders discloses an "article."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">Further, it should be possible to independently provide all individual layers as well as the whole multi-layer film either in a substantially colorless and transparent form, or in a semitransparent form or in an opaque form or in an optionally white or colored form in order to offer a maximum freedom of design when using such films for decorating and/or labelling articles.</p> <p>[0008].</p> <p><i>See also, e.g.,</i> Fig. 1.</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Keulders discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">The inkjet printable layer was printed with an image... The multi-layer shrink film was placed around the bottle in such a way that the shrink base layer was facing the bottle...</p> <p>[0109].</p> <p style="padding-left: 40px;">The shrink film was facing the PET bottle instead of the printed inkjet layer... the film including the printed inkjet layer shrank uniformly around the bottle.</p> <p>[0111].</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Keulders discloses the "recyclable shrink label of claim 1 disposed on the container."</p> <p><i>See above, [1.pre]-[1.f].</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 15	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	Keulders discloses the "article according to claim 14." <i>See above</i> , [1], [14.pre]-[14.b]. Keulders also discloses "the first surface of the heat shrink film faces the external surface of the container." <i>See above</i> , [14.pre]-[14.b].

CLAIM 16	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	Keulders discloses the "recyclable shrink label according to claim 2." <i>See above</i> , [1.pre]-[1.f], [2]. Keulders also discloses "the indicia layer is disposed on the first surface." For example: Herein, the term ' outer surface ' refers to said surface of the inkjet printable layer which is opposite to a contact surface of the inkjet printable layer with a further layer in the multi-layer shrink film of the present invention to which the inkjet printable layer is or will be applied. Said surface will be facing an observer if the multi-layer shrink film of the present invention is applied to an article in such a way that the inkjet printable layer is exposed, i.e., that the shrink base layer is closer to the article than the inkjet printable layer. [0074]. <i>See also, e.g., Fig. 1.</i>

CLAIM 17	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	Keulders discloses the "recyclable shrink label according to claim 8." <i>See above</i> , [1.pre]-[1.f], [8]. Keulders also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i> , [9].

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 18	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Keulders discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Keulders also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." <i>See above, [1.a]. See also, for example:</i></p> <p style="padding-left: 40px;">For this reason, printable shrink films have been developed which offer great freedom in packaging design regarding color and shape. These films comprise a mono- or biaxially oriented (stretched) polymer plastic film which reverts from its oriented to its relaxed state when heat is applied, thus shrinking and conforming tightly to the surface of the articles it is covering.</p> <p>[0007].</p> <p>Further, Keulders also inherently discloses the PET is crystallizable. For example, the PET disclosed in Keulders includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 18 of the '422 Patent, Keulders II discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 19	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Keulders discloses a "recyclable shrink label."</p> <p>For example, Keulders discloses:</p> <p style="padding-left: 40px;">The multilayer shrink film of the present invention may be provided in form of a roll, from which individually cut labels may be produced, if desired. After graphical information has been printed onto the inkjet printable layer, the (printed) multilayer shrink film of the present invention preferably may be provided in form of a sleeve, more preferably in form of a shrink sleeve label.</p> <p>[0062].</p> <p><i>See also, e.g., Fig. 1.</i></p> <p>Further, to the extent the preamble of claim 19 is found to be limiting, Keulders also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 19 of the '422 Patent, Keulders discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Keulders discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.b].</i></p> <p><i>See also, e.g., Fig. 1.</i></p>
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	<p>Keulders discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See above, [1.b].</i></p>

Chart 5 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0361939 ("Keulders")

CLAIM 19	
'422 Patent Claim Limitation	Keulders Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Keulders discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c]. <i>See also, e.g.</i> , Fig. 1.
[19.d] a high opacity layer comprising a white pigment,	Keulders discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3]. <i>See also, e.g.</i> , Fig. 1.
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Keulders discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i> , [1.f]. Further, Keulders also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Keulders includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Keulders is the same as that of the "shrink label" of claim 19 of the '422 Patent, Keulders discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent. Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g.</i> , Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori"), which was filed on September 21, 2005, and published on April 5, 2007, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Sugimori invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 1	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Sugimori discloses a "recyclable shrink label."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">The light-shielding shrink tack sheet and the light-shielding shrink label of the present invention have appropriate heat shrinkability, a low natural shrinkage rate at room temperature, and excellent workability.</p> <p>[0014].</p> <p style="padding-left: 40px;">The present invention has been made to solve the above-mentioned problems in the conventional art, and aims to provide a light-blocking shrink tack sheet and a label using the same, which protects the contents of a plastic pharmaceutical container from deterioration due to ultraviolet light or low-wavelength visible light, eliminates the risk of ultraviolet absorbers eluting into the container</p> <p>[0010].</p> <p>Further, to the extent the preamble of claim 1 is found to be limiting, Sugimori also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 1 of the '422 Patent, Sugimori discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 1 of the '422 Patent.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 1	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Sugimori discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">In particular, polyethylene terephthalate shrink films and the like, which have excellent transparency and low-temperature shrinkability and produce a good finish without wrinkles after shrinkage, have come to be widely used for packaging containers of cosmetics, pharmaceuticals, etc., with desired printing such as letters and patterns.</p> <p>[0002].</p> <p style="padding-left: 40px;">The raw material resin for the shrink film is preferably a resin having excellent transparency, such as polyester (polyethylene terephthalate, polybutylene terephthalate, etc.), polyethylene, polystyrene, polypropylene, vinyl chloride, etc.</p> <p>[0017].</p>
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Sugimori discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">The ultraviolet absorbing shrink film in the present invention is preferably a shrink film having a thickness of about 25 to 80 μm that has been uniaxially or biaxially stretched (simultaneous biaxial or sequential biaxial stretched) by calendar processing.</p> <p>[0016].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Sugimori discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">The obtained light-shielding shrink tack sheet has an ultraviolet transmittance of 5% or less in the ultraviolet light region (390 nm) and a haze value of 40% or less. The ultraviolet ray transmittance is more preferably 3% or less, and particularly preferably 1.5% or less.</p> <p>[0053].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 1	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Sugimori discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">The light-shielding material is preferably an ultrafine metal oxide particle having an average particle size of 0.01 to 0.1 μm. If the average particle size is within the above range, it is possible to form a light-shielding shrink film that has both light-shielding properties and transparency.</p> <p>[0052].</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Sugimori discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">Examples of the metal oxide include titanium oxide and zinc oxide.</p> <p>[0052].</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Sugimori discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">The light-shielding shrink tack sheet and label of the present invention can be preferably used for packaging plastic pharmaceutical containers, and can also be used for packaging cosmetic containers, food containers, etc.</p> <p>[0055].</p> <p style="padding-left: 40px;">The raw material resin for the shrink film is preferably a resin having excellent transparency, such as polyester (polyethylene terephthalate, polybutylene terephthalate, etc.), polyethylene, polystyrene, polypropylene, vinyl chloride, etc.</p> <p>[0017].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 1	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
	<p>Further, Sugimori also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 1 of the '422 Patent, Sugimori discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 2	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Sugimori discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Sugimori also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">A shrink label has also been proposed in which a light-shielding layer is provided together with such a printed layer to improve light-shielding properties.</p> <p>[0003].</p> <p style="padding-left: 40px;">Furthermore, when a container is packaged using shrink film, a shrink label indicating the name of the drug, the name of the manufacturer, the usage, the expiration date, etc. may be affixed to the surface of the body of the container.</p> <p>[0003].</p>

CLAIM 3	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Sugimori discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Sugimori also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">[A] light-blocking shrink label in which the light-blocking layer is formed from a coating layer of a coating liquid that contains titanium oxide powder as a light-blocking material, and the transmittance of visible light (400 to 700 nm) is adjusted to 7% or less.</p> <p>[0005].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 4	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Sugimori discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>Sugimori also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">[A] light-blocking shrink label in which the light-blocking layer is formed from a coating layer of a coating liquid that contains titanium oxide powder as a light-blocking material, and the transmittance of visible light (400 to 700 nm) is adjusted to 7% or less.</p> <p>[0005].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 5	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
<p>[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).</p>	<p>Sugimori discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Sugimori also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 6	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Sugimori discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Sugimori also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">Shrink films have traditionally been widely used for packaging containers made of glass or synthetic resin, such as cosmetics and pharmaceuticals, for reasons including their ability to maintain high adhesion to containers of complex shapes.</p> <p>[0002].</p>

CLAIM 7	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Sugimori discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>Sugimori also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">The light-shielding adhesive prepared in Preparation Example 4 was applied to a release paper (SP-8E, manufactured by Lintec Corporation) with an applicator so as to give a dry film thickness of 25 μm, and dried in a circulating hot air dryer at 100° C. for 2 minutes.</p> <p>[0069].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 8	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Sugimori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Sugimori also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The ultraviolet absorbing acrylic copolymer has excellent shrinkage properties at the heating temperature (40 to 150°C) during shrink packaging, has a good finished appearance after application, and is free of distortion or wrinkles of the pattern due to uneven shrinkage.</p> <p>[0035].</p> <p style="padding-left: 40px;">The shrink films . . . were immersed in a warm water bath adjusted to a specified temperature for 30 seconds . . . and the respective heat shrinkage rates were calculated</p> <p>[0057].</p> <p>Further, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 8 of the '422 Patent, Sugimori discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 9	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Sugimori discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Sugimori also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." <i>See above, [8].</i></p> <p>Further, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 9 of the '422 Patent, Sugimori discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 10	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Sugimori discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Sugimori also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Examples of the metal oxide include titanium oxide and zinc oxide. Among the metal oxides, titanium oxide is particularly preferred in terms of its ultraviolet ray shielding properties and transparency.</p> <p>[0052].</p>

CLAIM 11	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Sugimori discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Sugimori also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 12	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Sugimori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Sugimori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 14	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Sugimori discloses an "article."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">In particular, polyethylene terephthalate shrink films and the like, which have excellent transparency and low-temperature shrinkability and produce a good finish without wrinkles after shrinkage, have come to be widely used for packaging containers of cosmetics, pharmaceuticals, etc., with desired printing such as letters and patterns..</p> <p>[0002].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Sugimori discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Sugimori discloses:</p> <p style="padding-left: 40px;">In particular, polyethylene terephthalate shrink films and the like, which have excellent transparency and low-temperature shrinkability and produce a good finish without wrinkles after shrinkage, have come to be widely used for packaging containers of cosmetics, pharmaceuticals, etc., with desired printing such as letters and patterns..</p> <p>[0002].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 14	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Sugimori discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">Furthermore, when a container is packaged using shrink film, a shrink label indicating the name of the drug, the name of the manufacturer, the usage, the expiration date, etc. may be affixed to the surface of the body of the container.</p> <p>[0003].</p>

CLAIM 15	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Sugimori discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Sugimori also discloses "the first surface of the heat shrink film faces the external surface of the container." <i>For example</i>:</p> <p style="padding-left: 40px;">The present invention has been made to solve the above-mentioned problems in the conventional art, and aims to provide a light-blocking shrink tack sheet and a label using the same, which protects the contents of a plastic pharmaceutical container from deterioration due to ultraviolet light or low-wavelength visible light, eliminates the risk of ultraviolet absorbers eluting into the container</p> <p>[0010].</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 16	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Sugimori discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>Sugimori also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">A shrink label has also been proposed in which a light-shielding layer is provided together with such a printed layer to improve light-shielding properties.</p> <p>[0003].</p> <p style="padding-left: 40px;">Furthermore, when a container is packaged using shrink film, a shrink label indicating the name of the drug, the name of the manufacturer, the usage, the expiration date, etc. may be affixed to the surface of the body of the container.</p> <p>[0003].</p>

CLAIM 17	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Sugimori discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>Sugimori also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 18	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Sugimori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Sugimori also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">The raw material resin for the shrink film is preferably a resin having excellent transparency, such as polyester (polyethylene terephthalate, polybutylene terephthalate, etc.), polyethylene, polystyrene, polypropylene, vinyl chloride, etc.</p> <p>[0017].</p> <p>Further, Sugimori also inherently discloses the PET is crystallizable. For example, the PET disclosed in Sugimori includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 18 of the '422 Patent, Sugimori discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 19	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Sugimori discloses a "recyclable shrink label." <i>See above</i> , [1.pre]. Further, to the extent the preamble of claim 19 is found to be limiting, Sugimori also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 19 of the '422 Patent, Sugimori discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Sugimori discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Sugimori discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Sugimori discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Sugimori discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].

Chart 6 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2007083518 ("Sugimori")

CLAIM 19	
'422 Patent Claim Limitation	Sugimori Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Sugimori discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>Further, Sugimori also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Sugimori includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Sugimori is the same as that of the "shrink label" of claim 19 of the '422 Patent, Sugimori discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I"), which was filed on July 12, 2013, and published on January 15, 2015, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Mitchell I invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Mitchell I discloses a "recyclable shrink label."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">In particular, heat-shrink sleeves or labels may be used on recyclable plastic containers, such as PET bottles, where the recyclability of the material is pending on the ability to separate the labels from the labelled items.</p> <p>33:10-15.</p> <p><i>See also, e.g.,</i> Figs. 1, 6.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Mitchell I discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">The label may be comprise a first surface 901 and the second surface 902. The first surface 901 and the second surface 902 may be adjoined or seamed such that a first surface portion of the first surface 901 and a second surface portion of the second surface 902 may be adjoined to each other. A seamed label may form a hollow tube referred to as a sleeve. The first surface 901 may be referred to as the inner surface facing the item 400 and the second surface 902 may be referred to as the outer surface.</p> <p>30:22-35.</p> <p style="padding-left: 40px;">In consumer bottles, the use of polyethylene terephthalate is common. The combination of a heat shrink label 900 and an item 400 is preferred especially in applications wherein the item is a bottle consisting of polyethylene terephthalate.</p> <p>32:30-35.</p> <p><i>See also, e.g.,</i> Fig. 6.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Mitchell I discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">The thickness dl for a multilayer film 100 after stretching may be, for example, in the range of 20 to 60 micrometers (μm), preferably in the range of 25 to 50 micrometers (μm), such as 25, 30, 35, 40, 45, or 50 micrometers (μm).</p> <p>14:10-15.</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Mitchell I discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">Each layer in a multilayer film may be designed to improve the functionality of the multilayer film as a label. The labels in general are designed to be printable, for example by means of flexographic printing, rotogravure printing, hot-melt printing or digital printing. In particular, technologies using rolls to transfer the images, such as flexographic printing, are suitable methods for medium to large series of labels. Flexographic printing may comprise the use of various types of printing inks, such as solvent-based inks, water-based inks, electron beam curing inks, or ultraviolet light (UV) curing inks.</p> <p>10:25-35.</p> <p style="padding-left: 40px;">Additives such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, antistatic additives, or cavitating agents may be included to change the visual appearance or characteristics of the surface layers</p> <p>34:5-15.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Mitchell I discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Mitchell I discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">Skin layers may contain additives, such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, antistatic additives, or cavitating agents to change the visual appearance or characteristics of the surface layers.</p> <p>34:10-20.</p> <p style="padding-left: 40px;">Pigments such as extenders or opacifiers may also be used. Extenders are transparent pigments that make the colors of other pigments appear less intense. Opacifiers are pigments, which make the paint opaque (non-transparent) such that the surface below the paint cannot be seen.</p> <p>36:30-35.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell I discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">The combination of a heat shrink label 900 and an item 400 is preferred especially in applications wherein the item is a bottle consisting of polyethylene terephthalate.</p> <p>32:30-35.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 2	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Mitchell I discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label of claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The first surface 901 and/or the second surface 902 of the label 900 may comprise printed graphics 920. Preferably, the label 900 may comprise at least some printed graphics 920 on the first surface 901 and/or the second surface 902.</p> <p>30:30-31:1.</p> <p><i>See also, e.g., Fig. 6.</i></p>

CLAIM 3	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Mitchell I discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label of claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">For example, colour printing at the film surface may be covered (overprinted) with a white or some other colour printing. Thus, the overprinting may be next to the surface of the item. Through this kind of label the object beneath is not visible.</p> <p>34:35-35:3.</p> <p><i>See also, e.g., Fig. 1.</i></p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 4	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Mitchell I discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label of claim 3," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">Skin layers may contain additives, such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, antistatic additives, or cavitating agents to change the visual appearance or characteristics of the surface layers</p> <p>34:5-15.</p> <p style="padding-left: 40px;">The overprinting may be next to the surface of the item. Through this kind of label the object beneath is not visible. Each layer in a multilayer film may be designed to improve the functionality of the multilayer film as a label</p> <p>34:1-6.</p>

CLAIM 5	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Mitchell I discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label of claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Fig. 6.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 6	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">A seamed label may form a hollow tube referred to as a sleeve. The first surface 901 may be referred to as the inner surface facing the item 400, and the second surface 902 may be referred to as the outer surface.</p> <p>30:25-30.</p> <p><i>See also, e.g., Fig. 6.</i></p>

CLAIM 7	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Mitchell I discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 6," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">Alternatively, or in addition, a first surface portion of the label may be seamed to another surface portion of the same label, when the label is produced as a sleeve to be fitted around the outer surface of a container to be labelled.</p> <p>5:23-27.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 8	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">For example, at a temperature of 98°C, the shrinkage may be in the range of 30% to 60%, preferably in the range of 35% to 55%, most preferably in the range of 40% to 50%. At a temperature range between 65 and 85°C, the heat shrinkable film or label may comprise equal to or less than 55%, preferably less than 50%, most preferably, less than 45% shrinkage.</p> <p>25:1-5.</p> <p><i>See also, e.g., 23:19-39.</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 9	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">For example, at a temperature of 98°C, the shrinkage may be in the range of 30% to 60%, preferably in the range of 35% to 55%, most preferably in the range of 40% to 50%. At a temperature range between 65 and 85°C, the heat shrinkable film or label may comprise equal to or less than 55%, preferably less than 50%, most preferably, less than 45% shrinkage.</p> <p>25:1-5.</p> <p><i>See also, e.g.,</i> 23:19-39.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 10	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Mitchell I discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 3," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">High printing quality comprises, for example, excellent ink adhesion and register control, allowing for example gravure and flexographic printing. The printing may be multi-layered comprising two or more printing layers. For example, colour printing at the film surface may be covered (overprinted) with a white or some other colour printing.</p> <p>34:33-35:3.</p>

CLAIM 11	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 12	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 13	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Mitchell I discloses an "article."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">Label may be attached to an article. In other words, label is suitable to be applied to a surface of an item to provide decoration, and/or to display information about the product being sold, such as content information, a trade name, a logo, a barcode, or any other graphics. The item may also be called as an article, or a substrate.</p> <p>5:5-10.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 14	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Mitchell I discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Mitchell I discloses:</p> <p style="padding-left: 40px;">In consumer bottles, the use of polyethylene terephthalate is common. The combination of a heat shrink label 900 and an item 400 is preferred especially in applications wherein the item is a bottle consisting of polyethylene terephthalate.</p> <p>32:31-34.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Mitchell I discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">The label 900 may comprise a continuous multilayer film around the external or outer surface 901 of the item 400. The continuous multilayer film may be oriented in one direction DIR1 and may comprise a core layer and a first and a second skin layers.</p> <p>32:15-21.</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label of claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 15	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Mitchell I discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "article according to claim 14," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The label may be comprise a first surface 901 and the second surface 902. The first surface 901 and the second surface 902 may be adjoined or seamed such that a first surface portion of the first surface 901 and a second surface portion of the second surface 902 may be adjoined to each other. A seamed label may form a hollow tube referred to as a sleeve. The first surface 901 may be referred to as the inner surface facing the item 400 and the second surface 902 may be referred to as the outer surface.</p> <p>30:22-35.</p>

CLAIM 16	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Mitchell I discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 2," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The first surface 901 and/or the second surface 902 of the label 900 may comprise printed graphics 920. Preferably, the label 900 may comprise at least some printed graphics 920 on the first surface 901 and/or the second surface 902.</p> <p>30:34-31:1.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 17	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Mitchell I discloses the "recyclable shrink label according to claim 8." <i>See above, [1.pre]-[1.f], [8].</i></p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 8," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." For example:</p> <p style="padding-left: 40px;">Thus, the label may primarily shrink in the transverse direction.</p> <p>7:34-35. <i>See also, e.g., 12:33-35.</i></p>

CLAIM 18	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Mitchell I discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell I does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell I renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell I also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">In consumer bottles, the use of polyethylene terephthalate is common. The combination of a heat shrink label 900 and an item 400 is preferred especially in applications wherein the item is a bottle consisting of polyethylene terephthalate.</p> <p>32:31-34.</p> <p style="padding-left: 40px;">Preferably, the cyclic olefin copolymers have been provided using a metallocene catalyst, to obtain copolymers having crystalline attributes.</p> <p>43:21-24.</p>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 18	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
	<p>For example, a film having thickness of 100 micrometres before uniaxial orientation is stretched by a draw ratio of 5. After the uniaxial orientation the film may have a fivefold diminished thickness of 20 micrometres. The plastic film may be drawn (stretched) at least in one direction. The film may be drawn in a machine direction, in a transverse direction, or both. The resulting film is thus monoaxially (uniaxially) oriented (MO) or biaxially oriented (BO). Monoaxially oriented film may be machine oriented (MDO) or transverse oriented (TDO) in accordance to the direction of the orientation (stretching).</p> <p>6:15-25.</p> <p>Further, Mitchell I also inherently discloses the PET is crystallizable. For example, the PET disclosed in Mitchell I includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Mitchell I is the same as that of the "shrink label" of claim 18 of the '422 Patent, Mitchell I discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p>

CLAIM 19	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Mitchell I discloses a "recyclable shrink label." <i>See above, [1.pre].</i>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Mitchell I discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.a].</i>
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	Mitchell I discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See above, [1.b].</i>

Chart 7 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/004314 ("Mitchell I")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell I Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Mitchell I discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Mitchell I discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell I discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.f].</p> <p>Further, Mitchell I also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Mitchell I includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Mitchell I is the same as that of the "shrink label" of claim 19 of the '422 Patent, Mitchell I discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota"), which was filed on February 20, 2003, and published on September 9, 2004, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Ota invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 1	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Ota discloses a "recyclable shrink label."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">In addition, it is an object of the present invention to provide a bottle with a shrink label with high productivity, which can easily separate the bottle body and the shrink label after use of the bottle, and has less restrictions on the recycling of the bottle.</p> <p>[0006].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 1	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Ota discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The heat-shrinkable film used for the shrink label is not particularly limited. For example, in addition to a polyester-based heat-shrinkable film obtained by stretching a polyester-based copolymer resin, a polystyrene-based heat-shrinkable film, a polyvinyl chloride-based heat-shrinkable film can be used. Any of heat-shrinkable films, special polyethylene such as cross-linked polyethylene, ethylene / vinyl acetate copolymer, and polyolefin-based heat-shrinkable films using polypropylene or the like can be used</p> <p>[0008].</p> <p style="padding-left: 40px;">The heat-shrinkable film used for the shrink label is not particularly limited. For example, in addition to a polyester-based heat-shrinkable film obtained by stretching a polyester-based copolymer resin, a polystyrene-based heat-shrinkable film, a polyvinyl chloride-based heat-shrinkable film can be used. Any of heat-shrinkable films, special polyethylene such as cross-linked polyethylene, ethylene/vinyl acetate copolymer, and polyolefin-based heat-shrinkable films using polypropylene or the like can be used</p> <p>[0009].</p>
<p>[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and</p>	<p>Ota discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The thickness of the heat-shrinkable film varies depending on the material thereof, the size of the bottle on which the shrink label is attached, and the like, but is usually preferably in the range of 20 to 120 μm.</p> <p>[0009].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 1	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Ota discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The light-shielding layer provided on the entire surface of any one of the heat-shrinkable films and the printed layer such as a pattern is usually opaque because the light-shielding layer is opaque. A light-shielding layer may be provided, and a printed layer may be provided thereon. If necessary, an overprint layer for protecting the printed layer may be provided thereon.</p> <p>[0011].</p> <p style="padding-left: 40px;">The invention according to claim 3 is characterized in that the shrink label has a transmittance of 7% or less for ultraviolet rays and visible rays in a wavelength range of 290 to 700 nm.</p> <p>[0019].</p>
<p>[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,</p>	<p>Ota discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">In addition, it can be achieved by forming the light-shielding layer so as to have a large thickness in the range of 3 to 20 μm, more preferably in the range of 8 to 15 μm. If the thickness of the light-shielding layer is less than 3 μm, it is difficult to reduce the transmittance of the ultraviolet light and visible light to 7% or less, which is not preferable. When the thickness of the light-shielding layer is more than 20 μm, sufficient light-shielding properties for reducing the transmittance of the ultraviolet light and the visible light to 7% or less are already obtained. It is not preferred because it hinders shrinkage.</p> <p>[0020].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 1	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Ota discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">Examples of the substance that reflects, diffuses, or scatters ultraviolet light and/or visible light include titanium dioxide, zinc oxide, iron titanate, iron oxide, zirconium oxide, cerium oxide, magnesium oxide, silica, and alumina (particularly flat powder), zeolite, talc, kaolin, aluminum silicate, calcium silicate, magnesium silicate, calcium carbonate, magnesium carbonate, barium sulfate, and magnesium sulfate.</p> <p>[0012].</p>
<p>[1.f] wherein the recyclable shrink label is recyclable with a PET container.</p>	<p>Ota discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The bottle body of the bottle with a shrink label is formed of a resin containing polyethylene terephthalate or another polyester resin as a main component, and the gas barrier property of the bottle body is a multilayer molding, blend molding of two or more synthetic resins, vapor deposition or coating, or a combination of two or more.</p> <p>[0023].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 1	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 2	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Ota discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label of claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The light-shielding shrink label 100 shown in FIG. 1 is provided with a printing layer 2 such as a picture by gravure printing or the like on the inner surface (lower surface in the figure) of the heat-shrinkable film 1 in a reverse printing form. The light shielding layer 3 is provided on the entire surface.</p> <p>[0029].</p>

CLAIM 3	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Ota discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label of claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">In the configuration of the light-shielding shrink labels 100 to 400 shown in FIGS. 1 to 4, the light-shielding layers 3 and 3a . . . Usually, however, the color is preferably white or silver based to enhance the printing effect. Therefore, as the light-shielding substance used for the light-shielding layers 3 and 3a, it is preferable to use a white pigment such as titanium white or a silver light-shielding substance such as aluminum powder.</p> <p>[0034].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 4	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Ota discloses the "recyclable shrink label of claim 3." <i>See</i> above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label of claim 3," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">The light-shielding shrink label 400 shown in FIG. 4 has a light-shielding layer composed of two layers on the outer surface (upper surface in the figure) of the heat-shrinkable film 1 and includes a light-shielding layer 3b and a light-shielding layer 3a. The printed layer 2 is provided on the entire surface in order, a printed layer 2 such as a picture is provided thereon in the form of front printing, and an overprint layer 4 for protecting the printed layer 2 such as a picture is provided thereon.</p> <p>[0032].</p> <p style="padding-left: 40px;">In the configuration of the light-shielding shrink labels 100 to 400 shown in FIGS. 1 to 4, the light-shielding layers 3 and 3a provided in contact with the back surface of the printed layer 2 such as a picture are designed for the design of the printed layer 2 such as a picture.</p> <p>[0034].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 5	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Ota discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label of claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

CLAIM 6	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Ota discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">When the light-shielding shrink label 100 having such a configuration is mounted on a bottle, the edges on both sides are usually attached to each other in an envelope-attached form using a solvent or the like to form a cylindrical body. It is placed at a predetermined position, and is attached by heat shrinkage.</p> <p>[0029].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 7	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Ota discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 6," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">When the light-shielding shrink label 100 having such a configuration is mounted on a bottle, the edges on both sides are usually attached to each other in an envelope-attached form using a solvent or the like to form a cylindrical body. It is placed at a predetermined position, and is attached by heat shrinkage.</p> <p>[0029].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 8	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Ota discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">For this purpose, in the case of a bottle having a general shape, for example, a light-shielding shrink label is manufactured using a heat-shrinkable film having a heat-shrinkage rate of 60 to 80%.</p> <p>[0022].</p> <p>Further, the shrink label disclosed in Ota includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Ota is the same as that of the "shrink label" of claim 8 of the '422 Patent, Ota discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 9	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Ota discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[A] light-shielding shrink label is manufactured using a heat-shrinkable film having a heat-shrinkage rate of 60 to 80%.</p> <p>[0022].</p> <p>Further, the shrink label disclosed in Ota includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Ota is the same as that of the "shrink label" of claim 9 of the '422 Patent, Ota discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 10	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Ota discloses the "recyclable shrink label according to claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 3," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above, [1.pre]-[1.f] and [3]. For example:</i></p> <p style="padding-left: 40px;">Examples of the substance that reflects, diffuses, or scatters ultraviolet light and/or visible light include titanium dioxide, zinc oxide, iron titanate, iron oxide, zirconium oxide, cerium oxide, magnesium oxide, silica, and alumina (particularly flat powder), zeolite, talc, kaolin, aluminum silicate, calcium silicate, magnesium silicate, calcium carbonate, magnesium carbonate, barium sulfate, and magnesium sulfate.</p> <p>[0012].</p>

CLAIM 11	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Ota discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 12	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Ota discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 13	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Ota discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 14	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Ota discloses an "article."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The present invention relates to a bottle with a shrink label, and more specifically, a bottle having a gas barrier property in a bottle body, and a shrink label is provided with a light shielding layer together with a printed layer of a picture or the like to improve light shielding properties.</p> <p>[0001].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Ota discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Ota discloses:</p> <p style="padding-left: 40px;">The bottle body of the bottle with a shrink label is formed of a resin containing polyethylene terephthalate or another polyester resin as a main component, and the gas barrier property of the bottle body is a multilayer molding, blend molding of two or more synthetic resins, vapor deposition or coating, or a combination of two or more.</p> <p>[0023].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 14	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Ota discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. See also, for example:</p> <p style="padding-left: 40px;">When the light-shielding shrink label 100 having such a configuration is mounted on a bottle, the edges on both sides are usually attached to each other in an envelope-attached form using a solvent or the like to form a cylindrical body. It is placed at a predetermined position, and is attached by heat shrinkage</p> <p>[0029].</p> <p>To the extent it is found that Ota does not expressly disclose the " recyclable shrink label of claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 15	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Ota discloses the "article according to claim 14." <i>See</i> above, [1], [14.pre]-[14.b].</p> <p>Ota also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">When the light-shielding shrink label 100 having such a configuration is mounted on a bottle, the edges on both sides are usually attached to each other in an envelope-attached form using a solvent or the like to form a cylindrical body. It is placed at a predetermined position, and is attached by heat shrinkage</p> <p>[0029].</p>

CLAIM 16	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Ota discloses the "recyclable shrink label according to claim 2." <i>See</i> above, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 2," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The light-shielding shrink label 400 shown in FIG. 4 has a light-shielding layer composed of two layers on the outer surface (upper surface in the figure) of the heat-shrinkable film 1 and includes a light-shielding layer 3b and a light-shielding layer 3a. The printed layer 2 is provided on the entire surface in order, a printed layer 2 such as a picture is provided thereon in the form of front printing, and an overprint layer 4 for protecting the printed layer 2 such as a picture is provided thereon.</p> <p>[0032].</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 17	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.</p>	<p>Ota discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 8," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 18	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Ota discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Ota does not expressly disclose the "recyclable shrink label according to claim 1," Ota renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Ota also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">[T]he bottle body of the bottle with a shrink label is formed of a resin containing polyethylene terephthalate or another polyester resin as a main component, and the gas barrier property of the bottle body is a multilayer molding, blend molding of two or more synthetic resins, vapor deposition or coating, or a combination of two or more.</p> <p>[0023].</p> <p>Further, Ota also inherently discloses the PET is crystallizable. For example, the PET disclosed in Ota includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Ota is the same as that of the "shrink label" of claim 18 of the '422 Patent, Ota discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 19	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Ota discloses a "recyclable shrink label." <i>See above</i> , [1.pre]. In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Ota discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Ota discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Ota discloses "the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Ota discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].

Chart 8 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2004250040 ("Ota")

CLAIM 19	
'422 Patent Claim Limitation	Ota Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Ota discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.f].</p> <p>Further, Ota also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Ota includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Ota is the same as that of the "shrink label" of claim 19 of the '422 Patent, Ota discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent No. 9,102,191 ("Yamada"), which was filed on September 21, 2005, and published on April 5, 2007, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Yamada invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 1	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Yamada discloses a "recyclable shrink label."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">In order to achieve the object, the present inventors have found that a package containing a thin-film layered structure comprising substances having different refractive indices and colored by an interference effect due to the thin-film layered structure or a plastic package which develops color by forming a fine periodically arranged structure which is different in optical characteristics on the surface of the package can be easily decolored by heating in a reproduction step and is excellent in recycle properties.</p> <p>4:31-39.</p> <p><i>See also</i>, Fig. 10.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Yamada discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">The other resin layer may be a base resin layer for maintaining the shape of a container formed by the plastic package. Specifically, for example, a PET layer of PET bottles and a polyethylene layer, a polypropylene layer, or the like of food containers correspond to the base resin layer.</p> <p>10:46-51.</p> <p><i>See also</i>, Figs. 1-2.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 1	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Yamada discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Yamada discloses:</p> <p>When a wall surface 15 of the plastic bottle container is irradiated with the laser light which has formed such a periodical pattern, a part of the container wall 15 is locally heated by a part 16 having a strong laser light intensity. For example, the thickness of the wall 15 is about 100 μm in a PET bottle mainly made of polyethylene terephthalate and a site of a depth of 1 to 5 μm in the vicinity of the surface layer across the thickness is heated.</p> <p>13:21-30.</p> <p>Polypropylene (FH1016) [Mitsui Sumitomo Polyolefin] was fed to a hopper of an extruder, and a monolayer direct blow bottle (21 g) was molded. Then, dip-coating was carried out in the same manner as in Example 1 to form a thin film having a thickness of 300 nm on a bottle wall.</p> <p>18:8-13.</p> <p>The same procedure as in Example 1 was carried out except that a film thickness of polymethyl methacrylate on the outer surface of the preform was 20 μm, to mold a thin-film laminate bottle.</p> <p>18:22-25.</p> <p><i>See also, Figs. 2, 7.</i></p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 1	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Yamada discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">When the plastic package is made as above, since it is colored by an interference effect due to the thin-film layered structure, the plastic package can possess the functions of a visible light barrier and decoration. Also, when the plastic package is melted, the regular configuration of a physical coloring mechanism is destroyed, whereby the attached color can be decolored.</p> <p>4:57-63.</p> <p style="padding-left: 40px;">A plastic material to a specific wavelength shows any property of transparency wherein transmittance is about 70% or more, semitransparency wherein transmittance is from 10% to less than 70%, or opacity wherein transmittance is less than 10%.</p> <p>15: 30-34.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 1	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,	<p>Yamada discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">The particle size of the light/heat-absorbing fine particles is from 0.1 μm to 100 μm. When the size is larger than 100 μm, there is a risk that a resin becomes opaque when mixed therewith. Preferably, the size is from 0.2 μm to 30 μm.</p> <p>14:39-42.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Yamada discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">The light/heat-absorbing fine particles are fine particles which react with a specific laser light to generate heat. For example, there may be mentioned mica, kaolin, talc, titanium oxide-coated mica, and the like.</p> <p>14:35-39.</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Yamada discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">[I]n particular, in the case that the container of the plastic package 1 is a PET bottle, one or more substances of the substances constituting the thin-film layered structure 2 are preferably polyester resins. In this case, since the other resin layer 3 is also PET, i.e., a polyester resin, the recycle properties of the PET bottle can be enhanced.</p> <p>10:33-38.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 2	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Yamada discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label of claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">A method for decorating a plastic package which is the third invention is a method for decorating a plastic package wherein the decoration is conducted on the surface thereof by periodically arranging, on at least a part of the surface of the plastic package, portions which are different in the optical characteristics from the above surface.</p> <p>6:16-21.</p> <p style="padding-left: 40px;">According to the present invention, the plastic package contains a thin-film layered structure constituted of substances having different refractive indices and hence the plastic package can be colored by an interference effect due to the thin-film layered structure.</p> <p>7:4-8.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 3	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Yamada discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label of claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">As to the chemical coloring, when a white light including lights having a plurality of wavelengths enters a material, coloring occurs owing to absorption of a light in a wavelength range showing a specific color by the material.</p> <p>8:23-26.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 4	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Yamada discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label of claim 3," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">A multilayer plastic package may have a layer structure wherein a layer made of a plastic material which is transparent to a specific wavelength and a layer made of an opaque or semitransparent plastic material are adjacent to each other, and the thus constituted multilayer plastic package may be irradiated with a light having the specific wavelength from a transparent material layer side, so that the light passes through the transparent material layer.</p> <p>16:34-41.</p> <p style="padding-left: 40px;">In a plastic package (multilayer packaging structure), the body part of the container contains a thin-film layered structure comprising substances having different refractive indices and is colored by an interference effect due to this thin-film layered structure.</p> <p>7:62-65.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 5	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Yamada discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label of claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

CLAIM 6	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Yamada discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">Moreover, the method can be applied to not only plastic bottle containers but also other packages such as cups, pouches, trays, tube containers, and the like</p> <p>17:4-6.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 7	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Yamada discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 6," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">[T]here may be mentioned a method of attaching a multilayer film on the surface of containers and a method of forming the thin-film layered structure by vapor deposition or coating such as spraying on molded containers.</p> <p>11:12-15.</p> <p style="padding-left: 40px;">A laminate film having an adhesive layer was applied by thermocompression onto the body surface of a bottle container formed by biaxial stretch blow molding...</p> <p>18:29-31.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 8	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Yamada discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "when heated to 100° C., the heat shrink film contracts or shrinks about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">When the heated site reaches a determined temperature or higher . . . and an oriented crystalline portion formed in the container wall 15 The temperature varies depending on the resin used but it is about 190° C. in the case of polyethylene terephthalate, for example.</p> <p>13:31-37.</p> <p>Further, the shrink label disclosed in Yamada includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Yamada is the same as that of the "shrink label" of claim 8 of the '422 Patent, Yamada discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 9	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Yamada discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">When the heated site reaches a determined temperature or higher . . . and an oriented crystalline portion formed in the container wall 15 The temperature varies depending on the resin used but it is about 190° C. in the case of polyethylene terephthalate, for example.</p> <p>13:31-37.</p> <p>Further, the shrink label disclosed in Yamada includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Yamada is the same as that of the "shrink label" of claim 9 of the '422 Patent, Yamada discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 10	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Yamada discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 3," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">The light/heat-absorbing fine particles are fine particles which react with a specific laser light to generate heat. For example, there may be mentioned mica, kaolin, talc, titanium oxide-coated mica, and the like.</p> <p>14:35-39.</p>

CLAIM 11	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Yamada discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 12	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Yamada discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Yamada discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 13	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
	<p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[14.pre] An article comprising:</p>	<p>To the extent the preamble of claim 14 is found to be limiting, Yamada discloses an "article."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">The aforementioned blow mold was heated and, at biaxial stretch blow molding, the outside of the wall of a blow molded article was brought into contact with the inner surface of the mold for a predetermined time to conduct heat-set. Then, after a predetermined time of heat-set, the blowing fluid is changed to a fluid for inside cooling to cool the inside of the blow molded article.</p> <p>12:9-25.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 14	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Yamada discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Yamada discloses:</p> <p style="padding-left: 40px;">As the plastic materials forming the plastic bottle containers, for example, preferred are thermoplastic polyesters such as polyethylene terephthalate (PET), polyethylene isophthalate, polybutylene terephthalate, polyethylene naphthalate, polycarbonates, polyarylates, or copolymers of monomers forming the above resins.</p> <p>12:31-36.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Yamada discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f]. See also, for example:</p> <p style="padding-left: 40px;">Moreover, there may be mentioned a method of attaching a multilayer film on the surface of containers and a method of forming the thin-film layered structure by vapor deposition or coating such as spraying on molded containers.</p> <p>11:11-16.</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label of claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 15	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Yamada discloses the "article according to claim 14." See above, [14.pre]-[14.b].</p> <p>Yamada also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">Moreover, there may be mentioned a method of attaching a multilayer film on the surface of containers and a method of forming the thin-film layered structure by vapor deposition or coating such as spraying on molded containers.</p> <p>11:11-16.</p> <p style="padding-left: 40px;">[W]hen the thin-film layered structure is laminated on the outer surface of container, there arises no hygienic problem even in the case that the contents are foods.</p> <p>5:27-29.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 16	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.</p>	<p>Yamada discloses the "recyclable shrink label according to claim 2." <i>See</i> above, [2].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 2," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">[W]hen the thin-film layered structure is laminated on the outer surface of container, there arises no hygienic problem even in the case that the contents are foods.</p> <p>5:27-29.</p> <p style="padding-left: 40px;">A method for decorating a plastic package which is the third invention is a method for decorating a plastic package wherein the decoration is conducted on the surface thereof by periodically arranging, on at least a part of the surface of the plastic package, portions which are different in the optical characteristics from the above surface.</p> <p>6:16-21.</p> <p style="padding-left: 40px;">According to the present invention, the plastic package contains a thin-film layered structure constituted of substances having different refractive indices and hence the plastic package can be colored by an interference effect due to the thin-film layered structure.</p> <p>7:4-8.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 17	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Yamada discloses the "recyclable shrink label according to claim 8." <i>See above, [8].</i></p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 8," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above, [9].</i></p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 18	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Yamada discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Yamada does not expressly disclose the "recyclable shrink label according to claim 1," Yamada renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Yamada also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p>Suitably usable typical examples include polyethylene terephthalate (PET), polybutylene terephthalate (PBT), polyethylene naphthalate (PEN), polycarbonates, polyarylates, isophthalic acid-copolymerized PET (PET-I), cyclohexanedimethanol (CHDM)-copolymerized PET, and polyesters copolymerized with a soft segment constituting a polyolefin or a polyether</p> <p>9:49-55.</p> <p>As such a plastic package, there may be, for example, mentioned a plastic package wherein the above plastic package includes a crystalline resin as a main material and the above portion different in the optical characteristics is a crystal structure.</p> <p>6:7-12.</p> <p>Further, Yamada also inherently discloses the PET is crystallizable. For example, the PET disclosed in Yamada includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Yamada is the same as that of the "shrink label" of claim 18 of the '422 Patent, Yamada discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 18	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
	<p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 19	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Yamada discloses a "recyclable shrink label." <i>See above, [1.pre].</i>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Yamada discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.a].</i>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Yamada discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above, [1.b].</i>

Chart 9 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 9,102,191 ("Yamada")

CLAIM 19	
'422 Patent Claim Limitation	Yamada Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Yamada discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i></p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	<p>Yamada discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i></p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Yamada discloses "the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi"), which was filed on November 19, 2020, and published on September 14, 2023, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Takahashi invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 1	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Takahashi discloses a "recyclable shrink label."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">That is, the invention intends to provide a heat-shrinkable polyester film which can be effectively and stably processed into pellets having a predetermined shape even in a case where PET bottles covered with the heat-shrinkable polyester film are recycled together, and to provide a heat shrinkable film which has low thermal shrink stress occurring at the time of thermal shrinkage so as to be able to address wall thickness reduction of PET bottles and the like.</p> <p>[0023].</p> <p><i>See also, e.g.,</i> Figs. 1A-1C.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Takahashi discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">(PET1)</p> <p style="padding-left: 40px;">Polyester resin (manufactured by Eastman Chemical Company, trade name "Embrace Encore", glass transition temperature (Tg): 74° C., melting point: 217° C., density: 1.3 g/cm³)</p> <p>[0190].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in Figs. 1A-1C.</p> <p>Figs 1A-1C.</p> <p><i>See also, e.g.</i> Table 1.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 1	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Takahashi discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">Finally, a heat-shrinkable polyester film having a thickness of 40 μm and a variation in thickness of below 5% was produced by using a heat-shrinkable film production apparatus from the sheet at a preheating temperature of 120° C., a stretching temperature of 84° C., and an annealing temperature of 86.5° C. and at a stretching ratio (MD direction: 1.06 times, TD direction: 5 times).</p> <p>[0199].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Takahashi discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 1	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Takahashi discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Takahashi discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 1	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Takahashi discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">That is, the invention intends to provide a heat-shrinkable polyester film which can be effectively and stably processed into pellets having a predetermined shape even in a case where PET bottles covered with the heat-shrinkable polyester film are recycled together, and to provide a heat shrinkable film which has low thermal shrink stress occurring at the time of thermal shrinkage so as to be able to address wall thickness reduction of PET bottles and the like.</p> <p>[0023].</p> <p><i>See also, e.g.,</i> Figs. 1A-1C.</p>

CLAIM 2	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Takahashi discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label of claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "an indicia layer."</p> <p>For example:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.</i> Claim 2.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 3	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Takahashi discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label of claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "a high opacity layer comprising a white pigment."</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 4	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Takahashi discloses the "recyclable shrink label of claim 3." <i>See</i> above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label of claim 3," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer."</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 5	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Takahashi discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label of claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See</i> above, [1.a].</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 6	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Takahashi discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the recyclable shrink label is in a form of a sleeve or tube."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 7	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Takahashi discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 6," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the heat shrink film comprises a seam."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 8	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Takahashi discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he heat shrinkage ratio in the main shrinkage direction is within 45 to 70%</p> <p>Abstract. See also, e.g., [0024], [0031], [0034], [0037], [0063], [0103].</p> <p>Further, the heat shrink film disclosed in Takahashi includes the same materials as the heat shrink film recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "heat shrink film" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the heat shrink film of Takahashi is similar as that of the "heat shrink film" of claim 8 of the '422 Patent, Takahashi discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 9	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Takahashi discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses " when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he heat shrinkage ratio in the main shrinkage direction is within 45 to 70%</p> <p>Abstract. See also, <i>e.g.</i>, [0024], [0031], [0034], [0037], [0063], [0103].</p> <p>Further, the shrink label disclosed in Takahashi includes similar as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Takahashi is similar as that of the "shrink label" of claim 9 of the '422 Patent, Takahashi discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 10	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Takahashi discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 3," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3].</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 11	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Takahashi discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 12	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Takahashi discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Takahashi discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 13	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
<p>[14.pre] An article comprising:</p>	<p>To the extent the preamble of claim 14 is found to be limiting, Takahashi discloses an "article."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.,</i> Figs. 1A-1C.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 14	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Takahashi discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Takahashi discloses:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.</i>, Figs. 1A-1C.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Takahashi discloses the "recyclable shrink label disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.</i>, Figs 1A-1C.</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label of claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 15	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Takahashi discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Takahashi also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.</i>, Figs. 1A-1C.</p>

CLAIM 16	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Takahashi discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 2," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">By limiting the haze value to such a value, alinement for PET bottle or the like and scrutiny of contents are easily achieved, and before thermal shrinkage as well as after thermal shrinking, a PET bottle including a heat-shrinkable polyester film that is excellent in view of transparency, external appearance, decorative properties, and the like can be obtained.</p> <p>[0048].</p> <p><i>See also, e.g.</i>, Claim 16.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 17	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Takahashi discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 8," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 18	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Takahashi discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Takahashi does not expressly disclose the "recyclable shrink label according to claim 1," Takahashi renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Takahashi also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">(PET1)</p> <p style="padding-left: 40px;">Polyester resin (manufactured by Eastman Chemical Company, trade name "Embrace Encore", glass transition temperature (Tg): 74° C., melting point: 217° C., density: 1.3 g/cm³)</p> <p>[0190].</p> <p><i>See also, e.g.</i> Table 1.</p>

CLAIM 19	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Takahashi discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p><i>See also, e.g.</i>, Figs. 1A-1C.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Takahashi discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 1A-1C.</p>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm;	<p>Takahashi discloses "the heat shrink film having a thickness from 15 μm to 100 μm." <i>See above</i>, [1.b].</p> <p><i>See also, e.g.</i>, Figs. 1A-1C.</p>

Chart 10 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2023/0287189 ("Takahashi")

CLAIM 19	
'422 Patent Claim Limitation	Takahashi Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Takahashi discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i>, [1.c].</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	<p>Takahashi discloses "a high opacity layer comprising a white pigment." <i>See above</i>, [3].</p> <p>In the alternative, this limitation also would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Takahashi discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.f]. <i>See also, e.g.</i>, Figs. 1A-1C.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee"), which was filed on March 21, 2022, and having an effective filing date of July 21, 2020, and published on December 8, 2022, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Lee invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 1	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Lee discloses a "recyclable shrink label."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester resin blend according to an embodiment of the present disclosure is capable of providing a heat shrinkable label that is transparent and has excellent shrinkage even if it contains recycled polyethylene terephthalate as well as virgin polyethylene terephthalate. In addition, the heat shrinkable label can be reused while attached to a PET container, etc., and is expected to be useful for providing continuously usable plastics that have been recently attracting attention.</p> <p>[0010].</p> <p><i>See also, e.g.</i> [0024].</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Lee discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester resin blend according to an embodiment of the present disclosure is capable of providing a heat shrinkable label that is transparent and has excellent shrinkage even if it contains recycled polyethylene terephthalate as well as virgin polyethylene terephthalate. In addition, the heat shrinkable label can be reused while attached to a PET container, etc., and is expected to be useful for providing continuously usable plastics that have been recently attracting attention.</p> <p>[0010].</p> <p><i>See also, e.g.</i> [0024].</p>
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and	<p>Lee discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The thickness of the polyester film is not particularly limited, but may be 3 μm to 350 μm.</p> <p>[0098].</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 1	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Lee discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Lee discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 1	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Lee discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Lee discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester resin blend according to an embodiment of the present disclosure is capable of providing a heat shrinkable label that is transparent and has excellent shrinkage even if it contains recycled polyethylene terephthalate as well as virgin polyethylene terephthalate. In addition, the heat shrinkable label can be reused while attached to a PET container, etc., and is expected to be useful for providing continuously usable plastics that have been recently attracting attention.</p> <p>[0010].</p> <p><i>See also, e.g.</i> [0024].</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 2	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Lee discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label of claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "an indicia layer."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 3	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Lee discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label of claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "a high opacity layer comprising a white pigment."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 4	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Lee discloses the "recyclable shrink label of claim 3." <i>See</i> above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label of claim 3," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 5	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Lee discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label of claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See</i> above, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 6	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Lee discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the recyclable shrink label is in a form of a sleeve or tube."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 7	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Lee discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 6," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the heat shrink film comprises a seam."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 8	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Lee discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he polyester film can provide a heat shrinkable film with excellent quality by exhibiting a maximum shrinkage of 55% or more, 60% or more, 65% or more, 70% or more, or 75% or more at 95 ° C. The upper limit of the maximum shrinkage is not particularly limited</p> <p>[0079].</p> <p>Further, the shrink label disclosed in Lee includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Lee is the same as that of the "shrink label" of claim 8 of the '422 Patent, Lee invalidates claim 8 of the '422 Patent under either 35 U.S.C. §§ 102 or 103, despite Lee not explicitly disclosing the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 9	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Lee discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[T]he polyester film can provide a heat shrinkable film with excellent quality by exhibiting a maximum shrinkage of 55% or more, 60% or more, 65% or more, 70% or more, or 75% or more at 95 ° C. The upper limit of the maximum shrinkage is not particularly limited . . .</p> <p>[0079].</p> <p>Further, the shrink label disclosed in Lee includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Lee is the same as that of the "shrink label" of claim 9 of the '422 Patent, Lee invalidates claim 9 of the '422 Patent under either 35 U.S.C. §§ 102 or 103, despite Lee not explicitly disclosing the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 10	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Lee discloses the "recyclable shrink label according to claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 3," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above, [1.pre]-[1.f] and [3].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 11	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Lee discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 12	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Lee discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 13	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Lee discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 14	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Lee discloses an "article."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester film may be applied to various technical fields to which the present invention pertains, but is expected to be usefully used as a heat shrinkable label for PET containers due to its excellent shrinkage properties and transparency.</p> <p>[0099].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Lee discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester film may be applied to various technical fields to which the present invention pertains, but is expected to be usefully used as a heat shrinkable label for PET containers due to its excellent shrinkage properties and transparency.</p> <p>[0099].</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Lee discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See</i> above, [1.pre]-[1.f]. <i>See</i> also, for example:</p> <p style="padding-left: 40px;">The polyester film may be applied to various technical fields to which the present invention pertains, but is expected to be usefully used as a heat shrinkable label for PET containers due to its excellent shrinkage properties and transparency.</p> <p>[0099].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label of claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 14	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 15	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.</p>	<p>Lee discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Lee does not expressly disclose the "article according to claim 14," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The polyester film may be applied to various technical fields to which the present invention pertains, but is expected to be usefully used as a heat shrinkable label for PET containers due to its excellent shrinkage properties and transparency.</p> <p>[0099].</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 16	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Lee discloses the "recyclable shrink label according to claim 2." <i>See above, [1.pre]-[1.f], [2].</i></p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 2," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the indicia layer is disposed on the first surface."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 17	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
<p>[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.</p>	<p>Lee discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 8," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>Further, the shrink label disclosed in Lee includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Lee is the same as that of the "shrink label" of claim 8 of the '422 Patent, Lee invalidates claim 8 of the '422 Patent under either 35 U.S.C. §§ 102 or 103, despite Lee not explicitly disclosing the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 18	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Lee discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Lee does not expressly disclose the "recyclable shrink label according to claim 1," Lee renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Lee also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">The polyester resin may be blended with recycled polyethylene terephthalate having a crystallization temperature of 130° C. to 160° C. to effectively control a crystallization rate of the recycled polyethylene terephthalate.</p> <p>[0034].</p>

CLAIM 19	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Lee discloses a "recyclable shrink label." <i>See above, [1.pre].</i>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Lee discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.a].</i>
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	Lee discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See above, [1.b].</i>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 19	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Lee discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	<p>Lee discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 11 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2022/0389214 ("Lee")

CLAIM 19	
'422 Patent Claim Limitation	Lee Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Lee discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>For example, Lee discloses:</p> <p style="padding-left: 40px;">The polyester resin blend according to an embodiment of the present disclosure is capable of providing a heat shrinkable label that is transparent and has excellent shrinkage even if it contains recycled polyethylene terephthalate as well as virgin polyethylene terephthalate. In addition, the heat shrinkable label can be reused while attached to a PET container, etc., and is expected to be useful for providing continuously usable plastics that have been recently attracting attention.</p> <p>[0010].</p> <p><i>See also, e.g.</i>, [0024].</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent No. JP 4111874 ("Masato"), which has an earliest priority date of May 30, 2003, and published December 16, 2004, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Masato invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 1	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Masato discloses a "recyclable shrink label."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Further, since the light blocking means covers the container 2 with one cylindrical label 3, at the time of recycling, the consumer uses the perforation 6 or the like as in the known container with a body part label. The label 3 can be cut out and removed easily. Since the perforation 6 is a minute hole, the influence of light transmission is so small that it can be ignored. However, in order to block light more reliably, the perforation 6 as described above can be replaced with a non-perforation. It is preferable to use a non-penetrating easy-cleavage means such as a perforated perforation or a half-cut tear line.</p> <p>[0026].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 1	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Masato discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">The white film 7 includes, for example, a polyester resin such as polyethylene terephthalate, an olefin resin such as polypropylene, a styrene resin such as a styrene-butadiene copolymer, a cyclic olefin resin, a vinyl chloride resin, and a mixture of two or more. It is possible to obtain a resin component such as, a white pigment such as titanium dioxide, barium sulfate, calcium carbonate, and alumina white as an ultraviolet blocking agent, and various additives by forming a film by a known film forming method and stretching it.</p> <p>[0023].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in FIG. 4.</p> <p>Fig. 4.</p>
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	<p>Masato discloses "the heat shrink film having a thickness from 15 µm to 100 µm."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Furthermore, the thickness of the label substrate 5 is about 20 to 90 µm, preferably about 30 to 70 µm.</p> <p>[0022].</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 1	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Masato discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Specifically, for example, a black printing layer 8 made of black ink in which a black pigment such as carbon black is blended is provided on the back surface 7a of the white film 7 exhibiting milky white by a gravure printing method, and the like.</p> <p>[0022].</p> <p style="padding-left: 40px;">Further, since the label 3 is made of the base material 5 provided with the black printing layer 8 on the back surface 7a of the white film 7, the visible light ray has the advantage of the white background as the base of the design printing layer 8. Can also be prevented. For example, when the content is beer or a vitamin preparation, the maximum transmittance at a wavelength of 400 to 600 nm is 20% or less, preferably 10% or less.</p> <p>[0026].</p> <p><i>See also, e.g., Fig. 4.</i></p>
<p>[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,</p>	<p>Masato discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 1	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Masato discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Specifically, for example, a black printing layer 8 made of black ink in which a black pigment such as carbon black is blended is provided on the back surface 7a of the white film 7 exhibiting milky white by a gravure printing method, and the like.</p> <p>[0022].</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Masato discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 2	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Masato discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label of claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Of the surface 7b of the white film 7, a design printing layer 9 for displaying a product name or the like is provided on the surface corresponding to the body covering region 33, and a similar black printing layer 8 is provided on the surface corresponding to the bottom surface covering region 34.</p> <p>[0022].</p> <p><i>See also, e.g., Fig. 4.</i></p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 3	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Masato discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label of claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The white film 7 includes, for example, a polyester resin such as polyethylene terephthalate, an olefin resin such as polypropylene, a styrene resin such as a styrene-butadiene copolymer, a cyclic olefin resin, a vinyl chloride resin, and a mixture of two or more. It is possible to obtain a resin component such as, a white pigment such as titanium dioxide, barium sulfate, calcium carbonate, and alumina white as an ultraviolet blocking agent, and various additives by forming a film by a known film forming method and stretching it.</p> <p>[0023].</p> <p><i>See also, e.g., Fig. 4.</i></p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 4	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Masato discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label of claim 3," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">Specifically, for example, a black printing layer 8 made of black ink in which a black pigment such as carbon black is blended is provided on the back surface 7a of the white film 7 exhibiting milky white by a gravure printing method, and the like. Of the surface 7b of the white film 7, a design printing layer 9 for displaying a product name or the like is provided on the surface corresponding to the body covering region 33, and a similar black printing layer 8 is provided on the surface corresponding to the bottom surface covering region 34.</p> <p>[0022].</p> <p><i>See also, e.g., Fig. 4.</i></p>

CLAIM 5	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Masato discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label of claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 6	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Masato discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">Further, since the light blocking means covers the container 2 with one cylindrical label 3, at the time of recycling, the consumer uses the perforation 6 or the like as in the known container with a body part label.</p> <p>[0026].</p> <p><i>See also, e.g., Fig. 1, 2, 4, 5, 6, 7, 8.</i></p>

CLAIM 7	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Masato discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 6," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">Further, since the light blocking means covers the container 2 with one cylindrical label 3, at the time of recycling, the consumer uses the perforation 6 or the like as in the known container with a body part label.</p> <p>[0026].</p> <p><i>See also, e.g., Fig. 1, 2, 4, 5, 6, 7, 8.</i></p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 8	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Masato discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Specifically, the thermal contraction rate (immersion for 10 seconds in 80 ° C. warm water) in at least the width direction (circumferential direction in the case of a cylindrical label) is about 30% or more Note that the upper limit of the heat shrinkage rate is preferably as large as possible (approximately 70 to 80% depending on the type of film)</p> <p>[0024].</p> <p style="padding-left: 40px;">The heat shrink temperature . . . is usually about 60 to 200 ° C.</p> <p>[0030].</p> <p>Further, the shrink label disclosed in Masato includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Masato is the same as that of the "shrink label" of claim 8 of the '422 Patent, Masato discloses each and every limitation of claim 8 of the '422 Patent, even if Masato were to be found not to explicitly disclose the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 9	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Masato discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Specifically, the thermal contraction rate (immersion for 10 seconds in 80 ° C. warm water) in at least the width direction (circumferential direction in the case of a cylindrical label) is about 30% or more Note that the upper limit of the heat shrinkage rate is preferably as large as possible (approximately 70 to 80% depending on the type of film)</p> <p>[0024].</p> <p style="padding-left: 40px;">The heat shrink temperature . . . is usually about 60 to 200 ° C.</p> <p>[0030].</p> <p>Further, the shrink label disclosed in Masato includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Masato is the same as that of the "shrink label" of claim 8 of the '422 Patent, Masato discloses each and every limitation of claim 8 of the '422 Patent, even if Masato were to be found not to explicitly disclose the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 9	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 10	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Masato discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 3," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.0]-[1.7] and [3]. For example:</p> <p style="padding-left: 40px;">It is possible to obtain a resin component such as, a white pigment such as titanium dioxide, barium sulfate, calcium carbonate, and alumina white as an ultraviolet blocking agent, and various additives by forming a film by a known film forming method and stretching it.</p> <p>[0023].</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 11	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Masato discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

CLAIM 12	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Masato discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 13	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Masato discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Masato discloses an "article."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">The thermal properties of the film 7 are such that the label 3 can be attached to the body portion 21 of the container 2 at least by heat shrinkage, and the grounding portion attachment portion 36 of the label 3 is wrinkled.</p> <p>[0024].</p> <p><i>See also, e.g., Figs. 1-8.</i></p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 14	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Masato discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Specifically, the container 2 is made of, for example, a synthetic resin molded container such as a polyethylene terephthalate container (so-called PET bottle)</p> <p>[0017].</p> <p><i>See also, e.g.,</i> Figs. 1-8.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Masato discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above, [1.pre]-[1.f].</i></p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">The thermal properties of the film 7 are such that the label 3 can be attached to the body portion 21 of the container 2 at least by heat shrinkage, and the grounding portion attachment portion 36 of the label 3 is wrinkled.</p> <p>[0024].</p> <p><i>See also, e.g.,</i> Figs. 1-8.</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label of claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 14	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 15	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.</p>	<p>Masato discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Masato does not expressly disclose the "article according to claim 14," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The thermal properties of the film 7 are such that the label 3 can be attached to the body portion 21 of the container 2 at least by heat shrinkage, and the grounding portion attachment portion 36 of the label 3 is wrinkled.</p> <p>[0024].</p> <p><i>See also, e.g.,</i> Figs. 1-8.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 16	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.</p>	<p>Masato discloses the "recyclable shrink label according to claim 2." <i>See above, [1.pre]-[1.f], [2].</i></p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 2," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">Moreover, in the said embodiment, although the design printing layer 9 is provided in the surface 7b of the film 7, you may provide the design printing layer 9 in the back surface 7a.</p> <p>[0034].</p> <p><i>See also, e.g., Fig. 4.</i></p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 17	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Masato discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 8," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 18	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Masato discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Masato does not expressly disclose the "recyclable shrink label according to claim 1," Masato renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Masato also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 19	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Masato discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p>For example, Masato discloses:</p> <p style="padding-left: 40px;">Further, since the light blocking means covers the container 2 with one cylindrical label 3, at the time of recycling, the consumer uses the perforation 6 or the like as in the known container with a body part label. The label 3 can be cut out and removed easily. Since the perforation 6 is a minute hole, the influence of light transmission is so small that it can be ignored. However, in order to block light more reliably, the perforation 6 as described above can be replaced with a non-perforation. It is preferable to use a non-penetrating easy-cleavage means such as a perforated perforation or a half-cut tear line.</p> <p>[0026].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Masato discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 1-8.</p>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm;	<p>Masato discloses "the heat shrink film having a thickness from 15 μm to 100 μm." <i>See above</i>, [1.b].</p>

Chart 12 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent No. JP 4111874 ("Masato")

CLAIM 19	
'422 Patent Claim Limitation	Masato Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Masato discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i> <i>See also, e.g., Fig. 4.</i>
[19.d] a high opacity layer comprising a white pigment,	Masato discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i> <i>See also, e.g., Fig. 4.</i>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Masato discloses "the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i> Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i> In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim"), which was filed on June 6, 2007, and published on September 17, 2009, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Doornheim invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 1	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Doornheim discloses a "recyclable shrink label."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The invention further is directed to a method of detaching a label from an article, wherein the label . . . comprises an adhesive layer . . . wherein the step of gradually detaching the label from the article comprises the step of exposing the label to the hot washing liquid for at least a predetermined amount of time so that the label is reversibly curled toward the first polymeric layer thereby overcoming the adhesive force of the adhesive layer.</p> <p>[0009].</p> <p style="padding-left: 40px;">The labels of the present invention have particular utility in the beverage industry, wherein the beverage containers are subjected to relatively rough handling . . . as well as pasteurization and recycling operations.</p> <p>[0079].</p> <p><i>See also, e.g.,</i> Figs. 1-9.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 1	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Doornheim discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">At high temperatures, e.g., at or above 50° C., the second polymeric layer with the higher coefficient of thermal expansion will expand to a greater degree than the first polymeric layer. The greater expansion of the layer causes the label to curl toward the first polymeric layer</p> <p>[0017].</p> <p style="padding-left: 40px;">In one embodiment of the invention, polymeric layer 11 comprises a polyethylene terephthalate (PET) film laminated to polymeric layer 12 which comprises a biaxially oriented polypropylene (BOPP) film.</p> <p>[0063].</p> <p><i>See also, e.g.,</i> Figs. 1-9.</p>
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	<p>Doornheim discloses "the heat shrink film having a thickness from 15 µm to 100 µm."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The thickness of each polymeric layer is at least 5 microns, or at least 15 microns. The total thickness of the label film is from about 2.5 microns to about 250 microns, or from about 25 to about 125 microns. In one embodiment the total thickness of the label film is from about 25 to about 75 microns.</p> <p>[0056].</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 1	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Doornheim discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The transparent protective layer may contain UV light absorbers and/or other light stabilizers. Among the UV light absorbers that are useful are the hindered amine absorbers available from Ciba Specialty Chemical under the trade designations 'Tinuvin.</p> <p>[0075].</p> <p style="padding-left: 40px;">The concentration of the UV light absorber and/or light stabilizer is in the range of up to about 2.5% by weight, and in one embodiment about 0.05% to about 1% by weight.</p> <p>[0076].</p> <p><i>See also, e.g.,</i> Fig. 1-9.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 1	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Doornheim discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The thickness of the protective layer is generally in the range of about 12.5 to about 125 microns, and in one embodiment about 25 to about 75 microns.</p> <p>[0073].</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Doornheim discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The polymeric film material may be cavitated and/or contain inorganic fillers and other organic or inorganic additives to provide desired properties such as appearance properties (opaque or colored films), durability, and processing characteristics.</p> <p>[0054].</p> <p style="padding-left: 40px;">Examples of useful materials include calcium carbonate, titanium dioxide, metal particles, fibers, flame retardants, antioxidant compounds, heat stabilizers, light stabilizers, ultraviolet light stabilizers, antiblocking agents, processing aids, acid acceptors, etc.</p> <p>[0055].</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Doornheim discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">It is common practice to apply labels to containers or bottles formed from polymers or glass.</p> <p>[0003].</p> <p style="padding-left: 40px;">In one embodiment of the invention, polymeric layer 11 comprises a polyethylene terephthalate (PET) film laminated to polymeric layer 12 which comprises a biaxially oriented polypropylene (BOPP) film.</p> <p>[0063].</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 1	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 2	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Doornheim discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label of claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The labels of the present invention may, and generally do, comprise one or more print layers. In one embodiment, illustrated in FIGS. 7 and 8, a print layer is adhered to the upper surface of the metal layer. In the embodiment illustrated in FIGS. 4 and 5, the print layer is in contact with the upper surface of the first polymeric layer.</p> <p>[0067].</p> <p><i>See also, e.g., Figs. 4-5, 7-8.</i></p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 3	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Doornheim discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label of claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">Opaque polymeric layers generally comprise a polymer as described below and one or more pigments to provide the polymeric layer, or one layer of a multilayer polymeric film with the desired color. Pigments useful for this purpose are well known in the art. For example, white films can be prepared by introducing titanium dioxide and other white pigments into the polymer.</p> <p>[0035].</p> <p><i>See also, e.g.,</i> Figs. 1-9.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 4	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Doornheim discloses the "recyclable shrink label of claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label of claim 3," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">The labels the present invention may, and generally do, comprise one or more print layers. In one embodiment, illustrated in FIGS. 7 and 8, a print layer 14 is adhered to the upper surface of the metal layer 13. In the embodiment illustrated in FIGS. 4 and 5, the print layer 14 is in contact with the upper surface of the first polymeric layer 11.</p> <p>[0067].</p> <p><i>See also, e.g., Figs. 4-5, 7-8.</i></p>

CLAIM 5	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Doornheim discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label of claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above, [1.a].</i></p> <p><i>See also, e.g., Figs. 1-9.</i></p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 6	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">FIG. 1B shows the label of FIG. 1A bonded to the curved surface of a cylindrical container 19. . . . The label of the present invention may also be applied to articles or containers that are flat, rather than cylindrical in shape.</p> <p>[0018].</p> <p><i>See also, e.g., Figs. 1A-1B.</i></p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 7	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Doornheim discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 6," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">In one embodiment, the films are manufactured by polymer extrusion or coextrusion processes. The extrudate or coextrudate of polymeric film materials is formed by simultaneous extrusion from a suitable known type of extrusion or co-extrusion die, and in the case of a coextrudate, the layers are adhered to each other in a permanently combined state to provide a unitary coextrudate.</p> <p>[0057].</p> <p style="padding-left: 40px;">In addition to coextrusion, the multilayer films useful in the present invention may be prepared by extrusion of a continuous film to form one layer followed by the application of one or more additional layers on the extruded layer by extrusion of one or more additional layers; by lamination of a preformed polymer film to a preformed functional film; or by deposition of additional layers on the preformed film from an emulsion or solution of a polymeric film forming material.</p> <p>[0058].</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 8	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The polymeric layers useful in the present invention do not exhibit heat shrinkage beyond the typically accepted limits of heat stable pressure-sensitive adhesive films, e.g., <1% at 70° and <2% at 100° C.</p> <p>[0033].</p>

CLAIM 9	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." See above, [8].</p> <p>Further, the shrink label disclosed in Doornheim includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Doornheim is the same as that of the "shrink label" of claim 9 of the '422 Patent, Doornheim discloses each and every limitation of claim 9 of the '422 Patent, even if Doornheim were to be found not to explicitly disclose the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 10	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Doornheim discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 3," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Examples of useful materials include calcium carbonate, titanium dioxide, metal particles, fibers, flame retardants, antioxidant compounds, heat stabilizers, light stabilizers, ultraviolet light stabilizers, antiblocking agents, processing aids, acid acceptors, etc. Opaque and/or white polymeric films are often utilized when the labels described herein do not contain a metal layer overlying the outer polymeric layer.</p> <p>[0055].</p>

CLAIM 11	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Doornheim discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 12	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 13	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Doornheim discloses an "article."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">The invention further is directed to a method of detaching a label from an article, wherein the label comprises,</p> <p>[0009].</p> <p><i>See also, e.g.</i>, Figs. 1-9.</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Doornheim discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Doornheim discloses:</p> <p style="padding-left: 40px;">It is common practice to apply labels to containers or bottles formed from polymers or glass.</p> <p>[0003].</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 14	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
	<p>In one embodiment of the invention, polymeric layer 11 comprises a polyethylene terephthalate (PET) film laminated to polymeric layer 12 which comprises a biaxially oriented polypropylene (BOPP) film.</p> <p>[0063].</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Doornheim discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">This invention relates to labels, and more particularly to removable polymeric film labels for use on reusable containers, such as beverage bottles</p> <p>[0002].</p> <p style="padding-left: 40px;">FIG. 1B shows the label of FIG. 1A bonded to the curved surface of a cylindrical container." This describes the label being applied to a cylindrical container.</p> <p>[0018].</p> <p><i>See also, e.g.</i>, Fig. 1A-1B.</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label of claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 15	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Doornheim discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Doornheim also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">FIG. 1B shows the label of FIG. 1A bonded to the curved surface of a cylindrical container. In this embodiment, the main curl direction of the label extends in the circumferential direction of the container.</p> <p>[0018].</p> <p><i>See also, e.g.</i>, Fig. 1A-1B.</p>

CLAIM 16	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Doornheim discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 2," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The adhesive labels of the invention may, and generally do, contain other layers. For example, as shown in FIG. 3, the label 30 may contain a metal layer 13 which overlies and is in contact with first polymeric layer 11. Alternatively, a print layer 14 can be on the upper surface of polymeric layer 11 as illustrated in FIG. 4</p> <p>[0020].</p> <p><i>See also, e.g.</i>, Figs. 3-4.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 17	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Doornheim discloses the "recyclable shrink label according to claim 8." <i>See above, [1.pre]-[1.f], [8].</i></p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 8," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Doornheim also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above, [8]. See also, for example:</i></p> <p style="padding-left: 40px;">FIG. 1B shows the label of FIG. 1A bonded to the curved surface of a cylindrical container 19. In this embodiment, the main curl direction of the label extends in the circumferential direction of the container. As the container is exposed to heat, such as the hot washing liquid used in the bottling industry, the label curls toward the upper layer 11.</p> <p>[0018].</p> <p><i>See also, e.g., [0035].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 18	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Doornheim discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Doornheim does not expressly disclose the "recyclable shrink label according to claim 1," Doornheim renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA</p> <p>Doornheim also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">Polyesters prepared from various glycols or polyols and one or more aliphatic or aromatic carboxylic acids also are useful film materials. Polyethylene terephthalate (PET) and PETG (PET modified with cyclohexanedimethanol) are useful film-forming materials</p> <p>[0042].</p> <p style="padding-left: 40px;">In other embodiments, the films contained in the labels used in the present invention may be oriented in the machine direction (uniaxially) or in both the machine and cross directions (biaxially) by hot-stretching and annealing by techniques well known to those skilled in the art.</p> <p>[0059].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 19	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Doornheim discloses a "recyclable shrink label." <i>See</i> above, [1.pre].</p> <p><i>See also, e.g.</i>, Figs. 1-9.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Doornheim discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See</i> above, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 1-9.</p>
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	<p>Doornheim discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See</i> above, [1.b].</p> <p><i>See also, e.g.</i>, Figs. 1-9.</p>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 19	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Doornheim discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i> <i>See also, e.g., Figs. 1-9.</i> In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.
[19.d] a high opacity layer comprising a white pigment,	Doornheim discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i> <i>See also, e.g., Figs. 1-9.</i>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Doornheim discloses "the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i> <i>See also, e.g., Figs. 1-9.</i>

Chart 13 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2009/0233067 ("Doornheim")

CLAIM 19	
'422 Patent Claim Limitation	Doornheim Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent No. 7,182,997 ("Murschall"), which was filed on February 8, 2001, and issued February 27, 2007, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Murschall invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 1	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Murschall discloses a "recyclable label."</p> <p>For example, Murschall discloses:</p> <p style="padding-left: 40px;">The novel film should moreover be recyclable, that is to say that any cut material arising during continuous film production can be fed back into the production operation, in particular without loss of optical or mechanical properties, so that the film can still be used for interior applications and in constructing exhibition stands, for example.</p> <p>1:62-67.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Murschall discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Murschall discloses:</p> <p style="padding-left: 40px;">An opaque white film of 50 µm thickness was produced and comprised polyethylene terephthalate (RT32, KoSa, Germany) as principal constituent, 18% by weight of barium sulfate (®Blanc fixe XR-HX, Sachtleben Chemie), 200 ppm of optical brightener (®Tinopal, Ciba-Geigy, Basle) and 40 ppm of blue dye (®Sudan Blue 2, BASF, Ludwigshafen). The additives barium sulfate, optical brightener and blue dye were added as masterbatches.</p> <p>7:25-32.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 1	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Murschall discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Murschall discloses:</p> <p>An opaque white film of 50 μm thickness was produced and comprised polyethylene terephthalate (RT32, KoSa, Germany) as principal constituent, 18% by weight of barium sulfate (@Blanc fixe XR-HX, Sachtleben Chemie), 200 ppm of optical brightener (@Tinopal, Ciba-Geigy, Basle) and 40 ppm of blue dye (@Sudan Blue 2, BASF, Ludwigshafen). The additives barium sulfate, optical brightener and blue dye were added as masterbatches.</p> <p>7:25-32.</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Murschall discloses "a light blocking layer and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Murschall discloses:</p> <p>The luminous transmittance (transparency) of the novel film, measured to ASTM-D 1003, is less than or equal to 30%, preferably less than or equal to 25%. The coloration is uniform and streak-free over the entire running length and the entire width of the film. As a result of the synergistic action of the additives barium sulfate, optical brightener, and, if present, blue dye in conjunction with an optimized longitudinal stretching ratio, the novel film is whiter, that is to say has less yellow tinge, and has lower light transmittance, that is to say has lower transparency than a film provided only with barium sulfate as pigment.</p> <p>3:41-53.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 1	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Murschall discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Murschall discloses:</p> <p style="padding-left: 40px;">In one particularly preferred embodiment, the novel film comprises, as principal constituent, a crystallizable polyethylene terephthalate, and also from 1 to 25% by weight of precipitated barium sulfate, appropriately with a particle diameter of from 0.4 to 1 µm, particularly preferably òBlanc fixe XR-HX or Blanc fixe HXH from Sachtleben Chemie, Germany.</p> <p>3:31-37.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Murschall discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Murschall discloses:</p> <p style="padding-left: 40px;">According to the invention, the film comprises at least barium sulfate as pigment, and the amount of pigment here is preferably from 0.2 to 40% by weight, based on the weight of the crystallizable thermoplastic. The barium sulfate is preferably fed by way of what is known as masterbatch technology during film production.</p> <p>2:39-44.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 1	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Murschall discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 2	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Murschall discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label of claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">TABLE discloses "adhesion with respect to printing inks and photographic emulsions" are excellent.</p> <p>8:55-9:24.</p>

CLAIM 3	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Murschall discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label of claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The film comprises at least barium sulfate and an optical brightener, and has good orientability, low transparency, and also very good optical and mechanical properties.</p> <p>1:10-13.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 4	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Murschall discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label of claim 3," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 5	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Murschall discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the recyclable shrink label is in a form of a sleeve or tube."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 6	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Murschall discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 6," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the heat shrink film comprises a seam."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 7	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Murschall discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 6," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the heat shrink film comprises a seam."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 8	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Murschall discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 9	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Murschall discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 10	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Murschall discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 3," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 11	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Murschall discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

CLAIM 12	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Murschall discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 13	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Murschall discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 14	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Murschall discloses an "article."</p> <p>For example, Murschall discloses:</p> <p>The surprising combination of excellent properties makes the novel film highly suitable for a variety of different applications, such as interior decoration, for constructing exhibition stands, for exhibition requisites, for displays, for placards, for labels, for protective glazing of machines or of vehicles, in the lighting sector, in the fitting out of shops or of stores, as a promotional requisite or a laminating material, in applications associated with food or drink or, depending on the functionality of one or both surfaces, as a photographic film, as a graphic film, a laminatable film, a metallizable film or a printable film.</p> <p>6:23-34.</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Murschall discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Murschall discloses:</p> <p>The surprising combination of excellent properties makes the novel film highly suitable for a variety of different applications, such as interior decoration, for constructing exhibition stands, for exhibition requisites, for displays, for placards, for labels, for protective glazing of machines or of vehicles, in the lighting sector, in the fitting out of shops or of stores, as a promotional requisite or a laminating material, in applications associated with food or drink or, depending on the functionality of one or both surfaces, as a photographic film, as a graphic film, a laminatable film, a metallizable film or a printable film.</p> <p>6:23-34.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 14	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Murschall discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f].</p> <p>For example, Murschall discloses:</p> <p style="padding-left: 40px;">The surprising combination of excellent properties makes the novel film highly suitable for a variety of different applications, such as interior decoration, for constructing exhibition stands, for exhibition requisites, for displays, for placards, for labels, for protective glazing of machines or of vehicles, in the lighting sector, in the fitting out of shops or of stores, as a promotional requisite or a laminating material, in applications associated with food or drink or, depending on the functionality of one or both surfaces, as a photographic film, as a graphic film, a laminatable film, a metallizable film or a printable film.</p> <p>6:23-34.</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label of claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 15	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Murschall discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>This limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 16	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Murschall discloses the "recyclable shrink label according to claim 2." See above, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 2," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the indicia layer is disposed on the first surface."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 17	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Murschall discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 8," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 18	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Murschall discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Murschall does not expressly disclose the "recyclable shrink label according to claim 1," Murschall renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Murschall also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">In one particularly preferred embodiment, the novel film comprises, as principal constituent, a crystallizable polyethylene terephthalate, and also from 1 to 25% by weight of precipitated barium sulfate, appropriately with a particle diameter of from 0.4 to 1 µm, particularly preferably òBlanc fixe XR-HX or Blanc fixe HXH from Sachtleben Chemie, Germany.</p> <p>3:31-37.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 19	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Murschall discloses a "recyclable label." <i>See above</i>, [1.pre].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Murschall discloses "a film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Murschall discloses "the film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Murschall discloses a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 19	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	<p>Murschall discloses "a high opacity layer comprising a white pigment." <i>See</i> above, [3].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 14 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 7,182,997 ("Murschall")

CLAIM 19	
'422 Patent Claim Limitation	Murschall Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Murschall discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori"), which was filed on January 8, 2002, and published on July 15, 2003, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Kanamori invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 1	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Kanamori discloses a "recyclable shrink label."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">Since the shrink wrapping can fit into any shape container such as a square shape, a round shape, and a gourd shape, the shape of the container can be widely selected. Further, since the shrink film and the container are not directly adhered, they can be completely separated from the container. Therefore, from the perspective of recycling, shrink film, which can be separated from the container, is expected to increase in demand in the future.</p> <p>[0002].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Kanamori discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">The heat-shrinkable synthetic resin film 1 constituting the light-shielding shrink film 10 according to the present invention is not particularly limited as long as it has printability, and for example, a heat-shrinkable polyethylene terephthalate film (PET) . . . can be used.</p> <p>[0005].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 1	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Kanamori discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">The thickness of the heat-shrinkable synthetic resin film is not particularly limited but is preferably in the range of 5 to 90 μm, and more desirably between 9 to 70 μm.</p> <p>[0003].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Kanamori discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">By providing a layer of a heat-shrinkable synthetic resin film in which a white ink layer for full solid printing and a white ink layer containing an aluminum paste for full solid printing are sequentially laminated, it is possible to block light in the visible and ultraviolet light regions.</p> <p>[0001].</p> <p style="padding-left: 40px;">The transmittance of visible light of 380 to 780 nm is 35% or less, the transmittance of ultraviolet light of 300 to 380 nm is 3% or less, and the whiteness (white hiding degree) is 50% or more in L value.</p> <p>[0004].</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Kanamori discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">The thickness of the white ink (solid printing) layer 3 is not particularly limited, but is preferably about 1 to 8 μm, and more preferably 2 to 5 μm.</p> <p>[0008].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 1	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Kanamori discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">An aluminum paste can be mentioned as such a pigment. As the content of the aluminum paste, white ink of 10% by weight or less is necessary, and it is desirable to use white ink of 1 to 5% by weight or less. When the content of the aluminum paste exceeds 10% by weight, the light-shielding property is improved, but the white hiding property is insufficient, which is not preferable.</p> <p>[0010].</p>
<p>[1.f] wherein the recyclable shrink label is recyclable with a PET container.</p>	<p>Kanamori discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">The cylindrical light-tight shrink label 20 is supplied to an automatic label attachment device, cut into a required length, and then fitted on the outer surface of a polyester bottle filled and packed with contents, and the light-tight shrink label 20 is heated with a steam heater at 90 °C for 10 seconds.</p> <p>[0018].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 1	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
	<p>Further, Kanamori also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Kanamori includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 1 of the '422 Patent, Kanamori discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 2	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Kanamori discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label of claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Light-shielding shrink film 10 is composed of a film which is a heat-shrinkable synthetic resin film 1 / a pattern printing layer 2 / a white ink (all solid printing) layer 3 / a white ink (all solid printing) layer 4 containing an aluminum paste.</p> <p>[0005].</p>

CLAIM 3	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Kanamori discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label of claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">By providing a layer in which white ink layers containing aluminum paste for printing are sequentially laminated, a light-shielding shrink film having excellent light-shielding properties in the visible light and ultraviolet light regions and excellent white hiding property (whiteness) is found.</p> <p>[0005].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 4	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Kanamori discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label of claim 3," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">Light-shielding shrink film 10 is composed of a film which is a heat-shrinkable synthetic resin film 1 / a pattern printing layer 2 / a white ink (all solid printing) layer 3 / a white ink (all solid printing) layer 4 containing an aluminum paste.</p> <p>[0005].</p> <p style="padding-left: 40px;">By adopting a configuration in which a solid white ink layer and a solid white ink layer containing an aluminum paste are sequentially stacked. It is possible to provide a light-shielding shrink-wrapped product that also has a design property.</p> <p>[0056].</p>

CLAIM 5	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).</p>	<p>Kanamori discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label of claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 6	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Kanamori discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">The light-shielding shrink label 20 made of a tubular body is manufactured.</p> <p>[0016].</p>

CLAIM 7	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Kanamori discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 6," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">The overlapped portion was heat-bonded with a welding seal to form a tubular body.</p> <p>[0018].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 8	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Kanamori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The heat shrinkable synthetic resin film 1 is uniaxially stretched in a direction perpendicular to the flow of the heat shrinkable synthetic resin film 1 using a tenter method or the like, and the heat shrinkage rate in the perpendicular direction is 70 to 90 °C. for 10 seconds.</p> <p>[0005].</p> <p>Further, the shrink label disclosed in Kanamori includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 8 of the '422 Patent, Kanamori discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 9	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Kanamori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The heat shrinkable synthetic resin film 1 is uniaxially stretched in a direction perpendicular to the flow of the heat shrinkable synthetic resin film 1 using a tenter method or the like, and the heat shrinkage rate in the perpendicular direction is 70 to 90 °C. for 10 seconds.</p> <p>[0005].</p> <p>Further, the shrink label disclosed in Kanamori includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 9 of the '422 Patent, Kanamori discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 10	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Kanamori discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 3," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">By providing a layer in which white ink layers containing aluminum paste for printing are sequentially laminated, a light-shielding shrink film having excellent light-shielding properties in the visible light and ultraviolet light regions and excellent white hiding property (whiteness) is found.</p> <p>[0005].</p>

CLAIM 11	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Kanamori discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 12	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Kanamori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Kanamori discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 13	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[14.pre] An article comprising:</p>	<p>To the extent the preamble of claim 14 is found to be limiting, Kanamori discloses an "article."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">Examples of the article (container) 32 to be wrapped with the light-shielding shrink film 10 of the present invention include containers such as plastic containers and glass containers.</p> <p>[0018].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 14	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and</p>	<p>Kanamori discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Kanamori discloses:</p> <p style="padding-left: 40px;">Next, the cylindrical light-tight shrink label 20 is supplied to an automatic label attachment device, cut into a required length, and then fitted on the outer surface of a polyester bottle filled and packed with contents.</p> <p>[0018].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 14	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Kanamori discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f]. See also, for example:</p> <p style="padding-left: 40px;">Next, the cylindrical light-tight shrink label 20 is supplied to an automatic label attachment device, cut into a required length, and then fitted on the outer surface of a polyester bottle filled and packed with contents.</p> <p>[0018].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label of claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 15	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Kanamori discloses the "article according to claim 14." See above, [14.pre]-[14.b].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "article according to claim 14," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">Next, the cylindrical light-tight shrink label 20 is supplied to an automatic label attachment device, cut into a required length, and then fitted on the outer surface of a polyester bottle filled and packed with contents.</p> <p>[0018].</p>

CLAIM 16	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Kanamori discloses the "recyclable shrink label according to claim 2." See above, [2].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 2," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">Light-shielding shrink film 10 is composed of a film which is a heat-shrinkable synthetic resin film 1 / a pattern printing layer 2 / a white ink (all solid printing) layer 3 / a white ink (all solid printing) layer 4 containing an aluminum paste.</p> <p>[0005].</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 17	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Kanamori discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [8].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 8," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 18	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Kanamori discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Kanamori does not expressly disclose the "recyclable shrink label according to claim 1," Kanamori renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Kanamori also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 18	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
	<p>In the present invention, the heat-shrinkable synthetic resin film 1 constituting the light-shielding shrink film 10 according to the present invention is not particularly limited as long as it has printability, and for example, a heat-shrinkable polyethylene terephthalate film. , Polystyrene film, polypropylene film, low density polyethylene film, medium density polyethylene film, high density polyethylene film, low density linear polyethylene film, cyclic polyolefin film</p> <p>[0005].</p> <p>Further, Kanamori also inherently discloses the PET is crystallizable. For example, the PET disclosed in Kanamori includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 18 of the '422 Patent, Kanamori discloses each and every limitation of claim 18 of the '422 Patent, even if Kanamori were to be found not to explicitly disclose the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p>

CLAIM 19	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
<p>[19.pre] A recyclable shrink label comprising:</p>	<p>To the extent the preamble of claim 19 is found to be limiting, Kanamori discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p>Further, to the extent the preamble of claim 19 is found to be limiting, Kanamori also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Kanamori includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 19 of the '422 Patent, Kanamori discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.</p>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 19	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Kanamori discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.a].</i>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Kanamori discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above, [1.b].</i>
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Kanamori discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i>
[19.d] a high opacity layer comprising a white pigment,	Kanamori discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i>

Chart 15 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Application Publication No. JP 2003200966 ("Kanamori")

CLAIM 19	
'422 Patent Claim Limitation	Kanamori Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Kanamori discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>Further, Kanamori also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Kanamori includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Kanamori is the same as that of the "shrink label" of claim 19 of the '422 Patent, Kanamori discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: International Patent Application Publication No. WO 2013/058184 ("Nair"), which was filed on October 20, 2014, and published on April 23, 2015, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Nair invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Nair discloses a "recyclable shrink label."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">Some materials, such as bottles and containers, may be recycled or reused. Some materials for such reuse or recycling may have a label affixed thereon.</p> <p>[0002].</p> <p style="padding-left: 40px;">In some embodiments, labels used in conjunction with the present disclosure may be a shrink sleeve label (also referred to as a shrink fit or shrink label) or stretch sleeve label (also referred to as a stretch fit or stretch label), both of which, and their methods of manufacture, are known in the art. By way of example, shrink labels or stretch labels may include polyvinyl chloride (PVC), polypropylene terephthalate glycol (PETG), oriented polypropylene (OPP), Polylactide (also referenced as polylactic acid) (PLA), expanded polystyrene (EPS), and polystyrene. A shrink fit label may be in a state in which it is larger in size than an article to which it is to be applied, and the label is shrunk using heat or other means to provide a generally tight fit to the article, such as a bottle.</p> <p>[0033].</p> <p><i>See also, e.g., Figs. 10A-18.</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Nair discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">In particular embodiments, labels may be prepared using polyvinyl chloride ("PVC"), polyethylene terephthalate ("PET" and "PET LV"), polyolefin, polystyrene, oriented polystyrene ("OPS film"), polylactic acid ("PLA film"), polyolefins, or combinations thereof. In one embodiment, labels removed using embodiments of the present disclosure may be made from polyethylene terephthalate glycol-modified ("PET-G").</p> <p>[0032].</p> <p style="padding-left: 40px;">In some embodiments, labels used in conjunction with the present disclosure may be a shrink sleeve label (also referred to as a shrink fit or shrink label) or stretch sleeve label (also referred to as a stretch fit or stretch label), both of which, and their methods of manufacture, are known in the art. . . . A shrink fit label may be in a state in which it is larger in size than an article to which it is to be applied, and the label is shrunk using heat or other means to provide a generally tight fit to the article, such as a bottle.</p> <p>[0033].</p> <p style="padding-left: 40px;">Labels removed using the present disclosure may be configured in any manner suitable for a particular embodiment. By way of example, some labels may have a thickness of about 10 to about 100 microns, including each intermittent value therein. In some embodiments, labels may have a thickness of about 20 to about 60 microns. Labels may also have a single layer or multiple layers, and the labels may be prepared using clear films or colored films may be used.</p> <p>[0034].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in Figure 11.</p> <p>Fig. 11.</p> <p><i>See also, e.g.,</i> [00116], [00130], [00155], Figs. 10A, 10B, 12-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Nair discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Nair discloses:</p> <p>Depending upon the type of film used, shrink labels may have shrink levels of any suitable degree. In some embodiments, depending upon the type of film used, shrink labels may have shrink levels in the range of about 5% to about 70%, including each intermittent value therein.</p> <p>[0033].</p> <p>Labels removed using the present disclosure may be configured in any manner suitable for a particular embodiment. By way of example, some labels may have a thickness of about 10 to about 100 microns, including each intermittent value therein. In some embodiments, labels may have a thickness of about 20 to about 60 microns. Labels may also have a single layer or multiple layers, and the labels may be prepared using clear films or colored films may be used.</p> <p>[0034].</p> <p>In some embodiments, the thickness of the each polymeric layer is at least 5 microns, or at least 15 microns. The total thickness of the label film is from about 2.5 microns to about 250 microns, or from about 25 to about 125 microns. In one embodiment the total thickness of the label film is from about 25 to about 75 microns. Each polymeric layer may comprise a single layer, or can be a multilayer film of two or more adjacent layers. For example the polymeric layer can comprise one layer of a polyolefin and one layer of a blend of a polyolefin and a copolymer of ethylene and vinyl acetate (EVA). In another embodiment the polymeric layer comprises three layers, a base or core layer of, for example, a polyolefin, and skin layers in both sides of the base or core layer which may be comprised of the same or different polymer blends. The individual layers of a multilayer film may be selected to provide desirable properties.</p> <p>[00123].</p> <p><i>See also, e.g.,</i> [0081], [0090], [0096], [00116], Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Nair discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">In another embodiment, illustrated in FIG. 18, the label 190 comprises a first polymeric layer 111 having an upper surface and a lower surface, a print layer 114 on the lower surface of the first polymeric layer 111. The first polymeric layer 111 with print layer 114 thereon is bonded to the second polymeric layer 112 by a lamination adhesive 118.</p> <p>[0096].</p> <p style="padding-left: 40px;">Each of the polymeric layers 111 and 112 may be a monolayer film or a multilayer film. The multilayer film may comprise from two to ten or more layers. Depending on the end use of the label, the polymeric layers may be transparent or opaque. Opaque polymeric layers generally comprise a polymer as described below and one or more pigments to provide the polymeric layer, or one layer of a multilayer polymeric film with the desired color. Pigments useful for this purpose are well known in the art. For example, white films can be prepared by introducing titanium dioxide and other white pigments into the polymer. Carbon black may be introduced to provide a black or grey film.</p> <p>[00102].</p> <p style="padding-left: 40px;">The polymeric film material may be free of inorganic fillers and/or pigments for clear films and clear labels, or the polymeric film material may be cavitated and/or contain inorganic fillers and other organic or inorganic additives to provide desired properties such as appearance properties (opaque or colored films), durability and processing characteristics. Nucleating agents can be added to increase crystallinity and thereby increase stiffness. Examples of useful materials include calcium carbonate, titanium dioxide, metal particles, fibers, flame retardants, antioxidant compounds, heat stabilizers, light stabilizers, ultraviolet light stabilizers, antiblocking agents, processing aids, acid acceptors, etc. Opaque and/or white polymeric films are often utilized when the labels described herein do not contain a metal layer overlying the outer polymeric layer.</p> <p>[00121].</p> <p><i>See also, e.g.,</i> [0081], [00116], [00142], [00162], Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,</p>	<p>Nair discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">Each of the polymeric layers 111 and 112 may be a monolayer film or a multilayer film. The multilayer film may comprise from two to ten or more layers. Depending on the end use of the label, the polymeric layers may be transparent or opaque. Opaque polymeric layers generally comprise a polymer as described below and one or more pigments to provide the polymeric layer, or one layer of a multilayer polymeric film with the desired color. Pigments useful for this purpose are well known in the art. For example, white films can be prepared by introducing titanium dioxide and other white pigments into the polymer. Carbon black may be introduced to provide a black or grey film.</p> <p>[00102].</p> <p><i>See also, e.g.,</i> [00121], [00163], Figs. 10A-18.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Nair discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">Each of the polymeric layers 111 and 112 may be a monolayer film or a multilayer film. The multilayer film may comprise from two to ten or more layers. Depending on the end use of the label, the polymeric layers may be transparent or opaque. Opaque polymeric layers generally comprise a polymer as described below and one or more pigments to provide the polymeric layer, or one layer of a multilayer polymeric film with the desired color. Pigments useful for this purpose are well known in the art. For example, white films can be prepared by introducing titanium dioxide and other white pigments into the polymer. Carbon black may be introduced to provide a black or grey film.</p> <p>[00102].</p> <p style="padding-left: 40px;">The polymeric film material may be free of inorganic fillers and/or pigments for clear films and clear labels, or the polymeric film material may be cavitated and/or contain inorganic fillers and other organic or inorganic additives to provide desired properties such as appearance properties (opaque or colored films), durability and processing characteristics. Nucleating agents can be added to increase crystallinity and thereby increase stiffness. Examples of useful materials include calcium carbonate, titanium dioxide, metal particles, fibers, flame retardants, antioxidant compounds, heat stabilizers, light stabilizers, ultraviolet light stabilizers, antiblocking agents, processing aids, acid acceptors, etc. Opaque and/or white polymeric films are often utilized when the labels described herein do not contain a metal layer overlying the outer polymeric layer.</p> <p>[00121].</p> <p><i>See also, e.g.,</i> [0037], [0090], [0095], [00131]-[00134], Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Nair discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">Some materials, such as bottles and containers, may be recycled or reused. Some materials for such reuse or recycling may have a label affixed thereon.</p> <p>[0002].</p> <p style="padding-left: 40px;">In other embodiments, processes of the present disclosure may be used on other materials having affixed labels, such as materials like polypropylene, polyolefin, polyvinyl chloride ("PVC"), polyethylene terephthalate ("PET" and "PET LV"), polyethylene, plastics, or combinations thereof, wherein the foregoing are illustrative and are not limiting. In some embodiments, the materials form containers.</p> <p>[0020].</p> <p style="padding-left: 40px;">In particular embodiments, labels may be prepared using . . . polyethylene terephthalate ("PET" and "PET LV")</p> <p>[0032].</p> <p style="padding-left: 40px;">In some embodiments, labels used in conjunction with the present disclosure may be a shrink sleeve label (also referred to as a shrink fit or shrink label) or stretch sleeve label (also referred to as a stretch fit or stretch label), both of which, and their methods of manufacture, are known in the art.</p> <p>[0033].</p> <p><i>See also, e.g., Figs. 10A-18.</i></p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 1	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 2	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Nair discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label of claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">In another embodiment, illustrated in FIG. 18, the label 190 comprises a first polymeric layer 111 having an upper surface and a lower surface, a print layer 114 on the lower surface of the first polymeric layer 111. The first polymeric layer 111 with print layer 114 thereon is bonded to the second polymeric layer 112 by a lamination adhesive 118.</p> <p>[0096].</p> <p style="padding-left: 40px;">The labels the present disclosure may, and generally do, comprise one or more print layers.</p> <p>[00134].</p> <p style="padding-left: 40px;">The print layer may be an ink or graphics layer, and the print layer may be a mono-colored or multi-colored print layer depending on the printed message and/or the intended pictorial design. These include, variable imprinted data such as serial numbers, bar codes, trademarks, etc. The thickness of the print layer is typically in the range of about 0.5 to about 10 microns, and in one embodiment about 1 to about 5 microns, and in another embodiment about 3 microns. The inks used in the print layer include commercially available water-based, solvent-based or radiation-curable inks.</p> <p>[00135].</p> <p><i>See also, e.g.,</i> [00133], [00136], Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 3	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Nair discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label of claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">Each of the polymeric layers 111 and 112 may be a monolayer film or a multilayer film. The multilayer film may comprise from two to ten or more layers. Depending on the end use of the label, the polymeric layers may be transparent or opaque. Opaque polymeric layers generally comprise a polymer as described below and one or more pigments to provide the polymeric layer, or one layer of a multilayer polymeric film with the desired color. Pigments useful for this purpose are well known in the art. For example, white films can be prepared by introducing titanium dioxide and other white pigments into the polymer. Carbon black may be introduced to provide a black or grey film.</p> <p>[00102].</p> <p style="padding-left: 40px;">Clear films and white films are available.</p> <p>[00128].</p> <p><i>See also, e.g.</i>, [0086], Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 4	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Nair discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label of claim 3," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">The shrink label comprises a heat-shrinkable opaque white film and a preprinted ink label layer arranged on or above a surface of the front layer.</p> <p>[0015].</p> <p><i>See also, e.g.</i>, Figs. 10A-18.</p>

CLAIM 5	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).</p>	<p>Nair discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label of claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p> <p><i>See also, e.g.</i>, Figs. 10A-18.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 6	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Nair discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention can be formed into a tubular or cylindrical shrink label, for example, by forming the preprinted ink label layer on a surface of the front layer of the heat-shrinkable opaque white film, cutting the resulting article to a long slit with a desired width, rolling the cut article into a cylinder so that the preprinted ink label layer faces outward... and cutting the article to a desired length.</p> <p>[0046].</p> <p><i>See also, e.g., Figs. 10A-18.</i></p>

CLAIM 7	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Nair discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 6," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">The both ends of [the film] were adhered with each other and thereby yielded a long tube.</p> <p>[0046].</p> <p><i>See also, e.g., Figs. 10A-18.</i></p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 8	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Nair discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The heat-shrinkage percentage of a uniaxially stretched film is generally about 20% to about 90%, and preferably about 30% to about 70% in a main drawing direction when the film is immersed in hot water at 90°C for ten seconds.</p> <p>[0042].</p> <p>Further, the shrink label disclosed in Nair includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Nair is the same as that of the "shrink label" of claim 8 of the '422 Patent, Nair invalidates claim 8 of the '422 Patent under either 35 U.S.C. §§ 102 or 103, despite Nair not explicitly disclosing the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 9	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Nair discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">The heat-shrinkage percentage of a uniaxially stretched film is generally about 20% to about 90%, and preferably about 30% to about 70% in a main drawing direction when the film is immersed in hot water at 90°C for ten seconds.</p> <p>[0042].</p> <p>Further, the shrink label disclosed in Nair includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Nair is the same as that of the "shrink label" of claim 9 of the '422 Patent, Nair invalidates claim 9 of the '422 Patent under either 35 U.S.C. §§ 102 or 103, despite Nair not explicitly disclosing the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent. Nair</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 10	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Nair discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 3," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Such white colorants are not limited and include white pigments such as titanium dioxide, antimony white, zinc sulfide, and zinc white.</p> <p>[0021].</p>

CLAIM 11	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Nair discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 12	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Nair discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Nair discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 13	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[14.pre] An article comprising:</p>	<p>To the extent the preamble of claim 14 is found to be limiting, Nair discloses an "article."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">The labeled container according to the present invention can be produced, for example, by supplying the tubular shrink label to an automatic labeling apparatus, cutting the label to a desired length according to necessity, allowing the label to fit over an article to be applied (container body) continuously, and subjecting the same to heat shrinkage by allowing the same to pass through a steam tunnel or hot-air tunnel at a predetermined temperature.</p> <p>[0048].</p> <p><i>See also, e.g., Fig. 1</i></p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 14	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Nair discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Nair discloses:</p> <p style="padding-left: 40px;">In other embodiments, processes of the present disclosure may be used on other materials having affixed labels, such as materials like polypropylene, polyolefin, polyvinyl chloride ("PVC"), polyethylene terephthalate ("PET" and "PET LV"), polyethylene, plastics, or combinations thereof, wherein the foregoing are illustrative and are not limiting. In some embodiments, the materials form containers.</p> <p>[0020].</p> <p><i>See also, e.g.,</i> Fig. 1.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Nair discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See</i> above, [1.pre]-[1.f]. <i>See also</i>, for example:</p> <p style="padding-left: 40px;">The labeled container according to the present invention comprises a container body and the shrink label according to the present invention applied on or above the container body.</p> <p>[0047].</p>

CLAIM 15	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Nair discloses the "article according to claim 14." <i>See</i> above, [1], [14.pre]-[14.b].</p> <p>Nair also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The 'front layer' means a layer which constitutes an outside layer when applied to a container and is to be printed typically with a design upon the preparation of a label. The 'back layer' means a layer lying near to a container when formed into a label.</p> <p>[0015].</p> <p><i>See also, e.g.,</i> Fig. 1.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 16	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Nair discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 2," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The shrink label according to the present invention comprises the heat-shrinkable opaque white film and a preprinted ink label layer arranged on or above a surface of the front layer.</p> <p>[0015].</p> <p><i>See also, e.g., Fig. 1.</i></p>

CLAIM 17	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Nair discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 8," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 17	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 18	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Nair discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Nair does not expressly disclose the "recyclable shrink label according to claim 1," Nair renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Nair, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Nair also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">A poly(ethylene terephthalate) resin composition for forming back and front layers [(titanium dioxide)/(PET resin) (weight ratio)=20/80] was prepared . . .</p> <p>[0072].</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 18	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
	<p>The polymeric film material may be free of inorganic fillers and/or pigments for clear films and clear labels, or the polymeric film material may be cavitated and/or contain inorganic fillers and other organic or inorganic additives to provide desired properties such as appearance properties (opaque or colored films), durability and processing characteristics. Nucleating agents can be added to increase crystallinity and thereby increase stiffness. Examples of useful materials include calcium carbonate, titanium dioxide, metal particles, fibers, flame retardants, antioxidant compounds, heat stabilizers, light stabilizers, ultraviolet light stabilizers, antiblocking agents, processing aids, acid acceptors, etc. Opaque and/or white polymeric films are often utilized when the labels described herein do not contain a metal layer overlying the outer polymeric layer.</p> <p>[00121].</p> <p>Further, Nair also inherently discloses the PET is crystallizable. For example, the PET disclosed in Nair includes the same materials as the label recited in claim 18 of the '422 Patent. Thus, because the '422 Patent claims "PET" that has a composition in terms of a function, property, or characteristic (i.e., "crystallizable") and because the composition of the shrink label of Nair is the same as that of the "shrink label" of claim 18 of the '422 Patent, Nair discloses each and every limitation of claim 18 of the '422 Patent, including the function, property, or characteristic (i.e., "crystallizable") of the "PET" of claim 18 of the '422 Patent.</p>

CLAIM 19	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
<p>[19.pre] A recyclable shrink label comprising:</p>	<p>To the extent the preamble of claim 19 is found to be limiting, Nair discloses a "recyclable shrink label." <i>See above, [1.pre]. See also, e.g., Figs. 10A-18.</i></p> <p>Further, to the extent the preamble of claim 19 is found to be limiting, Nair also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Nair includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Nair is the same as that of the "shrink label" of claim 19 of the '422 Patent, Nair discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.</p>

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 19	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Nair discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a]. <i>See also, e.g.</i> , Figs. 10A-18.
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Nair discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b]. <i>See also, e.g.</i> , Figs. 10A-18.
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Nair discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c]. <i>See also, e.g.</i> , Figs. 10A-18.
[19.d] a high opacity layer comprising a white pigment,	Nair discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3]. <i>See also, e.g.</i> , Figs. 10A-18.
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Nair discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i> , [1.f]. <i>See also, e.g.</i> , Figs. 10A-18. Further, Nair also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Nair includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Nair is the same as that of the "shrink label" of claim 19 of the '422 Patent, Nair discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 19 of the '422 Patent.

Chart 16 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: International Patent Application Publication No. WO 2015/058184 ("Nair")

CLAIM 19	
'422 Patent Claim Limitation	Nair Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber"), which was filed on June 23, 2003, and published on July 13, 2006, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Huber invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Huber discloses a "recyclable shrink label."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">The invention furthermore relates to the production of the particles according to the invention and to the use thereof, inter alia, in surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and in cosmetic formulations.</p> <p>[0006].</p> <p style="padding-left: 40px;">The UV-stabilised particles are compatible with a multiplicity of colour systems, preferably from the area of surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and cosmetic formulations.</p> <p>[0042].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Huber discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Huber discloses:</p> <p>Particularly suitable LCST polymers are polyethylene oxide (PEO) derivatives, polypropylene oxide (PPO) derivatives, in particular acrylate-modified PEO-PPO-PEO three-block copolymers, polymethyl vinyl ether, poly-N-vinylcaprolactam, ethylhydroxyethylcellulose, poly-N-isopropylacrylamide and olefinic siloxane polymers.</p> <p>[0030].</p> <p>Suitable UCST polymers are, in particular, polystyrene, polystyrene copolymers and polyethylene oxide copolymers.</p> <p>[0031].</p> <p>Examples of suitable solvents are mono- and polyalcohols, such as, for example, methanol, ethanol, n-propanol, isopropanol, glycol, glycerol, propylene glycol, polyethylene glycol</p> <p>[0037].</p> <p>0.25 g of benzotriazole derivative (UV absorber from Ciba-Geigy) are mixed with 1.0 g of modified LCST polymer (three-block copolymer based on polypropylene oxide, polyethylene oxide) and dissolved in 20 ml of distilled water at 23° C.</p> <p>[0048].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Huber discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">The dry layer thickness of the opaque coating layers applied to the glass specimen slides is 100 μm after a 0.5 h long baking operation in a fan-assisted oven at 125° C.</p> <p>[0050].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Huber discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">The invention thus relates to UV-stabilised particles which are distinguished by the fact that they reflect or absorb light having wavelengths of from 290 to 500 nm.</p> <p>[0005].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Huber discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">In general, spherical particles have a diameter of 0.02-100 μm, particularly 0.03-20 μm and in particular 0.05-1 μm. Needle-shaped particles have a length of 0.05-10 μm, preferably 0.05-5 μm, in particular 0.05-1 μm. The particularly preferred substrates are flake-form substrates. Suitable flake-form substrates have a thickness of between 0.02 and 5 μm, in particular between 0.1 and 4.5 μm. The extension in the two other ranges is usually between 1 and 500 μm, preferably between 2 and 200 μm, and in particular between 5 and 60 μm.</p> <p>[0007].</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Huber discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">Suitable inorganic particles are, for example, SiO_2 beads which are uncoated or coated with one or more metal oxides.</p> <p>[0009].</p> <p style="padding-left: 40px;">The effect pigments used are preferably commercially available metal-effect pigments, such as, for example, coated or uncoated aluminium flakes, gold-bronze pigments, and interference pigments metal oxide-coated mica flake pigments.</p> <p>[0010].</p> <p style="padding-left: 40px;">Particularly preferred UV-reflective protection agents are metals, nanoparticles, for example of titanium dioxide or iron oxide.</p> <p>[0022].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Huber discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">The invention furthermore relates to the production of the particles according to the invention and to the use thereof, inter alia, in surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and in cosmetic formulations.</p> <p>[0006].</p> <p style="padding-left: 40px;">The UV-stabilised particles are compatible with a multiplicity of colour systems, preferably from the area of surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and cosmetic formulations.</p> <p>[0042].</p> <p style="padding-left: 40px;">Particularly suitable LCST polymers are polyethylene oxide (PEO) derivatives, polypropylene oxide (PPO) derivatives, in particular acrylate-modified PEO-PPO-PEO three-block copolymers, polymethyl vinyl ether, poly-N-vinylcaprolactam, ethylhydroxyethylcellulose, poly-N-isopropylacrylamide and olefinic siloxane polymers.</p> <p>[0030].</p> <p style="padding-left: 40px;">Suitable UCST polymers are, in particular, polystyrene, polystyrene copolymers and polyethylene oxide copolymers.</p> <p>[0031].</p> <p style="padding-left: 40px;">Examples of suitable solvents are mono- and polyalcohols, such as, for example, methanol, ethanol, n-propanol, isopropanol, glycol, glycerol, propylene glycol, polyethylene glycol, polybutylene glycol</p> <p>[0037].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 1	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 2	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Huber discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label of claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The UV protection agents or mixtures thereof are either applied directly to the surface to be protected and immobilized with LCST and/or UCST polymers or applied to the surface and immobilized in one step in the form of a mixture with LCST and/or UCST polymers.</p> <p>[0033].</p> <p style="padding-left: 40px;">The UV-stabilised particles are compatible with a multiplicity of colour systems, preferably from the area of surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and cosmetic formulations.</p> <p>[0042].</p>

CLAIM 3	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Huber discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label of claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">Suitable inorganic particles are, for example, SiO₂ beads which are uncoated or coated with one or more metal oxides or are fillers, fluorescent pigments, white pigments, such as, for example, titanium dioxide, zinc white . . .</p> <p>[0009].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 4	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Huber discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label of claim 3," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">The application and immobilisation of UV stabilisers to/on the particle surface results in significantly greater efficiency of the UV protection compared with a mixture consisting of particles and UV stabiliser.</p> <p>[0004].</p> <p style="padding-left: 40px;">The invention thus relates to UV-stabilised particles which are distinguished by the fact that they reflect or absorb light having wavelengths of from 290 to 500 nm.</p> <p>[0005].</p> <p style="padding-left: 40px;">Preference is furthermore given to multilayered pigments having two, three or more layers which contain one or more TiO₂ layers, and spherical SiO₂ particles, which may be coated with one or more metal oxides.</p> <p>[0011].</p> <p style="padding-left: 40px;">The UV-stabilised particles are compatible with a multiplicity of colour systems, preferably from the area of surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and cosmetic formulations.</p> <p>[0042].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 5	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Huber discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label of claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 6	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Huber discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the recyclable shrink label is in a form of a sleeve or tube."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 7	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Huber discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 6," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the heat shrink film comprises a seam."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discuss in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 8	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Huber discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">LCST polymers and UCST polymers are polymers which are soluble in a solvent at low or elevated temperatures</p> <p>[0028].</p> <p style="padding-left: 40px;">In general, the LCST temperature is 0.5-90° C., preferably 35-80° C., while the UCST temperature is 5-90° C., in particular 35-60° C. The temperature is subsequently increased, in general by about 5° C. above the LCST or below the UCST, during which the polymer precipitates with the UV protection agent and deposits on the particle surface.</p> <p>[0034].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 9	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Huber discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">LCST polymers and UCST polymers are polymers which are soluble in a solvent at low or elevated temperatures</p> <p>[0028].</p> <p style="padding-left: 40px;">In general, the LCST temperature is 0.5-90° C., preferably 35-80° C., while the UCST temperature is 5-90° C., in particular 35-60° C. The temperature is subsequently increased, in general by about 5° C. above the LCST or below the UCST, during which the polymer precipitates with the UV protection agent and deposits on the particle surface.</p> <p>[0034].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 10	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Huber discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 3," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Suitable inorganic particles are, for example, SiO₂ beads which are uncoated or coated with one or more metal oxides or are fillers, fluorescent pigments, white pigments, such as, for example, titanium dioxide, zinc white, paint-grade zinc oxide, lead white, zinc sulphide, lithopone.</p> <p>[0009].</p> <p style="padding-left: 40px;">Preferred effect pigments are substrates coated with TiO₂, such as, for example, TiO₂-coated natural or synthetic mica, TiO₂-coated SiO₂, Al₂O₃, graphite, glass, Fe₂O₃ or metal flakes, in particular aluminium flakes.</p> <p>[0011].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 11	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Huber discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

CLAIM 12	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Huber discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 13	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Huber discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 14	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Huber discloses an "article."</p> <p>For example, Huber discloses:</p> <p style="padding-left: 40px;">The UV protection of surface coatings, powder coatings or plastics is frequently also necessary since the pigments or particles present therein have inadequate UV stability</p> <p>[0002].</p> <p style="padding-left: 40px;">The invention also relates to the use of the UV-stabilised particles in surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics, concrete, furthermore in cosmetic formulations, for the laser marking of papers and plastics, as pigments in corrosion protection, in agricultural sheeting and tent awnings and for the preparation of pigment compositions and dry preparations.</p> <p>[00045].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 14	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and</p>	<p>Huber discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Huber discloses:</p> <p>Particularly suitable LCST polymers are polyethylene oxide (PEO) derivatives, polypropylene oxide (PPO) derivatives, in particular acrylate-modified PEO-PPO-PEO three-block copolymers, polymethyl vinyl ether, poly-N-vinylcaprolactam, ethylhydroxyethylcellulose, poly-N-isopropylacrylamide and olefinic siloxane polymers.</p> <p>[0030].</p> <p>Suitable UCST polymers are, in particular, polystyrene, polystyrene copolymers and polyethylene oxide copolymers.</p> <p>[0031].</p> <p>The UV protection agents or mixtures thereof are either applied directly to the surface to be protected and immobilized with LCST and/or UCST polymers or applied to the surface and immobilized in one step in the form of a mixture with LCST and/or UCST polymers.</p> <p>[0033].</p> <p>Examples of suitable solvents are mono- and polyalcohols, such as, for example, methanol, ethanol, n-propanol, isopropanol, glycol, glycerol, propylene glycol, polyethylene glycol, polybutylene glycol</p> <p>[0037].</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 14	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Huber discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label of claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 15	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.</p>	<p>Huber discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Huber does not expressly disclose the "article according to claim 14," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">The UV protection agents or mixtures thereof are either applied directly to the surface to be protected and immobilized with LCST and/or UCST polymers or applied to the surface and immobilized in one step in the form of a mixture with LCST and/or UCST polymers.</p> <p>[0033].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 16	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.</p>	<p>Huber discloses the "recyclable shrink label according to claim 2." See above, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 2," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The UV protection agents or mixtures thereof are either applied directly to the surface to be protected and immobilized with LCST and/or UCST polymers or applied to the surface and immobilized in one step in the form of a mixture with LCST and/or UCST polymers.</p> <p>[0033].</p> <p style="padding-left: 40px;">The UV-stabilised particles are compatible with a multiplicity of colour systems, preferably from the area of surface coatings, water-borne coatings, powder coatings, paints, printing inks, security printing inks, plastics and cosmetic formulations.</p> <p>[0042].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 17	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Huber discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 8," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." See above, [9].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 18	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Huber discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Huber does not expressly disclose the "recyclable shrink label according to claim 1," Huber renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Huber also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">Particularly preferred organic pigments are azo pigments, liquid crystal polymers and fluorescent pigments.</p> <p>[0013].</p> <p style="padding-left: 40px;">It goes without saying that the particles according to the invention can also advantageously be used for various applications in the form of a blend with organic dyes, organic pigments or other pigments, such as, for example, transparent and opaque white, coloured and black pigments, and with flake-form iron oxides, organic pigments, holographic pigments, LCPs (liquid crystal polymers), and conventional transparent, coloured and black lustre pigments based on metal oxide-coated mica, glass, Al₂O₃, graphite and SiO₂ flakes, etc.</p> <p>[0043].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 19	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Huber discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Huber discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 19	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Huber discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b]. In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Huber discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Huber discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].

Chart 17 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2006/0155007 ("Huber")

CLAIM 19	
'422 Patent Claim Limitation	Huber Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Huber discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II"), which was filed on January 6, 2016, and published on May 19, 2016, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Mitchell II invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Mitchell II discloses a "recyclable shrink label."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">Low density of the film has effect of enabling the film and label comprising said film to be more easily separated from the substrates having higher density, such as PET bottles. Said film density allows the films to be separated from the substrate material during recycling process, for example in the normally used washing process of the bottles, i.e. flotation separation process, of the bottles or other containers. The separated labels may also be further recycled.</p> <p>[0151].</p> <p style="padding-left: 40px;">Multilayer face film structure according to embodiments has effect of providing a heat shrinkable label which can be easily separated in re-cycling process from the item it is mounted. After the item comprising a label has been used, the item is crushed (grinded) into pieces. In particular, when the area in between the label and the surface of the item is free from adhesive, the film may be separated from the item during this crushing.</p> <p>[0158].</p> <p><i>See also, e.g., Figs. 1-4.</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,</p>	<p>Mitchell II discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">A face film may be stretched in one direction with a ratio of unstretched film thickness to stretched film thickness between 2 and 10. In other words, the face film may be stretched in the one direction with a stretching ratio of between 2:1 and 10:1. The item may comprise polyethylene terephthalate. The item may [be] a bottle consisting of polyethylene terephthalate.</p> <p>[0020].</p> <p style="padding-left: 40px;">The multilayer label film structure 1 may comprise a first layer 3, a second layer 5, and a third layer 7. Preferably the second layer 5 is between the first 3 layer and the third 7 layer. The first layer 3 and the third layer 7 may also be referred to as skin layers, i.e., a first skin layer and a second skin layer, respectively."</p> <p><i>See also, e.g., Figs. 1-4.</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Mitchell II discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">The thickness of the core layer may be from 15 to 50 microns, or from 20 to 50 microns, preferably around 30 or 25 microns. Thickness of skin layers may be 40% of the total thickness of the multilayer structure. Alternatively, thickness of skin layers may be 60% of the total thickness. The thickness of a skin layer may be less than 20 microns, preferably around 10 or 7.5 microns or less. The overall thickness of the multilayer film may be from 20 to 70 microns or from 25 to 60 microns, preferably around 50 microns or around 40 microns or less.</p> <p>[0072].</p>
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Mitchell II discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">Haze is a property used to describe transparency of a plastic film or a face stock of label consisting of the plastic film. Haze relates to scattering of light by a film that results in a cloudy appearance of the film. Haze corresponds to the percentage of light transmitted through a film that is deflected from the direction of the incoming light. Haze may be measured according to standard ASTM D1003.</p> <p>[0067].</p> <p style="padding-left: 40px;">Further, skin layer(s) may contain additives, such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, anti-blocking agents, slip additives, antistatic additives, cavitating agents. For example, the first skin layer may comprise anti-blocking agent. An amount of anti-blocking agent may be between 0.5 and 5 wt. %, preferably between 1 and 3 wt. % or between 2 and 3 wt. %.</p> <p>[0080].</p> <p><i>See also, e.g., Fig. 3-4.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
<p>[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,</p>	<p>Mitchell II discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Mitchell II discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">Further, skin layer(s) may contain additives, such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, anti-blocking agents, slip additives, antistatic additives, cavitating agents. For example, the first skin layer may comprise anti-blocking agent.</p> <p>[0080].</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell II discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">Low density of the film has effect of enabling the film and label comprising said film to be more easily separated from the substrates having higher density, such as PET bottles. Said film density allows the films to be separated from the substrate material during recycling process, for example in the normally used washing process of the bottles, i.e. flotation separation process, of the bottles or other containers. The separated labels may also be further recycled.</p> <p>[0151].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 2	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[2] The recyclable shrink label of claim 1 further comprising an indicia layer.</p>	<p>Mitchell II discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label of claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The oriented multilayer label films, i.e., shrink films, may be printed in order to provide visual effect and/or to display information... The multilayer film may comprise printing on an outer surface of a first skin layer. Alternatively, the reverse side of the multilayer structure may be printed, i.e., a third layer may comprise the printing.</p> <p>[0094].</p> <p><i>See also, e.g., Fig. 3.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 3	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Mitchell II discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label of claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The printing may be multi-layered comprising two or more printing layers. For example, colour printing at the film surface may be covered (overprinted) with a white or some other colour printing. Thus, the overprinting is next to the surface of the item. Through this kind of label the object beneath is not visible.</p> <p>[0096].</p> <p><i>See also, e.g., Fig. 3.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 4	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Mitchell II discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label of claim 3," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">Colour printing at the film surface may be covered (overprinted) with a white or some other colour printing. Thus, the overprinting is next to the surface of the item. Through this kind of label, the object beneath is not visible.</p> <p>[0096].</p> <p style="padding-left: 40px;">The multilayer films are suitable for printing. Preferably the films enable high printing quality. The films have excellent ink adhesion and register control, allowing, for example, gravure printing.</p> <p>[0097].</p> <p><i>See also, e.g., Fig. 3.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 5	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Mitchell II discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label of claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 6	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.</p>	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">Term 'shrink-sleeve' or 'heat shrinkable sleeve film' (HS) refers to a labelling process, where a preformed label tube (or sleeve) is introduced around an item. Shrink sleeve label comprises or consists of transverse direction oriented (TDO) shrink film. The film is solvent seamed into a continuous tube label around the axis extending to the machine direction (Sx). The formed continuous tube (or sleeve) is cut into predetermined lengths and supplied as a form of individual tube label around an item.</p> <p>[0069].</p> <p><i>See also, e.g., Figs. 6-8.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 7	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Mitchell II discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 6," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">Referring to FIG. 5, the opposite edges of the label, leading edge 9 and trailing edge 11, may overlap and form a seam 10. The seam 10 may comprise an adhesive layer, such as a hot melt or UV-curable adhesive. Alternatively, it may comprise solvent dissolving the film materials and thus provide a joint. The adhesive may be provided as a continuous strip or separate adhesive patterns. Alternatively, the seaming may be performed using other methods such as laser welding, heat sealing, or ultrasonic bonding.</p> <p>[0154].</p> <p><i>See also, e.g., Fig. 5.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 8	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[S]hrinkage of the multilayer films of the invention at temperatures between 80 and 150°C., preferably between 80 and 110°C., more preferably between 80 and 90°C., may be more than 20% in the orientation direction of the film. Preferably, shrinkage may be between 20 and 40%, or between 40 and 60%, or more than 60%, for example at least 70% in the direction of the orientation of the film. Referring to FIG. 4, the orientation direction may be parallel to Sx. The shrinkage may be between 20 and 90%, preferably between 25 to 80%, and most preferably between 30 and 75% under normal shrink film and label shrinking temperatures between 80 and 150° C., preferably between 80 and 130° C., more preferably between 80 and 110° C., more preferably between 80 and 90° C. in a steamtunnel.</p> <p>[0144].</p> <p><i>See also, e.g.,</i> [0154], Figs. 4, 5.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 9	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">[S]hrinkage of the multilayer films of the invention at temperatures between 80 and 150°C., preferably between 80 and 110°C., more preferably between 80 and 90°C., may be more than 20% in the orientation direction of the film. Preferably, shrinkage may be between 20 and 40%, or between 40 and 60%, or more than 60%, for example at least 70% in the direction of the orientation of the film. Referring to FIG. 4, the orientation direction may be parallel to Sx. The shrinkage may be between 20 and 90%, preferably between 25 to 80%, and most preferably between 30 and 75% under normal shrink film and label shrinking temperatures between 80 and 150° C., preferably between 80 and 130° C., more preferably between 80 and 110° C., more preferably between 80 and 90° C. in a steamtunnel.</p> <p>[0144].</p> <p><i>See also, e.g., [0154], Figs. 4, 5.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 10	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Mitchell II discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 3," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Further, skin layer(s) may contain additives, such as inorganic fillers, pigments, antioxidants, ultraviolet absorbers, anti-blocking agents, slip additives, antistatic additives, cavitating agents. For example, the first skin layer may comprise anti-blocking agent.</p> <p>[0080].</p> <p style="padding-left: 40px;">The printing may be multi-layered comprising two or more printing layers. For example, colour printing at the film surface may be covered (overprinted) with a white or some other colour printing.</p> <p>[0096].</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 11	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

CLAIM 12	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 13	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 14	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Mitchell II discloses an "article."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">In this application term 'label' refers to a piece of material, which is used for labelling of an item. Label may be used to identify something. Label may be attached to an article. In other words, label is suitable to be applied to a surface of an item to provide decoration, and/or to display information about the product being sold, such as content information, a trade name, a logo, a barcode, or any other graphics. The item may be also called as an article, or a substrate.</p> <p>[0060].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Mitchell II discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Mitchell II discloses:</p> <p style="padding-left: 40px;">The item may comprise polyethylene terephthalate. The item may be a bottle consisting of polyethylene terephthalate.</p> <p>[0020].</p> <p><i>See also, e.g., Fig. 5-8.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 14	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Mitchell II discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f]. See also, for example:</p> <p style="padding-left: 40px;">Referring to FIG. 5, a label 2 cut from a continuous label stock and comprising or consisting of a multilayer plastic film is mounted around the outer surface of an item 8.</p> <p>[0152].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label of claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 15	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Mitchell II discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Mitchell II also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">A label comprises a first surface portion. The first surface portion is intended to be attached to a second surface portion different from the first surface portion. The second surface portion may be a surface portion of the label different from the first surface portion, or a surface portion of another object. The first and second surface portions may be adjoined to each other by various means, such as by using an adhesive or heat, for example by welding.</p> <p>[0060].</p>

CLAIM 16	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Mitchell II discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 2," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The multilayer film may comprise printing on an outer surface of a first skin layer 3. Alternatively, the reverse side of the multilayer structure may be printed, i.e., a third layer 7 may comprise the printing. Thus, the graphic patterns may be printed on at least one of the skin layers of the multi-layered film.</p> <p>[0094].</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 17	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Mitchell II discloses the "recyclable shrink label according to claim 8." <i>See above, [1.pre]-[1.f], [8].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 8," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." For example:</p> <p style="padding-left: 40px;">Thus, label primarily shrink in the transverse direction.</p> <p>[0069].</p>

CLAIM 18	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Mitchell II discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell II does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell II renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell II also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">Low density of the film has effect of enabling the film and label comprising said film to be more easily separated from the substrates having higher density, such as PET bottles. Said film density allows the films to be separated from the substrate material during recycling process, for example in the normally used washing process of the bottles, i.e. flotation separation process, of the bottles or other containers. The separated labels may also be further recycled.</p> <p>[0151].</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 18	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
	<p>The item may comprise or consists of polyethylene terephthalate (PET). The item may have a shape of a bottle. The films of the invention may also be used for labelling of batteries. The films may also be used as a face stock of a label laminate further comprising an adhesive layer and a release liner. For example, film according to the some or/all embodiments may be used for a face stock of a wash-off labels. Wash-off labels may be used e.g. for labelling of glass bottles.</p> <p>[0152].</p> <p>The plastic film may be drawn (stretched) at least in one direction. The film may be drawn in a machine direction, in a transverse direction, or both. The resulting film is thus monoaxially (uniaxially) oriented (MO) or biaxially oriented (BO). Monoaxially oriented film may be machine oriented (MDO) or transverse oriented (TDO) in accordance to the direction of the orientation (stretching).</p> <p>[0065].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Mitchell II discloses a "recyclable shrink label." <i>See above</i>, [1.pre].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Mitchell II discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	<p>Mitchell II discloses "the heat shrink film having a thickness from 15 μm to 100 μm." <i>See above</i>, [1.b].</p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Mitchell II discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i>, [1.c].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	Mitchell II discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell II discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.f].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 18 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2016/0136934 ("Mitchell II")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell II Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III"), which was filed on January 28, 2016, and published on August 3, 2017, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Mitchell III invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Mitchell III discloses a "recyclable shrink label."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">The item may also be recyclable, such as clear PET bottle. At the time of recycling the PET bottle, a label attached to the PET bottle, is separated and removed.</p> <p>[0240].</p> <p style="padding-left: 40px;">After the item comprising a label or a label arrangement has been used, the item is crushed (grinded) into pieces. In particular, when the area in between the label and the surface of the item is free from adhesive, the film may be separated from the item during this crushing. After crushing the pieces of the labelled item may be take into washing step comprising a heated washing liquid comprising caustic soda.</p> <p>[0241].</p> <p style="padding-left: 40px;">Shrinkable labels according to least some/all embodiments have effect on providing easy separation of the shrunk labels during subsequent recycling process. In addition, they may allow efficient and cost-effective recycling of the containers, such as clear PET bottles.</p> <p>[0252].</p> <p><i>See also, e.g., Figs. 5-6.</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Mitchell III discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">A shrinkable film may have a monolayer structure. Alternatively, a shrinkable film may have a multilayer structure comprising two or more layers. A multilayer film may have a three layer structure comprising a first skin layer, a core layer, and a second skin layer. The first skin layer and the second skin layer may also be referred to as a front surface layer and a back surface layer, respectively. The front surface layer may be an outermost layer of the multilayer structure when labelled to a surface of an item.</p> <p>[0095].</p> <p style="padding-left: 40px;">The film of the shrink label may comprise or consist of polyethylene terephthalate (PET), either as a monolayer or a component in a multilayer structure, with high shrinkability under elevated temperatures.</p> <p>[0191].</p> <p><i>See also, e.g., Fig. 2.</i></p>
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	<p>Mitchell III discloses "the heat shrink film having a thickness from 15 µm to 100 µm."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">For example, a film having thickness of 100 micrometres before uniaxial orientation is stretched by a stretch ratio of 5. After the uniaxial orientation, the film may have a fivefold diminished thickness of 20 micrometres.</p> <p>[0094].</p> <p style="padding-left: 40px;">The overall thickness of the multilayer film may be from 20 to 70 microns or from 25 to 60 microns, preferably around 50 microns or around 40 microns or less.</p> <p>[0099].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Mitchell III discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">According to at least some/all embodiments, the shrinkable labels comprising metallization may exhibit light transmittance between 0 and 20% at wavelengths below 1 mm, or below 750 nm, or below 620 nm. In an example, between 200 and 650 nm, the light transmittance may be less than 20%, preferably less than 10%.</p> <p>[0256].</p> <p style="padding-left: 40px;">According to at least some/all embodiments, the shrinkable film comprising metallization may have a light transmittance of 0.01 to 5% at wavelengths between 200 and 620 nm, between 200 and 450 nm, or between 420 and 520 nm</p> <p>[0257].</p> <p><i>See also, e.g., Fig. 3.</i></p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,	<p>Mitchell III discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">In order to modify the appearance and/or properties shrinkable films may also include e.g. pigment and/or light blocker (also referred to as blocking agent or light blocking agent). Light blockers are ingredients able to absorb electromagnetic radiation, such as visible and UV light so as to reduce chemical reactions and photo-oxidation of a material caused by the radiation. Blockers include inorganic blockers e.g. titanium dioxide, zinc oxide. Alternatively, the light blocker may be an organic chemical absorber, such as indole, benzotriazole, benzophenone, cyanoacrylate or salicylate. The amount of light blocker may be between 0.1 and 30 wt. % if any. For example, in a three-layer structure of shrinkable film, the core layer may include the light blocker</p> <p>[0176].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p>Mitchell III discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">Light blockers are ingredients able to absorb electromagnetic radiation, such as visible and UV light so as to reduce chemical reactions and photo-oxidation of a material caused by the radiation. Blockers include inorganic blockers, e.g., titanium dioxide, zinc oxide. Alternatively, the light blocker may be an organic chemical absorber, such as indole, benzotriazole, benzophenone, cyanoacrylate, or salicylate.</p> <p>[0176].</p> <p style="padding-left: 40px;">Alternatively or in addition, the film may include pigment, such as titanium dioxide (TiO₂). For example, rutile TiO₂ or anatase TiO₂. Alternatively or in addition other white pigments may be used. In an example, antimony oxide, zinc oxide.</p> <p>[0177].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 1	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell III discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">The item may also be recyclable, such as clear PET bottle. At the time of recycling the PET bottle, a label attached to the PET bottle, is separated and removed.</p> <p>[0250].</p> <p style="padding-left: 40px;">Shrinkable labels according to least some/all embodiments have effect on providing easy separation of the shrunk labels during subsequent recycling process. In addition, they may allow efficient and cost-effective recycling of the containers, such as clear PET bottles.</p> <p>[0252].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 2	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Mitchell III discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label of claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Preferably, the label comprises a plastic film and at least some graphics on at least one surface of the plastic film. A plastic film may also be referred to as a label film. The graphics may comprise, for example, printed information and/or decoration.</p> <p>[0068].</p> <p style="padding-left: 40px;">At least some/all embodiments have effect on printability of the shrinkable film. The shrinkable label film may have effect on enabling high printing quality. According to some/all embodiments the shrinkable film has excellent ink adhesion and register control</p> <p>[0253].</p> <p><i>See also, e.g., [0096], Fig. 2.</i></p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 3	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Mitchell III discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label of claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">For example, a multilayer film includes a core layer comprising pigments, such as white pigments like titanium dioxide (TiO₂), which contribute to high opacity and light-blocking properties.</p> <p>[0099].</p> <p><i>See also, e.g., Fig. 2</i></p>

CLAIM 4	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Mitchell III discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label of claim 3," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer." For example:</p> <p style="padding-left: 40px;">A multilayer film of shrinkable label may comprise a core layer including light-blocking agent or pigment, such as titanium dioxide, providing opacity. The core layer may be disposed between skin layers, which may include graphics or indicia printed on a printable surface.</p> <p>[0178].</p> <p><i>See also, e.g., Fig. 2.</i></p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 5	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Mitchell III discloses the "recyclable shrink label of claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label of claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above, [1.a].</i></p>

CLAIM 6	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">Shrink sleeve label also referred to as 'a shrink sleeve label' or 'a shrinkable sleeve label' refers to a label in the form of a tubular sleeve. Individual labels may be cut from the continuous tubular sleeve and fitted around an article to be labelled and shrunk around the article under exposure to external energy, such as elevated temperature.</p> <p>[0208].</p> <p><i>See also, e.g., Fig. 10.</i></p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 7	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Mitchell III discloses the "recyclable shrink label according to claim 6." <i>See above</i>, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 6," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">Referring to FIGS. 9A and 9B, a shrink sleeve label 16 is formed by seaming a first longitudinal edge 8 and a second longitudinal edge 12 of the film 1.</p> <p>[0110].</p> <p><i>See also, e.g.</i>, Figs. 9A-9B.</p>

CLAIM 8	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Heat shrink(able) film and heat shrink(able) label exhibit at least 15% preferably at least 25%, or at least 35% shrinkage between temperature of 65 and 98° C.</p> <p>[0070].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 8	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
	<p>Temperature of the orientation process may have effect on the degree of shrinkage of the film and shrink label comprising said film. For example, orientation process temperature in range of 50 to 130 degrees C. may provide at least 10%, or at least 15%, preferably at least 25%, or at least 35% shrinkage of the face film between subsequent heating with temperature in range of 65 and 98° C. At 50° C. shrinkage is below 10%.</p> <p>[0198].</p> <p>Shrinkable labels according to least some/all embodiments have effect on providing controlled shrinkage, i.e., specific amount of shrinkage at specific temperature range. For example, good shrinkage at the steam-tunnel operating temperatures. At least some/all shrinkable labels have shrinkage at least 15%, preferably at least 25%, or at least 35% above 65°C in the maximum shrinkage direction (in the orientation direction). At 50°C shrinkage may be less than 10%, or less than 5%. In an example, shrinkage in the orientation direction of the shrinkable film may be between 25 and 65% at a temperature range 65-98°C.</p> <p>[0248].</p>

CLAIM 9	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Heat shrink(able) film and heat shrink(able) label exhibit at least 15% preferably at least 25%, or at least 35% shrinkage between temperature of 65 and 98° C.</p> <p>[0070].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 9	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
	<p>Temperature of the orientation process may have effect on the degree of shrinkage of the film and shrink label comprising said film. For example, orientation process temperature in range of 50 to 130 degrees C. may provide at least 10%, or at least 15%, preferably at least 25%, or at least 35% shrinkage of the face film between subsequent heating with temperature in range of 65 and 98° C. At 50° C. shrinkage is below 10%.</p> <p>[0198].</p> <p>Shrinkable labels according to least some/all embodiments have effect on providing controlled shrinkage, i.e., specific amount of shrinkage at specific temperature range. For example, good shrinkage at the steam-tunnel operating temperatures. At least some/all shrinkable labels have shrinkage at least 15%, preferably at least 25%, or at least 35% above 65°C in the maximum shrinkage direction (in the orientation direction). At 50°C shrinkage may be less than 10%, or less than 5%. In an example, shrinkage in the orientation direction of the shrinkable film may be between 25 and 65% at a temperature range 65-98°C.</p> <p>[0248].</p>

CLAIM 10	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Mitchell III discloses the "recyclable shrink label according to claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 3," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 10	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
	<p>Mitchell III also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">Alternatively or in addition, the film may include pigment, such as titanium dioxide (TiO₂). For example, rutile TiO₂ or anatase TiO₂. Alternatively or in addition, other white pigments may be used. In an example, antimony oxide, zinc oxide. Pigment may have an effect on absorbing UV and visible light. It may further have an effect on the whiteness and opacity of the film</p> <p>[0177].</p>

CLAIM 11	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 12	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 13	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Mitchell III discloses an "article."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">The item may be also called as an article, or a substrate. Preferably, the label comprises a plastic film and at least some graphics on at least one surface of the plastic film.</p> <p>[0068].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Mitchell III discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Mitchell III discloses:</p> <p style="padding-left: 40px;">The item may be a polyethylene terephthalate (PET) bottle. The bottle may be clear. The item to be labelled may be highly contoured container, such as a bottle, having e.g., recesses and/or protrusions at the outer surface.</p> <p>[0235].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 14	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Mitchell III discloses the "recyclable shrink label of claim 1 disposed on the container." See above, [1.pre]-[1.f]. See also, for example:</p> <p style="padding-left: 40px;">The roll-fed shrink film label comprises or consists of a shrinkable face film. The face film may be a monolayer or multilayer film. In addition, the label comprises at least some graphics on a surface of the face film. Under exposure to external energy, the label is able to conform to the shape and size of the article.</p> <p>[0207].</p> <p style="padding-left: 40px;">The label may be a full body label, i.e., the shrunk label may cover at least 90% of the outer surface of the item labelled. For example, a cap of the bottle may remain non-labelled. Referring to FIG. 6, a shrink label may be a full body label, i.e., the shrunk label may cover substantially the whole outer surface of the item.</p> <p>[0236]</p> <p><i>See also, e.g.,</i> Fig. 6.</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label of claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 15	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Mitchell III discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>Mitchell III also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">Referring to FIG. 2, a plastic film of a shrinkable label may have a multilayer structure comprising three layers. The first skin layer may be an outermost layer of the multilayer structure when labelled to a surface of an item.</p> <p>[0096].</p> <p><i>See also, e.g., Fig. 2.</i></p>

CLAIM 16	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Mitchell III discloses the "recyclable shrink label according to claim 2." See above, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 2," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The front surface layer may be an outermost layer of the multilayer structure when labelled to a surface of an item. However, the front surface may further be overcoated, i.e., over-varnished. For example, in order to protect the printed graphics. In an example, the front surface layer comprises graphics (MRK1), such as printed information or decoration</p> <p>[0096].</p> <p style="padding-left: 40px;">A multilayer film may comprise printing on a surface of a first skin layer. The graphics, such as printing or other type of visual coatings, may be applied in a single process or via several printing or coating steps. It is also possible that the visual coating includes metallic foil or ink or similar.</p> <p>[0202]. <i>See also, e.g., Figs. 2-3.</i></p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 17	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Mitchell III discloses the "recyclable shrink label according to claim 8." See above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 8," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." For example:</p> <p style="padding-left: 40px;">According to an embodiment, the shrinkable label comprises or consists of a transverse direction oriented (TDO) film, which is nonannealed and therefore shrinkable in the orientation direction.</p> <p>[0092].</p> <p style="padding-left: 40px;">According to an embodiment, a method for providing a shrink label and subsequent labelling of an item may comprise at least the following steps: . . . stretching the multilayer film uniaxially in transverse direction at temperature between 50 and 130° C. so as to provide uniaxially in TD oriented multilayer film.</p> <p>[0224]-[0226].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 18	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Mitchell III discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Mitchell III does not expressly disclose the "recyclable shrink label according to claim 1," Mitchell III renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Mitchell III also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)." For example:</p> <p style="padding-left: 40px;">Shrinkable labels are suitable for labelling of a wide range of product designs and particularly suitable for highly contoured containers and products comprising curved sections, recesses, and/or protrusions at their outer surface. Shrinkage properties of films and labels enable labelling of highly contoured items. The item may comprise or consist of polyethylene terephthalate (PET).</p> <p>[0205].</p> <p style="padding-left: 40px;">Propylene plastomers and propylene elastomers have narrow molecular weight distribution (MWD), broad crystallinity distribution and wide melt range.</p> <p>[0150].</p> <p style="padding-left: 40px;">Total crystallinity may be between 12 and 19%.</p> <p>[0156].</p>

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Mitchell III discloses a "recyclable shrink label." <i>See above</i> , [1.pre]. Further, to the extent the preamble of claim 19 is found to be limiting, Mitchell III also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Mitchell III includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Mitchell III is the same as that of the "shrink label" of claim 19 of the '422 Patent, Mitchell III discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Mitchell III discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Mitchell III discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Mitchell III discloses "the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i> , [1.c].
[19.d] a high opacity layer comprising a white pigment,	Mitchell III discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].

Chart 19 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2017/0223879 ("Mitchell III")

CLAIM 19	
'422 Patent Claim Limitation	Mitchell III Exemplary Disclosure
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Mitchell III discloses "the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i></p> <p>Further, Mitchell III also inherently discloses a shrink label that is "recyclable." For example, the shrink label disclosed in Mitchell III includes the same materials as the label recited in claim 19 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable") and because the composition of the shrink label of Mitchell III is the same as that of the "shrink label" of claim 19 of the '422 Patent, Mitchell III discloses each and every limitation of claim 19 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable") of the "shrink label" of claim 19 of the '422 Patent.</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki"), which has its earliest priority date as February 12, 2008, and published on September 24, 2009, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Sasaki invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 1	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Sasaki discloses a "recyclable shrink label."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">The present invention aims to solve the above-mentioned conventional problems and to achieve the following objects.</p> <p style="padding-left: 40px;">That is, an object of the present invention is to provide a light-shielding shrink film which has light-shielding and heat-insulating properties, has a simple structure, and can be easily recycled.</p> <p>[0005].</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Sasaki discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">The crystalline polymer is not particularly limited and can be appropriately selected depending on the purpose. Examples of the crystalline polymer include polyolefins (e.g., low-density polyethylene, high-density polyethylene, polypropylene, etc.), polyamides (PA) (e.g., nylon-6, etc.), polyacetals (POM), polyesters (e.g., PET, PEN, PTT, PBT, PPT, PHT, PBN, PES, PBS, etc.), syndiotactic polystyrene (SPS), polyphenylene sulfides (PPS), polyether ether ketones (PEEK), liquid crystal polymers (LCP), fluororesins, and isotactic polypropylene (isoPP).</p> <p>[0015].</p> <p style="padding-left: 40px;">The first surface and the second surface opposite of the first surface are shown in FIGS. 2A-2C. <i>See also, e.g.</i> [0011]-[0016], [0020], [0032]-[0035], [0048]-[0052], [0073]-[0074].</p>
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and	<p>Sasaki discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">This polymer molded product (polymer film) was uniaxially stretched (longitudinal stretching) to obtain a crystalline polymer film having a thickness of 30 μm.</p> <p>[0073].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 1	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Sasaki discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">There are no particular restrictions on the combination of the shrink layer and the light-shielding layer and they can be selected appropriately depending on the purpose. For example, using PET (polyethylene terephthalate) as the shrink layer and PP (polypropylene) with internal cavities as the light-shielding layer will improve the insulation properties and at the same time the moisture permeability will be improved. Also, using PP (polypropylene) as the shrink layer and PBT (polybutylene terephthalate) with internal cavities as the light-shielding layer will improve the insulation properties and at the same time the oxygen barrier properties will be improved.</p> <p>[0010].</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm,	<p>Sasaki discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 1	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Sasaki discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Sasaki discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">The present invention aims to solve the above-mentioned conventional problems and to achieve the following objects.</p> <p style="padding-left: 40px;">That is, an object of the present invention is to provide a light-shielding shrink film which has light-shielding and heat-insulating properties, has a simple structure, and can be easily recycled.</p> <p>[0005].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 1	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 2	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[2] The recyclable shrink label of claim 1 further comprising an indicia layer.</p>	<p>Sasaki discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label of claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The surface of the heat-shrinkable synthetic resin film may be subjected to a conventional surface treatment such as corona discharge treatment, plasma treatment, flame treatment or acid treatment in order to improve printability.</p> <p>[0012].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 3	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Sasaki discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label of claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "a high opacity layer comprising a white pigment."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 4	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Sasaki discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label of claim 3," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 5	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Sasaki discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label of claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i>, [1.a].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 6	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Sasaki discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">(5) Evaluation of packaging properties The light-blocking shrink films of Examples 1 to 6 and Comparative Examples 1 to 3 were wrapped around a glass tube having a diameter of 10 cm and bonded with an adhesive, and then placed in an oven at 100° C. for 30 minutes. After that, the temperature was lowered to room temperature and the tubes were removed. Each sample was then taken out and its packaging properties were evaluated.</p> <p>[0093].</p>

CLAIM 7	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Sasaki discloses the "recyclable shrink label according to claim 6." See above, [1.pre]-[1.f], [6].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 6," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">(5) Evaluation of packaging properties The light-blocking shrink films of Examples 1 to 6 and Comparative Examples 1 to 3 were wrapped around a glass tube having a diameter of 10 cm and bonded with an adhesive, and then placed in an oven at 100° C. for 30 minutes. After that, the temperature was lowered to room temperature and the tubes were removed. Each sample was then taken out and its packaging properties were evaluated.</p> <p>[0093].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 8	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.</p>	<p>Sasaki discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">That is, <1> a crystalline polymer film made of a polymer having crystallinity and containing therein long cavities with their longitudinal directions oriented in a first direction, wherein in a cross section of the crystalline polymer film perpendicular to the orientation direction of the cavities, a distance h(i) from the center of each of the 10 cavities to the surface of the crystalline polymer film that has the shortest distance from the center of the cavity to the surface of the crystalline polymer film is calculated, and an arithmetic average value h(avg) of the calculated distances h(i) satisfies the following equation: $h(avg) > T/100$; [wherein T represents the arithmetic average value of the thickness in the cross section, and the 10 cavities are selected from cavities present in a region sandwiched between any one straight line parallel to the thickness direction and another straight line that is parallel to the one straight line and located $20 \times T$ away from the one straight line.</p> <p style="padding-left: 40px;">and a heat-shrinkable synthetic resin film.</p> <p style="padding-left: 40px;"><2> The light-shielding shrink film according to <1>, wherein the difference in thermal shrinkage rate between the heat-shrinkable synthetic resin film and the crystalline polymer film is 5% or less.</p> <p>[0007].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 8	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>Further, the shrink label disclosed in Sasaki includes the same materials as the label recited in claim 8 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Sasaki is the same as that of the "shrink label" of claim 8 of the '422 Patent, Sasaki discloses each and every limitation of claim 8 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the heat shrink film when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 8 of the '422 Patent.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 9	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Sasaki discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>Sasaki also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">That is, <1> a crystalline polymer film made of a polymer having crystallinity and containing therein long cavities with their longitudinal directions oriented in a first direction, wherein in a cross section of the crystalline polymer film perpendicular to the orientation direction of the cavities, a distance h(i) from the center of each of the 10 cavities to the surface of the crystalline polymer film that has the shortest distance from the center of the cavity to the surface of the crystalline polymer film is calculated, and an arithmetic average value h(avg) of the calculated distances h(i) satisfies the following equation: $h(\text{avg}) > T/100$; [wherein T represents the arithmetic average value of the thickness in the cross section, and the 10 cavities are selected from cavities present in a region sandwiched between any one straight line parallel to the thickness direction and another straight line that is parallel to the one straight line and located $20 \times T$ away from the one straight line.</p> <p style="padding-left: 40px;">and a heat-shrinkable synthetic resin film.</p> <p style="padding-left: 40px;"><2> The light-shielding shrink film according to <1>, wherein the difference in thermal shrinkage rate between the heat-shrinkable synthetic resin film and the crystalline polymer film is 5% or less.</p> <p>[0007].</p> <p>Further, the shrink label disclosed in Sasaki includes the same materials as the label recited in claim 9 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) and because the composition of the shrink label of Sasaki is the same as that of the "shrink label" of claim 9 of the '422 Patent, Sasaki discloses each and every limitation of claim 9 of the '422 Patent, including the function, property, or characteristic (i.e., the contraction of the shrink label when heated to 100°C by about 1% to about 90%) of the "shrink label" of claim 9 of the '422 Patent.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 9	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 10	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Sasaki discloses the "recyclable shrink label according to claim 3." <i>See above, [1.pre]-[1.f], [3].</i></p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 3," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above, [1.pre]-[1.f] and [3].</i></p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 10	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 11	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.</p>	<p>Sasaki discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 12	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Sasaki discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Sasaki discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 13	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[14.pre] An article comprising:</p>	<p>To the extent the preamble of claim 14 is found to be limiting, Sasaki discloses an "article."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">(5) Evaluation of packaging properties The light-blocking shrink films of Examples 1 to 6 and Comparative Examples 1 to 3 were wrapped around a glass tube having a diameter of 10 cm and bonded with an adhesive, and then placed in an oven at 100° C. for 30 minutes. After that, the temperature was lowered to room temperature and the tubes were removed. Each sample was then taken out and its packaging properties were evaluated.</p> <p>[0093].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 14	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Sasaki discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Sasaki discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f].</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">(5) Evaluation of packaging properties The light-blocking shrink films of Examples 1 to 6 and Comparative Examples 1 to 3 were wrapped around a glass tube having a diameter of 10 cm and bonded with an adhesive, and then placed in an oven at 100° C. for 30 minutes. After that, the temperature was lowered to room temperature and the tubes were removed. Each sample was then taken out and its packaging properties were evaluated.</p> <p>[0093].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label of claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 14	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 15	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.</p>	<p>Sasaki discloses the "article according to claim 14." See above, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "article according to claim 14," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the first surface of the heat shrink film faces the external surface of the container." For example, Sasaki discloses:</p> <p style="padding-left: 40px;">(5) Evaluation of packaging properties The light-blocking shrink films of Examples 1 to 6 and Comparative Examples 1 to 3 were wrapped around a glass tube having a diameter of 10 cm and bonded with an adhesive, and then placed in an oven at 100° C. for 30 minutes. After that, the temperature was lowered to room temperature and the tubes were removed. Each sample was then taken out and its packaging properties were evaluated.</p> <p>[0093].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 16	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Sasaki discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 2," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "an indicia layer is disposed on the first surface" For example:</p> <p style="padding-left: 40px;">The surface of the heat-shrinkable synthetic resin film may be subjected to a conventional surface treatment such as corona discharge treatment, plasma treatment, flame treatment or acid treatment in order to improve printability.</p> <p>[0012].</p>

CLAIM 17	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Sasaki discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 8," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 17	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 18	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Sasaki discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Sasaki does not expressly disclose the "recyclable shrink label according to claim 1," Sasaki renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Sasaki further discloses:</p> <p style="padding-left: 40px;"><Crystalline Polymer Film> The crystalline polymer film is not particularly limited as long as it is made of a crystalline polymer and contains internal cavities, and can be appropriately selected depending on the purpose. However, when laminated with the heat-shrinkable synthetic resin film to form a light-shielding shrink film, in order to prevent peeling or wrinkles, it is preferable that the difference in heat shrinkage rate between the heat-shrinkable synthetic resin film and the crystalline polymer film is 5% or less, and in order to impart light-shielding properties to the laminated light-shielding shrink film, it is preferable that the transmittance for light of a wavelength selected from the wavelengths of 300 nm to 780 nm is 5% or less.</p> <p>[0013].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 18	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p><Polymers having crystallinity> Generally, polymers are divided into polymers having crystallinity and non-crystalline (amorphous) polymers. However, even polymers having crystallinity are not 100% crystalline, and contain crystalline regions in which long chain-like molecules are regularly arranged in the molecular structure, and non-crystalline (amorphous) regions in which they are not regularly arranged.</p> <p>Therefore, the crystalline polymer in the light-blocking shrink film of the present invention is sufficient if it contains at least the crystalline region in its molecular structure, and may contain a mixture of crystalline and non-crystalline regions.</p> <p>[0014].</p> <p>The crystalline polymer is not particularly limited and can be appropriately selected depending on the purpose. Examples of the crystalline polymer include polyolefins (e.g., low-density polyethylene, high-density polyethylene, polypropylene, etc.), polyamides (PA) (e.g., nylon-6, etc.), polyacetals (POM), polyesters (e.g., PET, PEN, PTT, PBT, PPT, PHT, PBN, PES, PBS, etc.), syndiotactic polystyrene (SPS), polyphenylene sulfides (PPS), polyether ether ketones (PEEK), liquid crystal polymers (LCP), fluororesins, and isotactic polypropylene (isoPP).</p> <p>[0015].</p>

CLAIM 19	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
<p>[19.pre] A recyclable shrink label comprising:</p>	<p>To the extent the preamble of claim 19 is found to be limiting, Sasaki discloses a "recyclable shrink label."</p> <p>For example, Sasaki discloses:</p> <p style="padding-left: 40px;">The present invention aims to solve the above-mentioned conventional problems and to achieve the following objects.</p> <p style="padding-left: 40px;">That is, an object of the present invention is to provide a light-shielding shrink film which has light-shielding and heat-insulating properties, has a simple structure, and can be easily recycled.</p> <p>[0005].</p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 19	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Sasaki discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above, [1.a].</i>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Sasaki discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above, [1.b].</i>
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Sasaki discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above, [1.c].</i>
[19.d] a high opacity layer comprising a white pigment,	Sasaki discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Sasaki discloses "wherein the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i></p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 20 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Japanese Patent Publication No. JP 2009214535 ("Sasaki")

CLAIM 19	
'422 Patent Claim Limitation	Sasaki Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent No. 5,395,681 ("Hargarter"), which was filed on December 16, 1993, and issued on February 23, 1995, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Hargarter invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 1	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Hargarter discloses a "recyclable label."</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">The essential inventive thinking comprises tailoring a TPU film which combines in ideal manner a high degree of softness, light-shielding and welding properties strength and puncture resistance for use as described and with a view to being mechanically recyclable simply and with the greatest possible versatility.</p> <p>4:21-26.</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Hargarter discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.b] the heat shrink film having a thickness from 15 μm to 100 μm ; and	<p>Hargarter discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">The total thickness of the film according to the invention is between 30 and 300 μm, preferably, however, between 80 and 200 μm. The thickness of the individual layers is from 15 to 285 μm, preferably from 30 to 170 μm.</p> <p>5:62-66.</p>

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CLAIM 1	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Hargarter discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">For, depending on the thickness of the film, the addition of 0.5 to 2% of carbon black would, for example, impart to the film an obscuring black coloration.</p> <p>5:15-17.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
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CLAIM 1	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Hargarter discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Hargarter discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">At least one layer of the TPU film according to the invention contains at least one light-shielding material. This includes all substances which impede the passage of light of wavelengths causing unwelcome exposure of the photosensitive material through the layer, and are dispersible in the thermoplastic melt. Examples of these are colouring pigments such as carbon black, iron oxide or titanium dioxide, fillers such as talcum, calcium carbonate or metal particles and dyes such as phthalocyanine or cobalt blue.</p> <p>4:40-49.</p>

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CLAIM 1	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Hargarter discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
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CLAIM 2	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Hargarter discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label of claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "an indicia layer."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 3	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Hargarter discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>Hargarter discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label of claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">A white pigment, such as for example titanium dioxide, is preferably utilised for the purpose in a proportion by weight which ranges from 0.5 to 15%, preferably from 2 to 10%, based on the layer.</p> <p>5:5-8.</p>

CLAIM 4	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	<p>Hargarter discloses the "recyclable shrink label of claim 3." See above, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label of claim 3," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer."</p>

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CLAIM 4	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 5	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).</p>	<p>Hargarter discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label of claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p>

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CLAIM 5	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 6	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">As seen in FIG. 2 a material 4 is enclosed in the package 1 formed of three film strips 2, 3 and 5 bonded at their edges.</p> <p>6:57-59.</p> <p><i>See also, e.g., Fig. 2.</i></p>

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CLAIM 7	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Hargarter discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 6," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">As seen in FIG. 2 a material 4 is enclosed in the package 1 formed of three film strips 2, 3 and 5 bonded at their edges.</p> <p>6:57-59.</p> <p><i>See also, e.g., Fig. 2.</i></p>

CLAIM 8	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Hargarter discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%."</p>

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CLAIM 8	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 9	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%."</p>

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CLAIM 9	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 10	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 3," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.0]-[1.7] and [3]. For example:</p> <p style="padding-left: 40px;">A white pigment, such as for example titanium dioxide, is preferably utilised for the purpose in a proportion by weight which ranges from 0.5 to 15%, preferably from 2 to 10%, based on the layer.</p> <p>5:5-8.</p>

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CLAIM 11	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Hargarter discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses “the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.” For example:</p> <p style="padding-left: 40px;">One layer was provided with 5% carbon black having an average particle size of 10 nm, and the other with 6% titanium dioxide as a colouring pigment.</p> <p>7:3-7.</p>

CLAIM 12	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Hargarter discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p>

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Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 12	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

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CLAIM 13	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Hargarter discloses an "article."</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">As seen in FIG. 2 a material 4 is enclosed in the package 1 formed of three film strips 2, 3 and 5 bonded at their edges.</p> <p>6:57-59.</p> <p><i>See also, e.g.,</i> Figs. 1 and 2.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 14	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Hargarter discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Hargarter discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label of claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 15	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Hargarter discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "article according to claim 14," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the first surface of the heat shrink film faces the external surface of the container." For example, Hargarter discloses:</p> <p style="padding-left: 40px;">As seen in FIG. 2 a material 4 is enclosed in the package 1 formed of three film strips 2, 3 and 5 bonded at their edges.</p> <p>6:57-59.</p> <p><i>See also, e.g.</i>, Figs. 1 and 2.</p>

CLAIM 16	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Hargarter discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 2," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the indicia layer is disposed on the first surface."</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 16	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 17	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 8." <i>See</i> above, [1.pre]-[1.f], [8].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 8," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See</i> above, [9].</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 17	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 18	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Hargarter discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>To the extent it is found that Hargarter does not expressly disclose the "recyclable shrink label according to claim 1," Hargarter renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Hargarter also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)."</p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 18	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 19	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 19 is found to be limiting, Hargarter discloses a "recyclable label." <i>See above</i>, [1.pre].</p> <p>For example, Hargarter discloses:</p> <p style="padding-left: 40px;">The essential inventive thinking comprises tailoring a TPU film which combines in ideal manner a high degree of softness, light-shielding and welding properties strength and puncture resistance for use as described and with a view to being mechanically recyclable simply and with the greatest possible versatility.</p> <p>4:21-26.</p>
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Hargarter discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i> , [1.a].
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm;	Hargarter discloses "the heat shrink film having a thickness from 15 μm to 100 μm." <i>See above</i> , [1.b].

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 19	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Hargarter discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.d] a high opacity layer comprising a white pigment,	Hargarter discloses "a high opacity layer comprising a white pigment." <i>See above</i> , [3].
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p>Hargarter discloses "the recyclable shrink label is recyclable with a PET container." <i>See above</i>, [1.f].</p> <p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See Office Action dated November 13, 2023, page 4, item 10; see also, e.g., Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</i></p>

Chart 21 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent No. 5,395,681 ("Hargarter")

CLAIM 19	
'422 Patent Claim Limitation	Hargarter Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following prior art reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters"), which was filed on April 6, 2021, and published on December 23, 2021, and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Peters invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendant understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 1	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Peters discloses a "recyclable shrink label."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">The shrink films of the present disclosure are advantageous because the label can be recycled with the bottles or containers. As such, the entire container or bottle, including the label, can be recycled and converted into new products without creating additional handling requirements or creating new environmental issues. The heat-shrinkable films have been made from a variety of raw materials to meet a range of material demands.</p> <p>[0005].</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Peters discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">One embodiment of the present disclosure is a crystallizable film comprising a polyester composition comprising: at least one polyester which comprises: (a) a dicarboxylic acid component comprising: (i) about 70 to about 100 mole % of terephthalic acid residues;</p> <p>[0011].</p> <p style="padding-left: 40px;">For all embodiments, the remainder of the diol component can comprise ethylene glycol residues in any amount based on the total mole % of the diol component being 100 mole %. In one embodiment, the polyester portion of the polyester compositions useful in the present disclosure can contain 50 mole % or greater, or 55 mole % or greater, or 60 mole % or greater, or 65 mole % or greater, or 70 mole % or greater, or 75 mole % or greater, or 80 mole % or greater, or 85 mole % or greater, or 90 mole % or greater, or 95 mole % or greater, or from 50 to 85 mole %, or from 50 to 80 mole %, or from 55 to 80 mole %, or from 60 to 80 mole %, or from 50 to 75 mole %, or from 55 to 75 mole %, or from 60 to 75 mole %, or from 65 to 75 mole %, or from 70 to 80 mole %, or from 75 to 85 mole % of ethylene glycol residues, based on the total mole % of the diol component being 100 mole %.</p> <p>[0044].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 1	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
<p>[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and</p>	<p>Peters discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">The oriented films or shrinkable films of the present disclosure can be made from films having any thickness depending on the desired end-use.</p> <p>[0069].</p> <p style="padding-left: 40px;">In one embodiment, the monoaxially and biaxially oriented films of the present disclosure can be made from films having a thickness of about 100 to 400 microns, for example, extruded, cast or calendered films, which can be stretched at a ratio of 6.5:1 to 3:1 at a temperature of from the Tg of the film to the Tg+55° C., and which can be stretched to a thickness of 20 to 80 microns.</p> <p>[0070].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 1	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	<p>Peters discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm ,	<p>Peters discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 1	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Peters discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Peters discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">It has been found that certain combinations of glycol monomers in a shrink film resin composition can produce a film with good shrink film performance and also be crystallizable such that it does not impact the recycling of the accompanying PET flake during recycling. These crystallizable shrink film resins can be processed with the PET bottle and end up as a component in the recyclable PET flake leaving the recycling process. It has also been found that the choice and quantity of specific combinations of glycol monomers are important to produce films with good shrink film properties and to produce a film that is crystallizable. The optimized polyester resin compositions of this disclosure are amorphous but crystallizable. As such, they exhibit good properties in film application including as shrink films, but they have high strain induced crystalline melting points, so they provide compatibility in recycling processes. The shrink film labels of the present disclosure do not have to be removed during the recycle process, and they do not impact the process.</p> <p>[0004].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 2	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	<p>Peters discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label of claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The desirable conditions are, in one embodiment, where the oriented films and/or shrinkable films can be printed with ink for applications including labels, photo films which can be adhered to substrates such as paper, and/or other applications that it may be useful in or shrunk to encompass the outside of a bottle or container.</p> <p>[0069].</p>

CLAIM 3	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	<p>Peters discloses the "recyclable shrink label of claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label of claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "a high opacity layer comprising a white pigment."</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 3	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 4	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.</p>	<p>Peters discloses the "recyclable shrink label of claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label of claim 3," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">The desirable conditions are, in one embodiment, where the oriented films and/or shrinkable films can be printed with ink for applications including labels, photo films which can be adhered to substrates such as paper, and/or other applications that it may be useful in or shrunk to encompass the outside of a bottle or container.</p> <p>[0069].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 5	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	<p>Peters discloses the "recyclable shrink label of claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label of claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." See above, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 6	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	<p>Peters discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example:</p> <p style="padding-left: 40px;">In certain embodiments of the present disclosure, the shrink films of this disclosure can be formed into a label or sleeve. The label or sleeve can then be applied to an article of manufacture, such as, the wall of a container, battery, or onto a sheet or film.</p> <p>[0088].</p>

CLAIM 7	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Peters discloses the "recyclable shrink label according to claim 6." <i>See above, [1.pre]-[1.f], [6].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 6," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">Films formed into a tube may use a seaming solvent or a seaming adhesive to bond or hold the edges of the film together during shrinking. In order to produce the shrink films useful in the present disclosure, the polyester is first formed into a flat film and then is "uniaxially stretched",</p> <p>[0084].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 8	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Peters discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Table 1 discloses Examples 1-4 having ultimate shrinkage at 95° C of 24%, 73%, 79%, and 80%</p> <p>Table 1.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 9	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.	<p>Peters discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Table 1 discloses Examples 1-4 having ultimate shrinkage at 95° C of 24%, 73%, 79%, and 80%</p> <p>Table 1.</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 10	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.</p>	<p>Peters discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 3," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 11	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Peters discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above, [1.e].</i></p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 12	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	<p>Peters discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label."</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 12	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 13	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Peters discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component."</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 13	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 14	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Peters discloses an "article."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">In certain embodiments of the present disclosure, the shrink films of this disclosure can be formed into a label or sleeve. The label or sleeve can then be applied to an article of manufacture, such as, the wall of a container, battery, or onto a sheet or film.</p> <p>[0088].</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Peters discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">In certain embodiments of the present disclosure, the shrink films of this disclosure can be formed into a label or sleeve. The label or sleeve can then be applied to an article of manufacture, such as, the wall of a container, battery, or onto a sheet or film.</p> <p>[0088].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 14	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Peters also discloses "the recyclable shrink label disposed on the container." For example:</p> <p style="padding-left: 40px;">In certain embodiments of the present disclosure, the shrink films of this disclosure can be formed into a label or sleeve. The label or sleeve can then be applied to an article of manufacture, such as, the wall of a container, battery, or onto a sheet or film.</p> <p>[0088].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label of claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 14	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 15	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.</p>	<p>Peters also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">In certain embodiments of the present disclosure, the shrink films of this disclosure can be formed into a label or sleeve. The label or sleeve can then be applied to an article of manufacture, such as, the wall of a container, battery, or onto a sheet or film.</p> <p>[0088].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 16	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Peters discloses the "recyclable shrink label according to claim 2." <i>See above, [1.pre]-[1.f], [2].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 2," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "an indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The desirable conditions are, in one embodiment, where the oriented films and/or shrinkable films can be printed with ink for applications including labels, photo films which can be adhered to substrates such as paper, and/or other applications that it may be useful in or shrunk to encompass the outside of a bottle or container.</p> <p>[0069].</p>

CLAIM 17	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Peters discloses the "recyclable shrink label according to claim 8." <i>See above, [1.pre]-[1.f], [8].</i></p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 8," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above, [9].</i></p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 17	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 18	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).</p>	<p>Peters discloses the "recyclable shrink label according to claim 1." See above, [1.pre]-[1.f].</p> <p>To the extent it is found that Peters does not expressly disclose the "recyclable shrink label according to claim 1," Peters renders it obvious in combination with other prior art identified in the cover pleading, including Kitano, Schurr, Tsuchida, Matsunaga, Keulders, and/or Sugimori, and/or in combination with the knowledge of a POSITA.</p> <p>Peters also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)."</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 18	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
	<p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

CLAIM 19	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
<p>[19.pre] A recyclable shrink label comprising:</p>	<p>To the extent the preamble of claim 19 is found to be limiting, Peters discloses a "recyclable shrink label." See above, [1.pre].</p> <p>For example, Peters discloses:</p> <p style="padding-left: 40px;">The shrink films of the present disclosure are advantageous because the label can be recycled with the bottles or containers. As such, the entire container or bottle, including the label, can be recycled and converted into new products without creating additional handling requirements or creating new environmental issues. The heat-shrinkable films have been made from a variety of raw materials to meet a range of material demands.</p> <p>[0005].</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 19	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Peters discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See above</i>, [1.a].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>
[19.b] the heat shrink film having a thickness from 15 μm to 100 μm ;	Peters discloses "the heat shrink film having a thickness from 15 μm to 100 μm ." <i>See above</i> , [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p>Peters discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See above</i>, [1.c].</p> <p>In the alternative, this limitation would have been common sense to include to one skilled in the art or would have been obvious to include in view of the knowledge of one skilled in the art or the state of the art as shown in the disclosures of the prior art references discussed in other claim charts or otherwise disclosed or produced herewith. Moreover, one of ordinary skill in the art would have been motivated to combine this reference with one or more of the other prior art references disclosed or produced herewith at least because the combination is according to known methods that yield predictable results; the combination is a substitution of one known element for another to obtain predictable results; it would have been "obvious to try"—i.e., a choice from a finite number of identified, predictable solutions, with a reasonable expectation of success; or known work in the field of light blocking heat shrink film would have promoted variations of it for use in the field based on design incentives and the variations are predictable to one of ordinary skill in the art.</p>

Chart 22 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: U.S. Patent Application Publication No. 2021/0394468 ("Peters")

CLAIM 19	
'422 Patent Claim Limitation	Peters Exemplary Disclosure
[19.d] a high opacity layer comprising a white pigment,	Peters discloses "a high opacity layer comprising a white pigment." <i>See above, [3].</i>
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Peters discloses "wherein the recyclable shrink label is recyclable with a PET container." <i>See above, [1.f].</i>

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the following non-patent literature: *The UV-Screening Properties of Coating Layers: The Influence of Pigments, Binders and Additives*, published on May 1, 2009, authored by Helena Fjellström, Hans Höglund, and Sven Forsberg, and published in the Nordic Pulp and Paper Research Journal Vol 24 no. 2 (2009) ("Nordic Pulp"), and therefore qualifies as prior art to the '422 Patent under AIA 35 U.S.C. § 102. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Nordic Pulp discloses features recited in claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that Nordic Pulp does not expressly disclose certain limitations in the Asserted Claims, Nordic Pulp renders obvious the Asserted Claims, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendant understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 1	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	
[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,	
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Nordic Pulp discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Nordic Pulp discloses:</p> <p style="padding-left: 40px;">D50s of 0.45 microns to 1.5 microns.</p> <p>Table 1.</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 2	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	

CLAIM 3	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	

CLAIM 4	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	

CLAIM 5	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422

Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 6

'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	

CLAIM 7

'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	

CLAIM 8

'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	

CLAIM 9

'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422

Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 10	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	

CLAIM 11	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	

CLAIM 12	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422

Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 13	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	

CLAIM 14	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[14.pre] An article comprising:	
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	
[14.b] the recyclable shrink label of claim 1 disposed on the container.	

CLAIM 15	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	

CLAIM 16	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 17	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	

CLAIM 18	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	

CLAIM 19	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable	

Chart 23 – Invalidity Claim Charts for U.S. Patent No. 11,961,422

Non-Patent Literature: Nordic Pulp and Paper Research Journal Vol 24 No. 2, Helena Fjellström, Hans Höglund, Sven Forsberg (2009)
("Nordic Pulp")

CLAIM 19	
'422 Patent Claim Limitation	Nordic Pulp Exemplary Disclosure
shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	
[19.d] a high opacity layer comprising a white pigment,	
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart provides Defendants' invalidity contentions based on 35 U.S.C. § 112, including grounds for invalidity based on indefiniteness, lack of enablement, and lack of written description. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[1.pre] A recyclable shrink label comprising:	
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p><u>a heat shrink film comprising polyethylene terephthalate (PET)</u></p> <p>The use of the identified term causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the claim term read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified term also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: The specification indicates the heat shrink film comprises PET and is recyclable with PET containers, suggesting that PET used in combination with other polymers within the heat shrink film is recyclable. But nowhere in the specification or prosecution history would a skilled artisan find guidance on what portion or percentage of the heat shrink film must be PET in combination with a non-PET polymer to allow the heat shrink film to be recyclable with a PET container. In other words, there are no objective guideposts to inform a skilled artisan as to the boundaries between films that do and do not have sufficient PET content to maintain recyclability with the PET container.</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>Regarding enablement: A skilled artisan would need to undergo undue experimentation to practice the full scope of the claimed invention. The specification provides no examples where the heat shrink film combines PET with non-PET polymers. Given the well-known difficulties in recycling polymer blends while maintaining PET recyclability (as evidenced by the disclosed challenges in recycling stream contamination), and the complete absence of guidance on suitable polymer combinations or ratios, a skilled artisan would need to engage in undue experimentation at least to: (1) determine which polymer combinations maintain recyclability with PET containers; (2) identify compositions that preserve required shrink properties; and (3) establish appropriate processing conditions. The specification provides no direction regarding the minimum PET content needed, no working examples of recyclable polymer blends, and no guidance for overcoming the challenges of recycling mixed polymer systems. This lack of enablement is particularly problematic given the breadth of the claims (encompassing any amount of PET) and the unpredictability in the art regarding polymer blend recyclability.</p> <p>Regarding written description: Although the claim encompasses any film "comprising PET," the specification only describes pure PET compositions or specific PET formulations. The specification lacks any description of mixed polymer compositions that would maintain the claimed properties, any discussion of what PET percentages or combinations would work, or any disclosure of how to make and use the broad range of claimed compositions while maintaining recyclability. And the disclosure does not include any working examples of PET combined with other polymers. The specification thus fails to demonstrate that the inventors were in possession of the full scope of films "comprising PET" that would accomplish the claimed functionality.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>
[1.b] the heat shrink film having a thickness from 15 µm to 100 µm; and	

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p><u>the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light</u></p> <p>The use of the identified term causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>Support for the foregoing contentions:</p> <p>Regarding enablement: The specification fails to enable achieving the claimed light blocking functionality across the full range of materials and particle sizes, particularly given the known challenges of obtaining high light blocking percentages with particles smaller than the wavelength of incident light. The disclosure provides no working examples demonstrating 80% blocking across all claimed wavelengths with particles at the smaller end of the range, no guidance for optimizing particle size distributions to achieve the claimed functionality, and no direction regarding overcoming fundamental optical limitations. A skilled artisan would need to conduct undue experimentation at least to identify working combinations that achieve this precise quantitative threshold across the broad scope of claimed materials and particle sizes.</p> <p>Regarding written description: The specification lacks sufficient disclosure demonstrating possession of compositions achieving 80% blocking across the entire claimed wavelength range, particularly in combination with the broad range of particle sizes claimed. The specification provides no examples showing successful achievement of this precise quantitative threshold across different particle size distributions, no discussion of how blocking effectiveness varies with particle size, and no description of compensatory formulation adjustments needed when using different particle sizes or combinations. The few examples provided represent only a small subset of the claimed scope and fail to</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	demonstrate possession of compositions achieving 80% blocking across the full range of claimed particle sizes, materials, and wavelengths.
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p><u>particulate having a particle size of 0.1 µm to 100 µm</u></p> <p>The use of the identified term causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the claim term read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified term also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: Although the patent discloses particle size can be measured by laser diffraction, nowhere in the specification or prosecution history would a skilled artisan find guidance on critical measurement parameters necessary to determine whether a particulate meets the claimed size range. For example, the intrinsic evidence fails to specify: (1) how particle size should be measured for irregular or non-spherical particles that may not have a well-defined diameter; and (2) what specific measurement conditions (e.g., laser wavelength, refractive index assumptions, suspension medium, etc.) and equipment parameters must be used to obtain the measurement. Because different measurement approaches would yield materially different results depending on these variables, a skilled artisan cannot determine with reasonable certainty whether a given particulate population falls within the claimed size range. Industry standard particle size measurement techniques (e.g., ISO 13320 and ASTM B822) specify multiple parameters that must be defined to obtain reproducible results; the specification's silence on these parameters creates</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>uncertainty about whether a given material meets the claims, particularly for non-spherical particles where different measurement approaches would yield different results.</p> <p>Regarding enablement: The specification fails to enable the full scope of the claimed size range while maintaining the required light blocking functionality. The specification provides no guidance for achieving 80% blocking across the full particle size range, no working examples demonstrating successful blocking with particles at the lower range (including particles smaller than the wavelength of visible light), and no direction regarding how to overcome these fundamental physical limitations. The quantity of experimentation needed to identify working combinations across the full scope would be undue, particularly given: (1) the contradiction with known scientific principles at the lower size range; (2) the breadth of the claimed range; and (3) the lack of direction or working examples in the specification.</p> <p>Regarding written description: The specification lacks adequate written description support particularly at the extremes of the claimed size range. The specification lacks data showing particles in the lower range (particularly 0.1-0.2 microns) can achieve the claimed 80% light blocking functionality. The specification provides no discussion of the relationship between particle size and blocking performance, no working examples demonstrating effective light blocking in the lower size range, and no guidance on how to achieve the claimed light blocking across the full claimed particle size range. The disclosure contains no examples showing actual achievement of 80% blocking across different particle size distributions, especially at the size extremes. There is no description of necessary formulation adjustments needed when using different particle sizes to maintain blocking performance. The specification describes only a limited number of specific embodiments that achieve the claimed functionality, which are insufficient to support the full scope of the genus claimed—ranging from nanoparticles to much larger particles, alone or in combination, across diverse materials. The specification thus fails to demonstrate that the inventors were in possession of compositions achieving the claimed functionality across the full claimed particle size range. This gap between the broad genus claimed and the</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>limited species disclosed is particularly problematic given the critical nature of particle size to the claimed light blocking functionality.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>
<p>[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and</p>	<p><u>wherein the light blocking component comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof</u></p> <p>The use of the identified phrase fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified phrase also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding enablement: A skilled artisan would need to undergo undue experimentation to practice the full scope of the claimed invention. The specification fails to enable compositions using the full range of claimed materials while maintaining both light blocking and recyclability functions. Metals and pigments are known by skilled artisans to prevent or significantly reduce recyclability of PET materials. The specification provides no guidance for overcoming this known incompatibility, no working examples demonstrating successful recycling across the range of claimed materials, and no direction regarding what concentrations or combinations of these materials maintain recyclability. Given the unpredictability in the art regarding PET recycling with metal/pigment contaminants, the breadth of materials claimed, and the absence of enabling disclosure, a skilled artisan would need to undergo undue experimentation at least to develop formulations that achieve both the claimed light blocking and maintain recyclability. Indeed, the inventors provide minimal guidance, there are limited working examples, and extensive experimentation would be needed to determine working combinations. In fact, there are no</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>working examples describing the identity of usable light blocking components with particularity. Rather, the patent's listed examples vaguely refer to the light blocking component as "a metallic particulate exhibiting a bronze color" or "a metallic light blocking component having a gray or silver appearance." See col. 23, lines 33-34 and col. 25, lines 52-54.</p> <p>Regarding written description: Although the claim encompasses any combination of the listed materials in any amount, the specification lacks data showing all claimed materials or combinations achieve the required 80% light blocking while maintaining recyclability. The specification provides no discussion of required concentrations or combinations for different materials to achieve the claimed functionality, no working examples for many claimed material options, and no guidance on how to achieve the claimed light blocking across the full scope of claimed materials and combinations. The specification thus fails to demonstrate that the inventors were in possession of the full scope of compositions using the claimed materials that would maintain both light blocking and recyclability functions.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p><u>wherein the recyclable shrink label is recyclable with a PET container</u></p> <p>The use of the identified phrase causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the phrase read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified phrase also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified phrase also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: Although the specification discusses recyclability in terms of caustic wash separation, nowhere in the specification or prosecution history would a skilled artisan find objective criteria for determining what qualifies as "recyclable with a PET container." For example, the specification and prosecution history fail to disclose: (1) what separation efficiency must be achieved during the caustic wash process for compatibility with PET recycling streams; (2) what levels of contamination are acceptable after recycling; (3) what specific recycling process parameters (e.g., temperature, time, caustic concentration) must be used; and (4) whether and to what extent the film properties must be maintained after recycling. The specification provides no quantitative metrics, standardized test methods, or recognized industry guidelines for evaluating recyclability with a PET container. Without such objective boundaries, a skilled artisan cannot determine with reasonable certainty whether a given shrink label meets the recyclability limitation. Furthermore, the identified phrase fails to disclose whether the recited PET container consists of or merely comprises PET or to what extent the container may include other compositions and still be recyclable with the label.</p> <p>Regarding enablement: The specification fails to enable the full scope of recyclable compositions claimed. This is particularly problematic because: (1) the composition claims encompass broad ranges of materials known to interfere with PET recycling, including metals, metal oxides, and various pigments; (2) the specification lacks working examples demonstrating recyclability across the claimed combinations; and (3) pigments and metals have been known by skilled artisans to prevent or reduce the possibility of recyclability in PET streams. The specification provides no guidance for overcoming these known incompatibilities or direction regarding how to achieve recyclability while maintaining the claimed light blocking functionality. Indeed, the art is unpredictable (especially regarding recycling mixed materials), the claims are extremely broad, the inventor provides minimal guidance, working examples are limited, and extensive experimentation would be needed to determine viable compositions. The claims encompass combinations of any amount of various</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 1	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>metals, pigments and other materials known by skilled artisans to interfere with PET recycling processes. The specification provides no guidance for overcoming these known technical incompatibilities. As required under <i>Amgen v. Sanofi</i>, the specification lacks adequate disclosure demonstrating that the full claimed scope of materials and combinations would function as "recyclable with a PET container."</p> <p>Regarding written description: Although the claim encompasses recyclability for all claimed compositions and combinations, the specification lacks description of what makes various combinations recyclable with PET containers. The specification provides no data showing recyclability works across the claimed ranges of materials and combinations, no discussion of compositional limits or requirements for maintaining recyclability, and no guidance on how to achieve recyclability across the full scope of claimed compositions. The specification also fails to demonstrate what portion of PET versus non-PET polymers maintains recyclability. The specification thus fails to demonstrate that the inventors were in possession of the full scope of recyclable compositions covered by the claims.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>

CLAIM 2	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[2] The recyclable shrink label of claim 1 further comprising an indicia layer.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 3	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 4	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 5	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 6	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 7	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 8	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 9	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 10	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 11	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 12	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.</p> <p><u>light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label</u></p> <p>Moreover, the use of the identified term causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the claim term read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified term also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: The specification only describes ppr measurements for inks and coatings containing light blocking components, but claim 12 more broadly claims the entire "light blocking layer" relative to the label. Additionally, while the specification defines "ppr" as "pounds per ream" for measuring "dry pounds of ink or coating per area of substrate," claim 12 instead recites the ppr amount for the layer is "relative to the recyclable shrink label." A skilled artisan would not understand with reasonable certainty at least: (1) how to measure or calculate a ppr value for an entire light blocking layer (which may contain additional materials beyond the light blocking component) when the specification only describes measuring ppr for inks/coatings; or (2) how to determine ppr values "relative to the recyclable shrink label" rather than per area</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 12	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>of substrate as defined. The specification lacks any explanation of either measurement methodology, any working examples showing such measurements, or any disclosure explaining how to determine whether a product falls within the claimed range. A skilled artisan thus cannot determine with reasonable certainty whether a given product falls within the scope of the claims.</p> <p>Regarding enablement: A skilled artisan would need to undergo undue experimentation to practice the full scope of the claimed invention. For example, the specification provides no guidance for: (1) how to formulate and measure ppr values for entire light blocking layers rather than just the inks/coatings containing light blocking components; or (2) how to determine ppr measurements relative to the entire label rather than per area of substrate. Given the complete absence of direction regarding either aspect, a skilled artisan would need to engage in undue experimentation at least to: (1) determine what additional materials could be included in the light blocking layer while maintaining the claimed ppr range; (2) develop methods for measuring ppr of entire layers rather than just inks/coatings; and (3) establish methodology for measuring ppr relative to the whole label rather than per area. This lack of enablement is particularly problematic given the unpredictability in measuring properties of multi-component layers and the specification's silence on both key aspects of the claimed measurement.</p> <p>Regarding written description: The specification only describes ppr measurements for inks and coatings containing light blocking components, not for entire light blocking layers that may contain additional materials. Additionally, the specification only describes ppr measurements per area of substrate, not relative to the entire label structure. The specification lacks any description of how to measure or achieve the claimed ppr values for whole layers rather than just inks/coatings, any working examples showing ppr measurements for entire layers, any disclosure of measuring ppr relative to the whole label, or any examples demonstrating such measurements relative to the label. The specification thus fails to demonstrate that the inventors were in possession of</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 12	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>the claimed measurement methodology, which differs in at least two aspects from the described ppr measurements.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>

CLAIM 13	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.</p> <p><u>light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component</u></p> <p>Moreover, the use of the identified term causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the claim term read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified term also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: The claim is logically impossible. The claim recites that "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 13	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>blocking component," but ppr is defined in the specification as a measurement of weight per area (pounds per ream). It is illogical for a layer to "comprise" a certain weight-per-area of one of its components. The specification defines "ppr" as "pounds per ream" for measuring "dry pounds of ink or coating per area of substrate," but provides no guidance on how this area-based measurement unit could logically be used to express how much of a component is present within a layer. Even if this logical contradiction could somehow be resolved, a skilled artisan would not understand with reasonable certainty how to measure or calculate a ppr value for just the light blocking component within a layer that may contain additional materials. The specification lacks any explanation of how to measure or isolate the ppr contribution of the light blocking component alone, any working examples showing such measurements, or any disclosure explaining how to determine whether a product falls within the claimed range. A skilled artisan thus cannot determine with reasonable certainty whether a given product falls within the scope of the claims.</p> <p>Regarding enablement: A skilled artisan would need to undergo undue experimentation to practice the full scope of the claimed invention. First, the specification provides no guidance for how to resolve the logical impossibility identified above. Beyond this fundamental problem, the specification provides no guidance for measuring or formulating layers to achieve specific ppr values of just the light blocking component within a layer containing other materials. Given these issues and the complete absence of direction regarding measuring individual component contributions to ppr values, a skilled artisan would need to engage in undue experimentation at least to: (1) determine how to use a weight-per-area measurement to express component composition within a layer; (2) develop methods for measuring ppr values of individual components within a layer; and (3) establish methodology for controlling and verifying the ppr contribution of just the light blocking component. This lack of enablement is particularly problematic given both the logical contradiction in the claim and the unpredictability in measuring properties of individual components within multi-component layers.</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 13	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>Regarding written description: The specification fails to demonstrate possession of the logical impossibility identified above. Additionally, the specification only describes ppr measurements for entire inks and coatings, not for individual components within a layer. The specification lacks any description of how to measure or achieve specific ppr values for just the light blocking component within a layer, any working examples showing such component-specific measurements, or any disclosure demonstrating possession of methods for determining ppr values of individual components within a layer. The specification thus fails to demonstrate that the inventors were in possession of the claimed measurement methodology or how to resolve the fundamental logical flaw in using ppr to express component composition.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>

CLAIM 14	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[14.pre] An article comprising:	
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	
[14.b] the recyclable shrink label of claim 1 disposed on the container.	This limitation recites a recyclable shrink label of claim 1 and, therefore, is understood to include the limitation of claim 1. Accordingly, for at least the reasons that claim 1 is invalid under § 112, this claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 15	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 16	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 17	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 18	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	Under 35 U.S.C. 112(e), a claim in dependent form is construed to incorporate by reference all the limitations of the claim to which it refers. Accordingly, for at least the reasons that the independent claim on which this dependent claim ultimately depends is invalid under § 112, this dependent claim is also invalid under § 112.

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
[19.pre] A recyclable shrink label comprising:	
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p><u>a heat shrink film comprising polyethylene terephthalate (PET)</u></p> <p>The use of the identified term causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the claim term read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified term also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding indefiniteness: The specification indicates the heat shrink film comprises PET and is recyclable with PET containers, suggesting that PET used in combination with other polymers within the heat shrink film is recyclable. But nowhere in the specification or prosecution history would a skilled artisan find guidance on what portion or percentage of the heat shrink film must be PET in combination with a non-PET polymer to allow the heat shrink film to be recyclable with a PET container. In other words, there are no objective</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>guideposts to inform a skilled artisan as to the boundaries between films that do and do not have sufficient PET content to maintain recyclability with the PET container.</p> <p>Regarding enablement: A skilled artisan would need to undergo undue experimentation to practice the full scope of the claimed invention. The specification provides no examples where the heat shrink film combines PET with non-PET polymers. Given the well-known difficulties in recycling polymer blends while maintaining PET recyclability (as evidenced by the disclosed challenges in recycling stream contamination), and the complete absence of guidance on suitable polymer combinations or ratios, a skilled artisan would need to engage in undue experimentation at least to: (1) determine which polymer combinations maintain recyclability with PET containers; (2) identify compositions that preserve required shrink properties; and (3) establish appropriate processing conditions. The specification provides no direction regarding the minimum PET content needed, no working examples of recyclable polymer blends, and no guidance for overcoming the challenges of recycling mixed polymer systems. This lack of enablement is particularly problematic given the breadth of the claims (encompassing any amount of PET) and the unpredictability in the art regarding polymer blend recyclability. The presence of both PET and a high opacity layer comprising white pigment further complicates the enablement challenge, as the specification provides no guidance on maintaining recyclability when combining PET with both light blocking and opacity additives. The interaction between these components would require additional experimentation to determine viable formulations that maintain both optical properties and recyclability.</p> <p>Regarding written description: Although the claim encompasses any film "comprising PET," the specification only describes pure PET compositions or specific PET formulations. The specification lacks any description of mixed polymer compositions that would maintain the claimed properties, any discussion of what PET percentages or combinations would work, or any disclosure of how to make and use the broad range of claimed compositions while maintaining recyclability. And the disclosure does not include any working</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>examples of PET combined with other polymers. The specification thus fails to demonstrate that the inventors were in possession of the full scope of films "comprising PET" that would accomplish the claimed functionality.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	<p><u>the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light</u></p> <p>The use of the identified term causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>The use of the identified term also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p> <p>Regarding enablement: The specification fails to enable achieving the claimed light blocking functionality across the full range of possible light blocking components and materials, particularly in combination with the high opacity layer comprising white pigment. The disclosure provides no working examples demonstrating 80% blocking across all claimed wavelengths with different combinations of light blocking components and white pigments, no guidance for optimizing formulations to achieve the claimed functionality, and no direction regarding potential interference effects between layers. A skilled artisan would need to conduct undue experimentation to identify working combinations that achieve this precise quantitative threshold while maintaining both the required opacity and recyclability.</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>Regarding written description: The specification lacks sufficient disclosure demonstrating possession of compositions achieving 80% blocking across the entire claimed wavelength range. The specification provides no examples showing successful achievement of this precise quantitative threshold across different light blocking component combinations and formulations, particularly in combination with the high opacity layer. The disclosure lacks discussion of how blocking effectiveness varies with different light blocking components and white pigments, and how to maintain the claimed functionality across different layer configurations. The few examples provided represent only a small subset of the claimed scope and fail to demonstrate possession of compositions achieving 80% blocking across the full range of possible materials and combinations.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>
[19.d] a high opacity layer comprising a white pigment,	
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	<p><u>wherein the recyclable shrink label is recyclable with a PET container</u></p> <p>The use of the identified phrase causes the claim to fail the definiteness requirement of 35 U.S.C. § 112(b) because the phrase read in context of the specification and prosecution history fails to inform a skilled artisan of the scope of the claim with reasonable certainty.</p> <p>The use of the identified phrase also fails to satisfy the enablement requirement of 35 U.S.C. § 112(a) because the patent disclosure fails to enable a skilled artisan to make and use the claimed invention without undue experimentation.</p> <p>The use of the identified phrase also causes the claim to lack proper written description support under 35 U.S.C. § 112(a) because the written description fails to demonstrate that the inventors were in possession of this limitation at the time of the invention.</p> <p>Support for the foregoing contentions includes, but is not limited to:</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>Regarding indefiniteness: Although the specification discusses recyclability in terms of caustic wash separation, nowhere in the specification or prosecution history would a skilled artisan find objective criteria for determining what qualifies as "recyclable with a PET container." For example, the specification and prosecution history fail to disclose: (1) what separation efficiency must be achieved during the caustic wash process for compatibility with PET recycling streams; (2) what levels of contamination are acceptable after recycling; (3) what specific recycling process parameters (e.g., temperature, time, caustic concentration) must be used; and (4) whether and to what extent the film properties must be maintained after recycling. The specification provides no quantitative metrics, standardized test methods, or recognized industry guidelines for evaluating recyclability with a PET container. Without such objective boundaries, a skilled artisan cannot determine with reasonable certainty whether a given shrink label meets the recyclability limitation. Furthermore, the identified phrase fails to disclose whether the recited PET container consists of or merely comprises PET or to what extent the container may include other compositions and still be recyclable with the label.</p> <p>Regarding enablement: The specification fails to enable the full scope of recyclable compositions claimed. This is particularly problematic because: (1) the composition claims encompass broad ranges of materials known to interfere with PET recycling, including metals, metal oxides, and various pigments; (2) the specification lacks working examples demonstrating recyclability across the claimed combinations; and (3) pigments and metals have been known by skilled artisans to prevent or reduce the possibility of recyclability in PET streams. The specification provides no guidance for overcoming these known incompatibilities or direction regarding how to achieve recyclability while maintaining the claimed light blocking functionality. Indeed, the art is unpredictable (especially regarding recycling mixed materials), the claims are extremely broad, the inventor provides minimal guidance, working examples are limited, and extensive experimentation would be needed to determine viable compositions. The claims encompass combinations of any amount of various metals, pigments and other materials known by skilled artisans to interfere with</p>

Chart 24 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Invalidity Based on 35 U.S.C. § 112

CLAIM 19	
'422 Patent Claim Limitation	Grounds for Invalidity Based on 35 U.S.C. § 112
	<p>PET recycling processes. The specification provides no guidance for overcoming these known technical incompatibilities. As required under <i>Amgen v. Sanofi</i>, the specification lacks adequate disclosure demonstrating that the full claimed scope of materials and combinations would function as "recyclable with a PET container."</p> <p>Regarding written description: Although the claim encompasses recyclability for all claimed compositions and combinations, the specification lacks description of what makes various combinations recyclable with PET containers. The specification provides no data showing recyclability works across the claimed ranges of materials and combinations, no discussion of compositional limits or requirements for maintaining recyclability, and no guidance on how to achieve recyclability across the full scope of claimed compositions. The specification also fails to demonstrate what portion of PET versus non-PET polymers maintains recyclability. The specification thus fails to demonstrate that the inventors were in possession of the full scope of recyclable compositions covered by the claims.</p> <p>Defendants may amend, supplement, or modify this contention based on further investigation and discovery.</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the prior art reference identified above, which, based on information and belief, was known, used, offered for sale, or sold in at least 2020, and therefore qualifies as prior art to the '422 Patent at least under AIA 35 U.S.C. § 102. To support the disclosure below, Defendants reference a Post Grant Review Petition filed January 16, 2025 by third party, Multi-Color Corporation ("MCC"), having a principal place of business at 6111 N. River Road, Rosemont, Illinois 60018. References are made throughout this disclosure to the Post Grant Review Petition and/or exhibits accompanying the Petition. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Gatorade invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

As used herein, reference is made to sample numbers and exhibits included with the January 16, 2025 Post Grant Review Petition filed by MCC. Sample numbers 3191157, 3191158, 3191167, 3191168, 3191171, and 3191176 refer to Gatorade labels, while sample number 3191115 refers to a Febreze label. Exhibits referenced herein include the Post Grant Review Petition ("Petition"), the Declaration of Craig Bushman ("Ex. 1013"), Vice President of MCC, and the Declaration of Dr. Michael Deible ("Ex. 1014"), an independent expert who tested the samples provided by MCC. The entirety of MCC's January 16, 2025 Post Grant Review Petition is incorporated by reference herein.

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Gatorade discloses a "recyclable shrink label."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">In connection with my analysis, I have considered that the Gatorade Label is an SKC Ecolabel™ sleeve label. Ex. 1013, at ¶47; Ex. 1016. And, the APR, the Association of Plastic Recyclers, has recognized this label as meeting or exceeding APR's Critical Guidance Protocol for Clear PET Articles with Labels and Closures Document requirements. Ex. 1013, at ¶47; Ex. 1018. The SKC Ecolabel™ has received APR Critical Guidance recognition. <i>Id.</i> In particular, a Review Committee, appointed per the APR Recognition Operating Procedures, reviewed an April 26, 2019 data submission and concluded the data were correctly obtained by a qualified laboratory and were completely presented to show the labels submitted meet or exceed all critical guidance. This supports my analysis and my conclusions.</p> <p>Ex. 1014, para. 78 (NUSA_0001675).</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Gatorade discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">To confirm that each sample is composed of PET, clear portions of samples 3191157, 3191167, and 3191176 were sectioned and analyzed via Fourier Transform Infrared Spectroscopy (FTIR) using a Brucker Tensor 37 with a Hyperion microscope attachment. Samples were analyzed using the Attenuated Total Reflection (ATR) attachment on the Hyperion microscope, where a germanium tipped ATR lens is pressed into the film for analysis.</p> <p style="padding-left: 40px;">As can be seen in Figures 2 and 3, each film is consistent with an internal PET standard measured on the same instrument as well as a PET standard from the Wiley KnowItAll Library. As can be seen, all samples are consistent with PET.</p> <p>Ex. 1014, paras. 60-61 (NUSA_0001667-68).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 2-3 (NUSA_0001709).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and</p>	<p>Gatorade discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">To show layer thickness, cross sections from samples 3191115, 3191157, 3191167, and 3191176 were prepared. Samples were taken from each label at a location as can be seen in Figure 4.</p> <p style="padding-left: 40px;">To prepare cross sections, samples were mounted on carbon tape between two glass slides and cut with a fresh stainless steel knife. All cross sections were then carbon coated and imaged and analyzed via SEM using a Tescan Mira as can be seen in Figure 5a – 5d. (See APPENDIX B). All images are parallel to the line of the seam.</p> <p style="padding-left: 40px;">As can be seen, all samples have a heat shrink PET film thickness of approximately 40-60 microns.</p> <p>Ex. 1014, paras. 62-64 (NUSA_0001669-71).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 4-5d (NUSA_0001710-15).</p>
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Gatorade discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">The light blocking component was determined using SEM-EDS analysis. EDS analysis is conducted with a Bruker EDS attached to a Tescan Mira SEM. As can be seen in Figure 6, the light blocking component of each layer is consistent with aluminum.</p> <p style="padding-left: 40px;">For sample 3191115, the light blocking layer is adjacent to the substrate consistent with Figure 1C of the '422 patent. For samples 3191157, 3191167, and 3191176, the aluminum light blocking layer is between the PET layer and the high opacity layer. (See APPENDIX B).</p> <p style="padding-left: 40px;">To measure light blocking ability, samples were analyzed using a Shimadzu 2600i with an integrating sphere. The integrating sphere is coated with barium sulphate and the lowest wavelength that can be measured is 220 nm. This is the same instrument used in the description of light blocking in column 13 line 47 of the '422 patent.</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
	<p>As noted in line 43 of column 13 and in the later examples, 220 nm was used as a minimum for the wavelength measurements with the Shimadzu 2600i. Ex. 1001, at 13:43. A portion of each sample 3191115, 3191158, 3191168, and 3191171 was placed in a sample holder between the radiation source and integrating sphere for analysis.</p> <p>Percent Transmittance results can be seen in Figure 7.</p> <p>Ex. 1014, paras. 65-69 (NUSA_0001671-72).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figure 7 (NUSA_0001724).</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Gatorade discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">The primary light blocking component of the light blocking layer is aluminum, as seen in Figure 6. As can be seen in Figure 5, the aluminum flakes have a thickness larger than 0.1 µm and less than 100 µm. (See APPENDIX B).</p> <p>Ex. 1014, para. 70 (NUSA_0001673).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figures 5b-6d (NUSA_0001713-23).</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Gatorade discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">The primary light blocking component of the light blocking layer is aluminum, as seen in Figure 6. As can be seen in Figure 5, the aluminum flakes have a thickness larger than 0.1 µm and less than 100 µm. (See APPENDIX B).</p> <p>Ex. 1014, para. 70 (NUSA_0001673).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Gatorade discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Gatorade discloses:</p> <p>To determine if a label is recyclable with a PET container, laboratory tests were conducted in reference to the disclosures in the '422 patent (Ex. 1001, at 6:61-64; 11:29-53) and RD-TM-210-4 (Ex. 1012). For example, the '422 patent states in column 6 line 61 that a label is "...considered recyclable if no inks are retained on the film after a caustic wash cycle typically used in PET reclaiming processes." Lab scale testing was conducted as follows.</p> <p>A portion of samples 3191115, 3191157, 3191167, and 3191176 were preshrunk as is represented in Figure 8. (See APPENDIX B). Each sample was then cut into approximately 1 cm² pieces using stainless steel scissors. PET flakes were created by cutting generic store bought single use water bottles into approximately 1 cm² pieces using stainless steel scissors. Representative photos can be seen in Figure 9. (See APPENDIX B).</p> <p>Then, 500 mL of caustic wash solution was made by dissolving 5 grams of sodium hydroxide in 498.5 mL water. 1.5 mL of Triton X100 was added to the solution.</p> <p>40mL of the caustic wash solution was heated in a beaker to approximately 85° C on a hot plate with a Teflon stir bar. 0.15 grams of preshrunk label flakes were mixed with 5 grams of PET flakes, as can be seen in Figure 9. The mixture was then placed in the beaker for approximately 15 minutes.</p> <p>After this time, the sample was removed from heat and allowed to stand for 5 minutes. It was then filtered using a 10 mesh (2 mm) stainless steel sieve and the caustic wash water was collected. 40 mL of water was then heated to approximately 45° C, and the flake mixture was added to this water for 5 minutes.</p> <p>After this time the sample was removed from heat and allowed to stand for 5 minutes. It was then filtered using a 10 mesh stainless steel sieve and the warm water wash was collected. The flake mixture was then added to 400 mL water in a large beaker, stirred by hand, and allowed to sit for 5 minutes. After this time, the sample was poured over the stainless steel mesh again and the water was discarded. The flakes were then dried in an oven at approximately 50° C until they were dry to touch and free flowing. Representative images of the final mixture can be seen in Figure 10.</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
	<p>As can be seen in Figures 11 and 12, the ink is being removed during the caustic wash cycle. (See APPENDIX B). Further, the ink is readily separated from the flake mixture during the sieving process and is not staining or dying the PET flakes. All flakes sink in the mixture as is demonstrated in Figure 16. (See APPENDIX B).</p> <p>In connection with my analysis, I have considered that the Gatorade Label is an SKC Ecolabel™ sleeve label. Ex. 1013, at ¶47; Ex. 1016. And, the APR, the Association of Plastic Recyclers, has recognized this label as meeting or exceeding APR's Critical Guidance Protocol for Clear PET Articles with Labels and Closures Document requirements. Ex. 1013, at ¶47; Ex. 1018. The SKC Ecolabel™ has received APR Critical Guidance recognition. Id. In particular, a Review Committee, appointed per the APR Recognition Operating Procedures, reviewed an April 26, 2019 data submission and concluded the data were correctly obtained by a qualified laboratory and were completely presented to show the labels submitted meet or exceed all critical guidance. This supports my analysis and my conclusions.</p> <p>In connection with my analysis, I have also considered that the silver ink used in connection with the Gatorade Label is supplied by a company, Watson Standard, which confirms that the silver ink passes recyclability/bleed testing set forth in the protocol established by the Association of Postconsumer of Plastic Recyclers. Ex. 1013, at ¶48; Ex. 1019. This supports and confirms my analysis and my conclusions.</p> <p>Ex. 1014, paras. 71-79 (NUSA_0001673-75).</p> <p>Further, Gatorade also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Gatorade includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Gatorade is the same as that of the "shrink label" of claim 1 of the '422 Patent, Gatorade discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 1	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

CLAIM 2	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[2] The recyclable shrink label of claim 1 further comprising an indicia layer.</p>	<p>Gatorade discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Gatorade also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Each label contains an indicia layer as can be seen in Figure 1. (See APPENDIX B).</p> <p>Ex. 1014, para. 80 (NUSA_0001676).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figure 1 (NUSA_0001708).</p>

CLAIM 3	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.</p>	<p>Gatorade discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Gatorade also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The labels all contain a high opacity layer comprised of rutile titanium dioxide. The composition of the high opacity layer was analyzed via SEM-EDS and Raman spectroscopy. Raman analysis is conducted with a Horiba LabRAM HR Raman microscope with a 637 nm laser and 600 grooves per millimeter grating. As can be seen in Figures 6 and 13, the high opacity component of each layer is consistent with rutile titanium dioxide. (See APPENDIX B).</p> <p>Ex. 1014, para. 81 (NUSA_0001676).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 4	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	Gatorade discloses the "recyclable shrink label of claim 3." <i>See above</i> , [1.pre]-[1.f], [3].

CLAIM 5	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	Gatorade discloses the "recyclable shrink label of claim 1." <i>See above</i> , [1.pre]-[1.f]. Gatorade also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See above</i> , [1.a].

CLAIM 6	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	Gatorade discloses the "recyclable shrink label according to claim 1." <i>See above</i> , [1.pre]-[1.f]. Gatorade also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example: All samples received are in the form of a sleeve or tube , with one seam, as is demonstrated in Figure 16. Ex. 1014, para. 83 (NUSA_0001677). <i>See also, e.g.</i> , Ex. 1014, Figure 16 (NUSA_0001740).

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 7	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Gatorade discloses the "recyclable shrink label according to claim 6." <i>See</i> above, [1.pre]-[1.f], [6].</p> <p>Gatorade also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">All samples received are in the form of a sleeve or tube, with one seam, as is demonstrated in Figure 16.</p> <p>Ex. 1014, para. 83 (NUSA_0001677).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figure 16 (NUSA_0001740).</p>

CLAIM 8	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Gatorade also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Samples 3191115, 3191158, 3191168, and 3191171 were selected for heat shrink testing in general accordance with ASTM D2732. Ex. 1015.</p> <p style="padding-left: 40px;">As can be seen in Figure 17 (below), approximately 100 mm by 100 mm square sections of each sample were cut using stainless steel scissors.</p> <p style="padding-left: 40px;">Each sample was then placed in a stainless mesh and submerged in a water bath at 100° C for ten seconds, followed by quenching in a room temperature water bath. Exemplar photographs of experimental setup can be seen in Figure 18. (See APPENDIX B).</p> <p style="padding-left: 40px;">As can be seen in Figure 19 (below), each sample shrunk perpendicular to the seam by approximately 70-80% when heated to 100 °C.</p> <p>Ex. 1014, para. 85-88 (NUSA_0001678-79).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figure 17 (NUSA_0001741).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

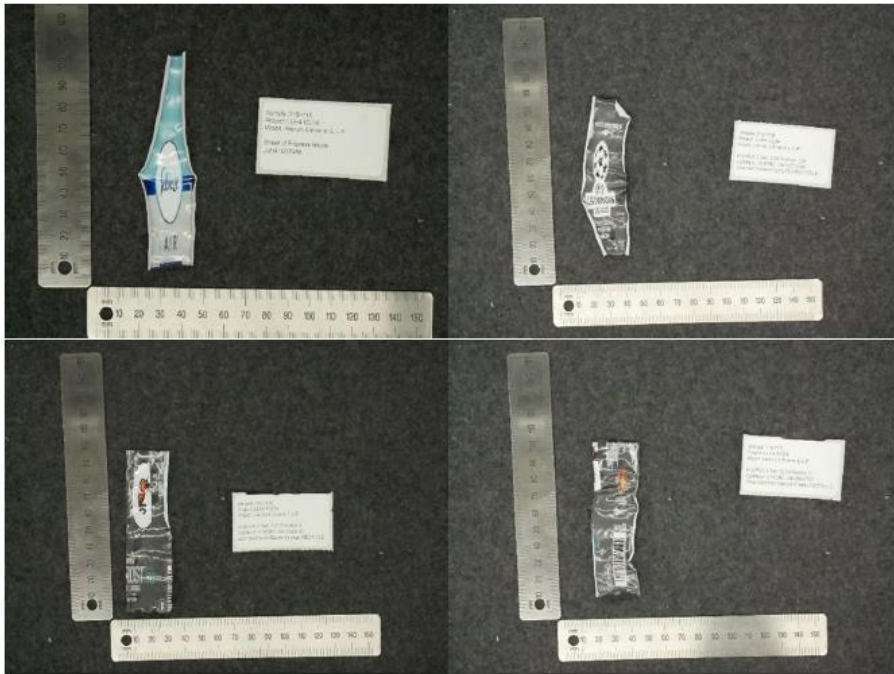
CLAIM 9	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Gatorade also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p>As can be seen in Figure 18 (See APPENDIX B), the label shrinks upon submersion in the boiling water.</p>  <p align="center">Figure 19. Photographs of cut sections of 3191115, 3191158, 3191158, and 3191171 after shrink testing.</p> <p>Ex. 1014, para. 89 (NUSA_0001680).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 18-19 (NUSA_0001742-43).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 10	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Gatorade discloses the "recyclable shrink label according to claim 3." <i>See above</i>, [1.pre]-[1.f], [3].</p> <p>Gatorade also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See above</i>, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">The labels all have a high opacity layer that contains titanium dioxide, as can be seen in Figures 6 and 13. (See APPENDIX B).</p> <p>Ex. 1014, para. 90 (NUSA_0001680).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figures 6a-d, 13 (NUSA_0001716-23; NUSA_0001734).</p>

CLAIM 11	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Gatorade also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See above</i>, [1.e].</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 12	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Gatorade also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label." For example:</p> <p style="padding-left: 40px;">As defined in the '422 patent, at column 5 line 44, "ppr" refers to pounds per ream. One ream is understood to mean 3000 square feet of substrate. The following calculations are based on the aluminum light blocking layer covering the entire ream.</p> <p style="padding-left: 40px;">Inductively Coupled Plasma (ICP) was used to quantify the amount of aluminum in sample 3191115 and was found to be 1.56 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 0.6 pounds of aluminum per ream. To calculate the ppr of the light blocking layer, the weight percent of aluminum in a label sample was measured via Inductively Coupled Plasma (ICP). The light blocking layer comprises other solid components along with the aluminum flakes. To compensate for the additional solids, an estimate of 10% of the mass of aluminum was included in the calculation of ppr for the light blocking layer. To calculate ppr, a 5 square centimeter portion of each label that was uniformly covered by the light blocking layer was weighed.</p> <p style="padding-left: 40px;">For sample 3191115, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 3.4 pounds of light blocking layer per ream.</p> <p style="padding-left: 40px;">For sample 3191158, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1558 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream.</p> <p style="padding-left: 40px;">For sample 3191168, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1474 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream. For sample 3191171, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1598 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream.</p> <p>Ex. 1014, paras. 92-96 (NUSA_0001680-82).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 13	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
<p>[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.</p>	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Gatorade discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component." For example:</p> <p style="padding-left: 40px;">Inductively Coupled Plasma (ICP) was used to quantify the amount of aluminum in sample 3191115 and was found to be 1.56 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 3.1 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191157 and was found to be 0.234 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1558 grams. This corresponds to 0.4 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191167 and was found to be 0.270 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1474 grams. This corresponds to 0.5 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191176 and was found to be 1.45 weight percent. This corresponds to 2.41 weight percent aluminum. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1598 grams. This corresponds to 0.5 pounds of aluminum per ream. These values all fall within the claimed range.</p> <p>Ex. 1014, para. 97 (NUSA_0001682).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 14	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Gatorade discloses an "article."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">Attached to the Craig Bushman declaration is what I understand to be the bottles to which the tested labels are affixed, which are accordingly recyclable PET bottles. Ex. 1013, at ¶58 [sic. ¶49]. The internal surface of the sleeve or tube is the surface that would face the container, as is therefore disposed thereon. <i>Id.</i></p> <p>Ex. 1014, para. 98 (NUSA_0001683).</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Gatorade discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Gatorade discloses:</p> <p style="padding-left: 40px;">Attached to the Craig Bushman declaration is what I understand to be the bottles to which the tested labels are affixed, which are accordingly recyclable PET bottles. Ex. 1013, at ¶58 [sic. ¶49]. The internal surface of the sleeve or tube is the surface that would face the container, as is therefore disposed thereon. <i>Id.</i></p> <p>Ex. 1014, para. 98 (NUSA_0001683).</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Gatorade discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See</i> above, [1.pre]-[1.f]. <i>See</i> also, for example:</p> <p style="padding-left: 40px;">Attached to the Craig Bushman declaration is what I understand to be the bottles to which the tested labels are affixed, which are accordingly recyclable PET bottles. Ex. 1013, at ¶58 [sic. ¶49]. The internal surface of the sleeve or tube is the surface that would face the container, as is therefore disposed thereon. <i>Id.</i></p> <p>Ex. 1014, para. 98 (NUSA_0001683).</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 15	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Gatorade discloses the "article according to claim 14." <i>See above</i>, [1], [14.pre]-[14.b].</p> <p>Gatorade also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">As can be seen in Figures 5 and 6, sample 3191115 has the light blocking facing the external surface of the container, followed by the high opacity layer, followed by the PET film. Samples 3191157, 3191167, and 3191176 have the high opacity label facing the external surface of the container, followed by the light blocking layer, followed by the PET film. (See APPENDIX B).</p> <p>Ex. 1014, para. 99 (NUSA_0001683).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figures 5a-6d (NUSA_0001712-23).</p>

CLAIM 16	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Gatorade discloses the "recyclable shrink label according to claim 2." <i>See above</i>, [1.pre]-[1.f], [2].</p> <p>Gatorade also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The labels analyzed here contain an indicia layer located between the PET film and the high opacity layer. (See APPENDIX B).</p> <p>Ex. 1014, para. 100 (NUSA_0001683).</p>

CLAIM 17	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Gatorade discloses the "recyclable shrink label according to claim 8." <i>See above</i>, [1.pre]-[1.f], [8].</p> <p>Gatorade also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See above</i>, [9].</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 18	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Gatorade discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Gatorade also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)."</p> <p style="padding-left: 40px;">As can be seen in Figures 2 and 3 (See APPENDIX B), each film is consistent with an internal PET standard measured on the same instrument as well as a PET standard matched to the Wiley KnowItAll Library. As can be seen, all samples are consistent with PET. In addition, I am relying on the Declaration of Mr. Craig Bushman with regard to PET that is crystallizable. Ex. 1013, at ¶53 [sic. ¶44]; Ex. 1017.</p> <p>Ex. 1014, para. 102 (NUSA_0001684).</p> <p style="padding-left: 40px;">The Gatorade Label is a shrink sleeve label that is recyclable with a PET container. It is a PET film and a washable ink system designed to meet the requirements of recyclability per the APR. It includes light blocking features (including ink layers of metal particulates, and including aluminum and titanium dioxide for the silver and white ink). Based on my experience with this label, and also by way of confirmation of those in this industry with whom I am familiar, including Patent Owner, the heat shrink film of the Gatorade label [sic. <i>abel</i>] incorporates PET that is crystallizable. Ex. 1017.</p> <p>Ex. 1013, para 53 (NUSA_0001629-30).</p> <p><i>See</i> above, [1.a].</p>

Chart 25 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Gatorade Heat Shrink Label ("Gatorade")

CLAIM 19	
'422 Patent Claim Limitation	Gatorade Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Gatorade discloses a "recyclable shrink label." <i>See</i> above, [1.pre].
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Gatorade discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See</i> above, [1.a].
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	Gatorade discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See</i> above, [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Gatorade discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See</i> above, [1.c].
[19.d] a high opacity layer comprising a white pigment,	Gatorade discloses "a high opacity layer comprising a white pigment." <i>See</i> above, [3].
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Gatorade discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

This chart pertains to U.S. Patent No. 11,961,422 ("the '422 Patent"). This chart is subject to all reservations, objections, and disclaimers in Defendants' invalidity contentions and any amendment, supplement, or modification thereof, which are incorporated herein by reference in their entirety. This chart refers to the prior art reference identified above, which, based on information and belief, was known, used, offered for sale, or sold in at least 2018, and therefore qualifies as prior art to the '422 Patent under at least AIA 35 U.S.C. § 102. To support the disclosure below, Defendants reference a Post Grant Review Petition filed January 16, 2025 by a third party, Multi-Color Corporation ("MCC") having a principal place of business at 6111 N. River Road, Rosemont, Illinois 60018. References are made throughout this disclosure to the Post Grant Review Petition and/or exhibits accompanying the Petition. Discovery is ongoing, and Defendants will update this chart as required under Federal Rule of Civil Procedure 26(e), the Local Rules, and the Orders of record in this matter subject to further investigation and discovery regarding the reference, the Court's construction of the claims at issue, and discovery generally, including third-party discovery.

Febreze invalidates claims 1-19 of the '422 Patent ("Asserted Claims"), which include all claims Plaintiff alleges that Defendants infringe as set forth in Plaintiff's infringement contentions, served on November 7, 2024. To the extent it is found that this reference does not anticipate a particular Asserted Claim by expressly or inherently disclosing all limitations of that Asserted Claim, the reference renders obvious the Asserted Claim, either alone or in combination with other prior art identified in the cover pleading or herein, and/or in combination with the knowledge of a person having ordinary skill in the art ("POSITA"). In these contentions, Defendants have relied in part on Plaintiff's infringement contentions and the manner in which Plaintiff applies the Asserted Claims to the products Plaintiff alleges infringe the Asserted Claims in this case. Defendants' assertion that a particular limitation is disclosed by a prior art reference and/or is disclosed in a particular manner may be based in part on Plaintiff's application of the Asserted Claims to the accused products (including Plaintiff's underlying claim interpretations) as Defendants understand that application. Defendants do not admit that Plaintiff's apparent claim interpretations are supportable or proper or that the claim limitations in question are definite or otherwise amenable to construction.

Defendants have endeavored to cite to the most relevant portions of the identified prior art, but other portions of the identified prior art may additionally disclose, either expressly or inherently, and/or render obvious one or more limitations of the Asserted Claims. The inclusion of specific details in some areas is not a concession that such details are required or that the omission of similar details in other areas is a defect. These citations to portions of any reference in this chart are exemplary only. Thus, Defendants reserve the right to rely on: (1) uncited portions of the identified prior art; (2) other prior art not identified herein; (3) references that show the state of the art (irrespective of whether such references themselves qualify as prior art to the '422 Patent); (4) factual testimony from the inventors or authors of the prior art references, or purveyors of prior art devices; and/or (5) expert testimony, to provide context to or aid in understanding the prior art and the state of the art at the time of the alleged invention.

As used herein, reference is made to sample numbers and exhibits included accompanying the January 16, 2025 Post Grant Review Petition filed by MCC. Sample numbers 3191157, 3191158, 3191167, 3191168, 3191171, and 3191176 refer to Gatorade labels, while sample number 3191115 refers to a Febreze label. Exhibits referenced herein include the Post Grant Review Petition ("Petition"), the Declaration of Craig Bushman ("Ex. 1013"), Vice President of MCC, and the Declaration of Dr. Michael Deible ("Ex. 1014"), an independent expert who tested the samples provided by MCC. The entirety of MCC's January 16, 2025 Post Grant Review Petition is incorporated by reference herein.

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[1.pre] A recyclable shrink label comprising:	<p>To the extent the preamble of claim 1 is found to be limiting, Febreze discloses a "recyclable shrink label."</p> <p>For example, Gatorade discloses:</p> <p style="text-align: center;">As can be seen in Figures 11 and 12, the ink is being removed during the caustic wash cycle. (See APPENDIX B). Further, the ink is readily separated from the flake mixture during the sieving process and is not staining or dying the PET flakes.</p> <p>Ex. 1014, para. 77 (NUSA_0001674-75).</p>
[1.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	<p>Febreze discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface."</p> <p>For example, Febreze discloses:</p> <p>To confirm that each sample is composed of PET, clear portions of samples 3191157, 3191167, and 3191176 were sectioned and analyzed via Fourier Transform Infrared Spectroscopy (FTIR) using a Brucker Tensor 37 with a Hyperion microscope attachment. Samples were analyzed using the Attenuated Total Reflection (ATR) attachment on the Hyperion microscope, where a germanium tipped ATR lens is pressed into the film for analysis.</p> <p>As can be seen in Figures 2 and 3, each film is consistent with an internal PET standard measured on the same instrument as well as a PET standard from the Wiley KnowItAll Library. As can be seen, all samples are consistent with PET.</p> <p>Ex. 1014, paras. 60-61 (NUSA_0001667-68).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 2-3 (NUSA_0001709).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
<p>[1.b] the heat shrink film having a thickness from 15 μm to 100 μm; and</p>	<p>Febreze discloses "the heat shrink film having a thickness from 15 μm to 100 μm."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">To show layer thickness, cross sections from samples 3191115, 3191157, 3191167, and 3191176 were prepared. Samples were taken from each label at a location as can be seen in Figure 4.</p> <p style="padding-left: 40px;">To prepare cross sections, samples were mounted on carbon tape between two glass slides and cut with a fresh stainless steel knife. All cross sections were then carbon coated and imaged and analyzed via SEM using a Tescan Mira as can be seen in Figure 5a – 5d. (See APPENDIX B). All images are parallel to the line of the seam.</p> <p style="padding-left: 40px;">As can be seen, all samples have a heat shrink PET film thickness of approximately 40-60 microns.</p> <p>Ex. 1014, paras. 62-64 (NUSA_0001669-71).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures. 4-5d (NUSA_0001710-15).</p>
<p>[1.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm,</p>	<p>Febreze discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">The light blocking component was determined using SEM-EDS analysis. EDS analysis is conducted with a Bruker EDS attached to a Tescan Mira SEM. As can be seen in Figure 6, the light blocking component of each layer is consistent with aluminum.</p> <p style="padding-left: 40px;">For sample 3191115, the light blocking layer is adjacent to the substrate consistent with Figure 1C of the '422 patent. For samples 3191157, 3191167, and 3191176, the aluminum light blocking layer is between the PET layer and the high opacity layer. (See APPENDIX B).</p> <p style="padding-left: 40px;">To measure light blocking ability, samples were analyzed using a Shimadzu 2600i with an integrating sphere. The integrating sphere is coated with barium sulphate and the lowest wavelength that can be measured is 220 nm. This is the same instrument used in the description of light blocking in column 13 line 47 of the '422 patent.</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
	<p>As noted in line 43 of column 13 and in the later examples, 220 nm was used as a minimum for the wavelength measurements with the Shimadzu 2600i. Ex. 1001, at 13:43. A portion of each sample 3191115, 3191158, 3191168, and 3191171 was placed in a sample holder between the radiation source and integrating sphere for analysis.</p> <p>Percent Transmittance results can be seen in Figure 7. All samples block at least 80% of light in the 220 to 900 nm range.</p> <p>Ex. 1014, paras. 65-69 (NUSA_0001671-72).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figure 7 (NUSA_0001724).</p>
[1.d] wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm,	<p>Febreze discloses "wherein the light blocking component comprises a particulate having a particle size of 0.1 µm to 100 µm."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">The primary light blocking component of the light blocking layer is aluminum, as seen in Figure 6. As can be seen in Figure 5, the aluminum flakes have a thickness larger than 0.1 µm and less than 100 µm. (See APPENDIX B).</p> <p>Ex. 1014, para. 70 (NUSA_0001673).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 5a-6d (NUSA_0001712-23).</p>
[1.e] wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and	<p>Febreze discloses "wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">The primary light blocking component of the light blocking layer is aluminum, as seen in Figure 6. As can be seen in Figure 5, the aluminum flakes have a thickness larger than 0.1 µm and less than 100 µm. (See APPENDIX B).</p> <p>Ex. 1014, para. 70 (NUSA_0001673).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[1.f] wherein the recyclable shrink label is recyclable with a PET container.	<p>Febreze discloses "wherein the recyclable shrink label is recyclable with a PET container."</p> <p>For example, Febreze discloses:</p> <p>To determine if a label is recyclable with a PET container, laboratory tests were conducted in reference to the disclosures in the '422 patent (Ex. 1001, at 6:61-64; 11:29-53) and RD-TM-210-4 (Ex. 1012). For example, the '422 patent states in column 6 line 61 that a label is "...considered recyclable if no inks are retained on the film after a caustic wash cycle typically used in PET reclaiming processes." Lab scale testing was conducted as follows.</p> <p>A portion of samples 3191115, 3191157, 3191167, and 3191176 were preshrunk as is represented in Figure 8. (See APPENDIX B). Each sample was then cut into approximately 1 cm² pieces using stainless steel scissors. PET flakes were created by cutting generic store bought single use water bottles into approximately 1 cm² pieces using stainless steel scissors. Representative photos can be seen in Figure 9. (See APPENDIX B).</p> <p>Then, 500 mL of caustic wash solution was made by dissolving 5 grams of sodium hydroxide in 498.5 mL water. 1.5 mL of Triton X100 was added to the solution.</p> <p>40mL of the caustic wash solution was heated in a beaker to approximately 85° C on a hot plate with a Teflon stir bar. 0.15 grams of preshrunk label flakes were mixed with 5 grams of PET flakes, as can be seen in Figure 9. The mixture was then placed in the beaker for approximately 15 minutes.</p> <p>After this time, the sample was removed from heat and allowed to stand for 5 minutes. It was then filtered using a 10 mesh (2 mm) stainless steel sieve and the caustic wash water was collected. 40 mL of water was then heated to approximately 45° C, and the flake mixture was added to this water for 5 minutes.</p> <p>After this time the sample was removed from heat and allowed to stand for 5 minutes. It was then filtered using a 10 mesh stainless steel sieve and the warm water wash was collected. The flake mixture was then added to 400 mL water in a large beaker, stirred by hand, and allowed to sit for 5 minutes. After this time, the sample was poured over the stainless steel mesh again and the water was discarded. The flakes were then dried in an oven at approximately 50° C until they were dry to touch and free flowing. Representative images of the final mixture can be seen in Figure 10.</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
	<p>As can be seen in Figures 11 and 12, the ink is being removed during the caustic wash cycle. (See APPENDIX B). Further, the ink is readily separated from the flake mixture during the sieving process and is not staining or dying the PET flakes. All flakes sink in the mixture as is demonstrated in Figure 16. (See APPENDIX B).</p> <p>In connection with my analysis, I have considered that the Gatorade Label is an SKC Ecolabel™ sleeve label. Ex. 1013, at ¶47; Ex. 1016. And, the APR, the Association of Plastic Recyclers, has recognized this label as meeting or exceeding APR's Critical Guidance Protocol for Clear PET Articles with Labels and Closures Document requirements. Ex. 1013, at ¶47; Ex. 1018. The SKC Ecolabel™ has received APR Critical Guidance recognition. Id. In particular, a Review Committee, appointed per the APR Recognition Operating Procedures, reviewed an April 26, 2019 data submission and concluded that the data were correctly obtained by a qualified laboratory and were completely presented to show the labels submitted meet or exceed all critical guidance. This supports my analysis and my conclusions.</p> <p>In connection with my analysis, I have also considered that the silver ink used in connection with the Gatorade Label is supplied by a company, Watson Standard, which confirms that the silver ink passes recyclability/bleed testing set forth in the protocol established by the Association of Postconsumer of Plastic Recyclers. Ex. 1013, at ¶48; Ex. 1019. This supports and confirms my analysis and my conclusions.</p> <p>Ex. 1014, paras. 71-79 (NUSA_0001673-75).</p> <p>Further, Febreze also inherently discloses a shrink label that is "recyclable" and "recyclable with a PET container." For example, the shrink label disclosed in Febreze includes the same materials as the label recited in claim 1 of the '422 Patent. Thus, because the '422 Patent claims a "shrink label" that has a composition in terms of a function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") and because the composition of the shrink label of Febreze is the same as that of the "shrink label" of claim 1 of the '422 Patent, Febreze discloses each and every limitation of claim 1 of the '422 Patent, including the function, property, or characteristic (i.e., "recyclable" and "recyclable with a PET container") of the "shrink label" of claim 1 of the '422 Patent.</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 1	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
	<p>Additionally, during prosecution of the '422 Patent, the Examiner made clear that a "shrink label" that is "recyclable with a PET container" is functional related to the intended use by repeatedly stating, "the limitation reciting 'wherein the recyclable shrink label is recyclable with a PET container' is considered functional language related to the intended use of the product and is accorded limited weight as the language does not further limit the structure or the process." <i>See</i> Office Action dated November 13, 2023, page 4, item 10; <i>see also, e.g.</i>, Office Action dated August 9, 2023, page 8, item 27 and page 12, item 42 and Office Action dated November 13, 2023, page 4, item 10.</p>

CLAIM 2	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
<p>[2] The recyclable shrink label of claim 1 further comprising an indicia layer.</p>	<p>Febreze discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze also discloses "an indicia layer." For example:</p> <p style="padding-left: 40px;">Each label contains an indicia layer as can be seen in Figure 1. (See APPENDIX B).</p> <p>Ex. 1014, para. 80 (NUSA_0001676).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figure 1 (NUSA_0001708).</p>

CLAIM 3	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
<p>[3] The recyclable shrink label of claim 1 further comprising a high opacity layer comprising a white pigment.</p>	<p>Febreze discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze also discloses "a high opacity layer comprising a white pigment." For example:</p> <p style="padding-left: 40px;">The labels all contain a high opacity layer comprised of rutile titanium dioxide. The composition of the high opacity layer was analyzed via SEM-EDS and Raman spectroscopy. Raman analysis is conducted with a Horiba LabRAM HR Raman microscope with a 637 nm laser and 600 grooves per millimeter grating. As can be seen in Figures 6 and 13, the high opacity component of each layer is consistent with rutile titanium dioxide. (See APPENDIX B).</p> <p>Ex. 1014, para. 81 (NUSA_0001676).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 4	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[4] The recyclable shrink label of claim 3, wherein the recyclable shrink label comprises an indicia layer and wherein the high opacity layer is disposed between the indicia layer and the light blocking layer.	Febreze discloses the "recyclable shrink label of claim 3." <i>See</i> above, [1.pre]-[1.f], [3]. In addition, Febreze discloses: The Febreze Label is structured such that the high opacity layer is disposed between the indicia layer and the light blocking layer. Ex. 1014, para. 126 (NUSA_0001692).

CLAIM 5	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[5] The recyclable shrink label of claim 1, wherein the heat shrink film consists of polyethylene terephthalate (PET).	Febreze discloses the "recyclable shrink label of claim 1." <i>See</i> above, [1.pre]-[1.f]. Febreze also discloses "the heat shrink film consists of polyethylene terephthalate (PET)." <i>See</i> above, [1.a].

CLAIM 6	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[6] The recyclable shrink label according to claim 1, wherein the recyclable shrink label is in a form of a sleeve or tube.	Febreze discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f]. Febreze also discloses "the recyclable shrink label is in a form of a sleeve or tube." For example: All samples received are in the form of a sleeve or tube , with one seam, as is demonstrated in Figure 16. Ex. 1014, para. 83 (NUSA_0001677). <i>See also, e.g.</i> , Ex. 1014, Figure 16 (NUSA_0001740).

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 7	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[7] The recyclable shrink label according to claim 6, wherein the heat shrink film comprises a seam.	<p>Febreze discloses the "recyclable shrink label according to claim 6." <i>See above</i>, [1.pre]-[1.f], [6].</p> <p>Febreze also discloses "the heat shrink film comprises a seam." For example:</p> <p style="padding-left: 40px;">All samples received are in the form of a sleeve or tube, with one seam, as is demonstrated in Figure 16.</p> <p>Ex. 1014, para. 83 (NUSA_0001677).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figure 16 (NUSA_0001740).</p>

CLAIM 8	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[8] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%.	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See above</i>, [1.pre]-[1.f].</p> <p>Febreze also discloses "when heated to 100° C., the heat shrink film contracts or shrinks by about 1% to about 90%." For example:</p> <p style="padding-left: 40px;">Samples 3191115, 3191158, 3191168, and 3191171 were selected for heat shrink testing in general accordance with ASTM D2732. Ex. 1015.</p> <p style="padding-left: 40px;">As can be seen in Figure 17 (below), approximately 100 mm by 100 mm square sections of each sample were cut using stainless steel scissors.</p> <p style="padding-left: 40px;">Each sample was then placed in a stainless mesh and submerged in a water bath at 100° C for ten seconds, followed by quenching in a room temperature water bath. Exemplar photographs of experimental setup can be seen in Figure 18. (See APPENDIX B).</p> <p style="padding-left: 40px;">As can be seen in Figure 19 (below), each sample shrunk perpendicular to the seam by approximately 70-80% when heated to 100 °C.</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 8	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
	 <p>Figure 19. Photographs of cut sections of 3191115, 3191158, 3191158, and 3191171 after shrink testing.</p> <p>Ex. 1014, para. 85-88 (NUSA_0001678-79). <i>See also, e.g.,</i> Ex. 1014, Figure 19 (NUSA_0001743).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

	CLAIM 9
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
<p>[9] The recyclable shrink label according to claim 1, wherein when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%.</p>	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See above, [1.pre]-[1.f].</i></p> <p>Febreze also discloses "when heated to 100° C., the entire recyclable shrink label contracts or shrinks by about 1% to about 90%." For example:</p> <p>As can be seen in Figure 18 (See APPENDIX B), the label shrinks upon submersion in the boiling water.</p> <div> </div> <p>Figure 19. Photographs of cut sections of 3191115, 3191158, 3191158, and 3191171 after shrink testing.</p> <p>Ex. 1014, para. 89 (NUSA_0001680).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 18-19 (NUSA_0001742-43).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 10	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[10] The recyclable shrink label according to claim 3, wherein the high opacity layer comprises a pigment selected from titanium dioxide (TiO ₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof.	<p>Febreze discloses the "recyclable shrink label according to claim 3." <i>See</i> above, [1.pre]-[1.f], [3].</p> <p>Febreze also discloses "the high opacity layer comprises a pigment selected from titanium dioxide (TiO₂), precipitated calcium carbonate (PCC), aluminum silicate, aluminum oxide (alumina), mica-based pigments coated with thin layer(s) of white pigment, or a combination thereof." <i>See</i> above, [1.pre]-[1.f] and [3]. For example:</p> <p style="padding-left: 40px;">The labels all have a high opacity layer that contains titanium dioxide, as can be seen in Figures 6 and 13. (See APPENDIX B).</p> <p>Ex. 1014, para. 90 (NUSA_0001680).</p> <p><i>See also, e.g.</i>, Ex. 1014, Figures 6a-d, 13 (NUSA_0001716-23; NUSA_0001734).</p>

CLAIM 11	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[11] The recyclable shrink label according to claim 1, wherein the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof.	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze also discloses "the light blocking component comprises zinc, aluminum, copper, silver, or an alloy thereof, titanium dioxide, carbon black, mica, a reflective pigment, a polymer capable of blocking light, a mineral capable of blocking light, or a combination thereof." <i>See</i> above, [1.e].</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 12	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
<p>[12] The recyclable shrink label according to claim 1, wherein the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label.</p>	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze also discloses "the light blocking layer is present in an amount of 0.5 ppr to 25 ppr relative to the recyclable shrink label." For example:</p> <p style="padding-left: 40px;">As defined in the '422 patent, at column 5 line 44, "ppr" refers to pounds per ream. One ream is understood to mean 3000 square feet of substrate. The following calculations are based on the aluminum light blocking layer covering the entire ream.</p> <p style="padding-left: 40px;">Inductively Coupled Plasma (ICP) was used to quantify the amount of aluminum in sample 3191115 and was found to be 1.56 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 0.6 pounds of aluminum per ream. To calculate the ppr of the light blocking layer, the weight percent of aluminum in a label sample was measured via Inductively Coupled Plasma (ICP). The light blocking layer comprises other solid components along with the aluminum flakes. To compensate for the additional solids, an estimate of 10% of the mass of aluminum was included in the calculation of ppr for the light blocking layer. To calculate ppr, a 5 square centimeter portion of each label that was uniformly covered by the light blocking layer was weighed.</p> <p style="padding-left: 40px;">For sample 3191115, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 3.4 pounds of light blocking layer per ream.</p> <p style="padding-left: 40px;">For sample 3191158, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1558 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream.</p> <p style="padding-left: 40px;">For sample 3191168, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1474 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream. For sample 3191171, the mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1598 grams. For a 3000 square foot ream, this corresponds to 0.5 pounds of light blocking layer per ream.</p> <p>Ex. 1014, paras. 92-96 (NUSA_0001680-82).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 13	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[13] The recyclable shrink label according to claim 1, wherein the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component.	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze discloses "the light blocking layer comprises from 0.1 ppr to 10 ppr of the light blocking component." For example:</p> <p style="padding-left: 40px;">Inductively Coupled Plasma (ICP) was used to quantify the amount of aluminum in sample 3191115 and was found to be 1.56 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1624 grams. For a 3000 square foot ream, this corresponds to 3.1 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191157 and was found to be 0.234 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1558 grams. This corresponds to 0.4 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191167 and was found to be 0.270 weight percent. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1474 grams. This corresponds to 0.5 pounds of aluminum per ream. ICP was used to quantify the amount of aluminum in sample 3191176 and was found to be 1.45 weight percent. This corresponds to 2.41 weight percent aluminum. The mass of a 5 square centimeter portion of the sample that was covered by light blocking material was 0.1598 grams. This corresponds to 0.5 pounds of aluminum per ream. These values all fall within the claimed range.</p> <p>Ex. 1014, para. 97 (NUSA_0001682).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 14	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[14.pre] An article comprising:	<p>To the extent the preamble of claim 14 is found to be limiting, Febreze discloses an "article."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">Attached to the Craig Bushman declaration is what I understand to be the bottles to which the tested labels are affixed, which are accordingly recyclable PET bottles. Ex. 1013, at ¶58 [sic. ¶49]. The internal surface of the sleeve or tube is the surface that would face the container, as is therefore disposed thereon. <i>Id.</i></p> <p>Ex. 1014, para. 98 (NUSA_0001683).</p>
[14.a] a container comprising polyethylene terephthalate (PET) and defining an external surface; and	<p>Febreze discloses "a container comprising polyethylene terephthalate (PET) and defining an external surface."</p> <p>For example, Febreze discloses:</p> <p style="padding-left: 40px;">The Febreze Label is a shrink label that comprises an indicia layer, a high opacity layer, and a light blocking layer, in close proximity to each other. This particular label is applied to a clear plastic aerosol container and one of the brand owner functional requirements for this label construction was that consumers should not see through the shrink sleeve to observe the level of product within the container.</p> <p>Ex. 1013, para. 65 (NUSA_0001634-35).</p>
[14.b] the recyclable shrink label of claim 1 disposed on the container.	<p>Febreze discloses the "recyclable shrink label of claim 1 disposed on the container." <i>See above, [1.pre]-[1.f]. See also, for example:</i></p> <p style="padding-left: 40px;">The Febreze Label is a shrink label that comprises an indicia layer, a high opacity layer, and a light blocking layer, in close proximity to each other. This particular label is applied to a clear plastic aerosol container and one of the brand owner functional requirements for this label construction was that consumers should not see through the shrink sleeve to observe the level of product within the container.</p> <p>Ex. 1013, para. 65 (NUSA_0001634-35).</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 15	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[15] The article according to claim 14, wherein the first surface of the heat shrink film faces the external surface of the container.	<p>Febreze discloses the "article according to claim 14." <i>See</i> above, [1], [14.pre]-[14.b].</p> <p>Febreze also discloses "the first surface of the heat shrink film faces the external surface of the container." For example:</p> <p style="padding-left: 40px;">As can be seen in Figures 5 and 6, sample 3191115 has the light locking facing the external surface of the container, followed by the high opacity layer, followed by the PET film. Samples 3191157, 3191167, and 3191176 have the high opacity label facing the external surface of the container, followed by the light blocking layer, followed by the PET film. (See APPENDIX B).</p> <p>Ex. 1014, para. 99 (NUSA_0001683).</p> <p><i>See also, e.g.,</i> Ex. 1014, Figures 5a-6d (NUSA_0001712-23).</p>

CLAIM 16	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[16] The recyclable shrink label according to claim 2, wherein the indicia layer is disposed on the first surface.	<p>Febreze discloses the "recyclable shrink label according to claim 2." <i>See</i> above, [1.pre]-[1.f], [2].</p> <p>Febreze also discloses "the indicia layer is disposed on the first surface." For example:</p> <p style="padding-left: 40px;">The labels analyzed here contain an indicia layer located between the PET film and the high opacity layer. (See APPENDIX B).</p> <p>Ex. 1014, para. 100 (NUSA_0001683).</p>

CLAIM 17	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[17] The recyclable shrink label according to claim 8, wherein the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction.	<p>Febreze discloses the "recyclable shrink label according to claim 8." <i>See</i> above, [1.pre]-[1.f], [8].</p> <p>Febreze also discloses "the heat shrink film contracts or shrinks by about 1% to 90% in a transverse direction." <i>See</i> above, [9].</p>

Chart 26 – Invalidity Claim Charts for U.S. Patent No. 11,961,422
Prior Art Reference: Multi-Color Corporation's Febreze Heat Shrink Label ("Febreze")

CLAIM 18	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[18] The recyclable shrink label according to claim 1, wherein the heat shrink film comprises crystallizable polyethylene terephthalate (PET).	<p>Febreze discloses the "recyclable shrink label according to claim 1." <i>See</i> above, [1.pre]-[1.f].</p> <p>Febreze also discloses "the heat shrink film comprises crystallizable polyethylene terephthalate (PET)."</p> <p style="padding-left: 40px;">As can be seen in Figures 2 and 3 (See APPENDIX B), each film is consistent with an internal PET standard measured on the same instrument as well as a PET standard matched to the Wiley KnowItAll Library. As can be seen, all samples are consistent with PET. In addition, I am relying on the Declaration of Mr. Craig Bushman with regard to PET that is crystallizable. Ex. 1013, at ¶53 [sic. ¶44]; Ex. 1017.</p> <p>Ex. 1014, para. 102 (NUSA_0001684).</p> <p><i>See</i> above, [1.a].</p>

CLAIM 19	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[19.pre] A recyclable shrink label comprising:	To the extent the preamble of claim 19 is found to be limiting, Febreze discloses a "recyclable shrink label." <i>See</i> above, [1.pre].
[19.a] a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface,	Febreze discloses "a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface." <i>See</i> above, [1.a].
[19.b] the heat shrink film having a thickness from 15 µm to 100 µm;	Febreze discloses "the heat shrink film having a thickness from 15 µm to 100 µm." <i>See</i> above, [1.b].
[19.c] a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and	Febreze discloses "a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm." <i>See</i> above, [1.c].

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CLAIM 19	
'422 Patent Claim Limitation	Febreze Exemplary Disclosure
[19.d] a high opacity layer comprising a white pigment,	Febreze discloses "a high opacity layer comprising a white pigment." <i>See</i> above, [3].
[19.e] wherein the recyclable shrink label is recyclable with a PET container.	Febreze discloses "the recyclable shrink label is recyclable with a PET container." <i>See</i> above, [1.f].