

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND
NORTHERN DIVISION**

G.W. ARU, LLC, AND COCHISE
TECHNOLOGY, LLC

Plaintiffs,

v.

W.R. GRACE & CO.-Conn,

Defendant.

Civ. No. 1:22-cv-02636-JKB

**DEFENDANT W.R. GRACE & CO.-CONN.'S
RESPONSIVE PROPOSED CLAIM CONSTRUCTION STATEMENT**

Pursuant to the Scheduling Order in this case (ECF No. 24) and Local Rules 805.1(c) and (d), Defendant W.R. Grace & Co.-Conn (“Grace”) provides the following Responsive Proposed Claim Construction Statement. These additional proposed constructions are based on Defendant’s current knowledge and understanding of the issues relevant to this case.

Defendant reserves the right to supplement, amend, or modify these positions based on future developments in this case, including but not limited to claim constructions arguments offered by Plaintiffs, supplemental document production or discovery responses by the parties, opinions expressed by experts, or rulings by the Court.

I. Responsive Claim Charts Pursuant to Local Rule 805.1(c)(i)-(iv)

In its Initial Infringement Contentions, served on April 14, 2023, including the attached claim chart, Plaintiffs allege that Grace infringes the following “Asserted Claims” of U.S. Patent No. 11,224,864 (“the ’864 patent”): claims 1, 3, 6, 12, and 15.

On May 15 2023, Grace served its Initial Disclosure of Preliminary Invalidity Contentions identifying each item of prior art that anticipates and/or renders obvious each Asserted Claim, in accordance with the Scheduling Order and Local Rule 804.1(c). As part of its Initial Disclosure of Preliminary Invalidity Contentions, Grace also identified that one or more of the Asserted Claims is invalid under AIA 35 U.S.C. § 103 in view of the prior art patents, printed publications, and AAPA described therein either alone or in combination with other references and/or the knowledge of a person having ordinary skill in the art. Pursuant to Local Rule 805.1(c), Grace further identifies the following combinations of patents, printed publications, and AAPA that render the Asserted Claims obvious:

- **AAPA** in combination with one or more of Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Baker** in combination with one or more of Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, Witte, Gavriilidis, AAPA, Harold, Rainer, and/or Tran.
- **Carlsson** in combination with one or more of AAPA, Baker, Espinoza, Witte, Miura, Gavriilidis, Harold, Rainer, and/or Tran.
- **Espinoza** in combination with one or more of AAPA, Baker, Gavriilidis, Harold, Rainer, and/or Tran.
- **Gavriilidis** in combination with one or more of AAPA, Baker, Espinoza, Tran, Carlsson, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Hagemeyer** in combination with one or more of AAPA, Baker, Espinoza, Witte, Miura, Gavriilidis, Harold, Rainer, and/or Tran.
- **Harold** in combination with one or more of AAPA, Baker, Espinoza, Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Lin** in combination with one or more of AAPA, Baker, Espinoza, Witte, Miura, Gavriilidis, Harold, Rainer, and/or Tran.
- **Miura** in combination with one or more of AAPA, Baker, Espinoza, Witte, Gavriilidis, Harold, Rainer, and/or Tran.

- **Munnik** in combination with one or more of AAPA, Baker, Espinoza, Miura, Gavriilidis, Harold, Rainer, Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Papageorgiou** in combination with one or more of AAPA, Baker, Espinoza, Gavriilidis, Harold, Rainer, Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Rainer** in combination with one or more of AAPA, Baker, Espinoza, Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Schmidt** in combination with one or more of AAPA, Baker, Espinoza, Gavriilidis, Harold, Rainer, and/or Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Shyr** in combination with one or more of AAPA, Baker, Espinoza, Witte, Miura, Gavriilidis, Harold, Rainer, and/or Tran.
- **Tran** in combination with one or more of AAPA, Baker, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Venuto** in combination with one or more of AAPA, Baker, Espinoza, Gavriilidis, Harold, Rainer, Tran, Carlsson, Espinoza, Miura, Lin, Schmidt, Hagemeyer, Shyr, and/or Witte.
- **Witte** in combination with one or more of AAPA, Baker, Gavriilidis, Harold, Rainer, and/or Tran.

With its Initial Disclosure of Preliminary Invalidity Contentions, Grace also disclosed other grounds of invalidity, including grounds under 35 U.S.C. § 112, namely that the Asserted Claims are indefinite and the Asserted Claims lack written description and/or enablement.

Grace incorporates by reference as if fully set forth herein its Initial Disclosure of Preliminary Invalidity Contentions for the Asserted Claims served on May 15, 2023. At this time, Grace does not have new information regarding the prior art to supplement its Invalidity Contentions for the Asserted Claims, though Grace reserves its right to supplement its Invalidity Contentions at a later date.

II. Identification of Disputed Claim Terms and Evidence Pursuant to Local Rule 805.1(d)(i)-(iv)

For each of the additional terms identified by Plaintiffs, Grace identifies the following proposed constructions and exemplary intrinsic and extrinsic evidence, including support from the specification and prosecution history of the asserted patent and related patents that support, describe, and explain the proposed claim terms in addition to extrinsic evidence.

A. '864 Patent

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
CO to CO ₂ combustion promoter	"composition that promotes combustion of carbon monoxide to carbon dioxide"	The preamble is limiting – but this term in the preamble is (1) not limiting and/or (2) intended use. Alternatively, "composition that promotes the oxidation of carbon monoxide to carbon dioxide"	'864 pat. at 3:6-14, 3:23-25, 11:48-58, Comparative Examples A-E, Example 6 References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561); Deposition of Natalie Herring at 12:13-16
each microsphere/ independently		The preamble is limiting. Plain and ordinary meaning, i.e. "each and every microsphere must independently" Alternatively, indefinite	'864 File History at April 7, 2021 Non-Final Rejection; '864 File History at July 7, 2021 Applicant Arguments/Remarks; '864 File History at July 7, 2021 Herring Decl. File History of NL2020819 at Dec. 20, 2018 Written Opinion; File History of PCT/US19/24742
microsphere sized	"less than 1 mm across the largest diameter"	The preamble is limiting. "spherical particles as small as 1 micron in diameter and as large as 1,000 microns"	'864 File History at July 7, 2021 Applicant Arguments/Remarks; '864 File History at July 7, 2021 Herring Decl.; References cited therein: Microspheres Online; U.S. Patents 2,283,172; 2,933,456; and 3,243,262; Venuto and Habib "Fluid catalytic cracking with zeolite catalysts"; Marcel Dekker, Inc. New York (1979) Microspheres Online at 6-7 References identified in Defendant's Preliminary Invalidity Contentions

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
			(GRACE_0058117 - GRACE_0058561) Hawley's Condensed Chemical Dictionary, 16th ed. (2016)
porous	"material with pores"	Plain and ordinary meaning, which is: "having passages through which liquid or air may pass"	'864 pat. at 9:22-41 Munnik, et al., "Recent Development in the Synthesis of Supported Catalysts," Chemical Reviews, at 6695, 6700 (2015); Papageorgiou, et al., "Preparation of Pt/ γ -Al ₂ O ₃ Pellets with Internal Step-Distribution of Catalyst: Experiments and Theory", Journal of Catalysis 158, at 439-440 (1996); Deposition of Natalie Herring at 87:2-8;75:19-21 References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561) Oxford Advanced Learner's Dictionary of Current English, 9th ed. (2015); Collins English Dictionary (2016); Merriam-Webster's Advanced Learner's English Dictionary (2017); The American Heritage Dictionary of the English Language, 5th ed. (2018)
silica	"silicon dioxide"	Plain and ordinary meaning	References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561)

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
alumina	"aluminum oxide"	Plain and ordinary meaning	References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561)
Group VIII noble metal	"a noble metal of Group VIII of the periodic table, including platinum, palladium, iridium, ruthenium, and/or rhodium"	"a metal chosen from the group of platinum, palladium, iridium, ruthenium, and/or rhodium"	'864 pat. at 5:7-8 References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561) A Dictionary of Chemistry, 7th ed. (2016); MacMillan Encyclopedia of Chemistry, vol. 4 (1997); A Dictionary of Science, 7th ed. (2017); General Chemistry, 11th ed. (2017)
eggshell	"the particle has an outer region with a relatively higher concentration of the one or more Group VIII noble metals than a center region of the particle"	"a structure with an outer layer or 'shell' surrounding an inner layer that is chemically distinct from the outer layer"	'864 pat. at 2:45-50, 2:54-59, 4:25-27, 5:31-45, 5:65-4:2, FIG 2, 11:21-27 '864 File History at July 7, 2021 Applicant Arguments/Remarks; '864 File History at July 7, 2021 Herring Decl. Russo et al., "Intraparticle Modeling of Non-Uniform Active Phase Distribution Catalyst," ChemEngineering 2020, at 1-2, 7; Munnik et al. "Recent Development in the Synthesis of Supported Catalysts," Chemical Reviews, at 6689 (2015), 6697, 6699; Papageorgiou et al., "Preparation of Pt/ γ -Al ₂ O ₃ Pellets with Internal Step-Distribution of Catalyst: Experiments and Theory", Journal of Catalysis 158, at 439, Fig. 5j (1996).

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
			Deposition of Natalie Herring at 109:15-110:18 References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561)
concentration	"mass/mass"	"mass/volume"	'864 File History at July 7, 2021 Amendment; '864 File History at Nov. 17, 2021 Examiner Interview Summary; '864 File History at Nov. 17, 2021 Notice of Allowance; '864 File History at Dec. 6, 2021 Declaration of Guido W. Aru Russo et al., "Intraparticle Modeling of Non-Uniform Active Phase Distribution Catalyst," ChemEngineering 2020, at 7-8, 14 References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561) A Dictionary of Chemistry, 7th ed. (2016); Collins English Dictionary (2016) Herring Decl. (Dkt. 44) at ¶¶ 15, 16

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
outer region	"a portion of a particle including the outer surface of the particle and extending toward the interior of the particle"	Indefinite Alternatively, "a region distinguishable from the center of the particle and having a depth from the outer surface towards the interior of the particle of 1-10 microns"	'864 pat. at 4:25-27, 5:31-45, 5:65-4:2, 10:16-33, FIG 2, 11:21-27 '864 File History at July 7, 2021 Applicant Arguments/Remarks; '864 File History at July 7, 2021 Herring Decl. Aru Decl. (Dkt. 42-1) at ¶ 202; Deposition of Guido Aru at 111: 3-7; 225:22-226:1; Deposition of Natalie Herring at 110:15-18 References identified in Defendant's Preliminary Invalidity Contentions (GRACE 0058117 - GRACE 0058561)
centre	"a portion of a particle interior to the outer region"	Indefinite Alternatively, "a region distinguishable from the outer region of the particle"	'864 pat. at 4:25-27, 2:45-50, 2:54-59, 5:31-45, 5:65-4:2, FIG 2, 11:21-27 '864 File History at July 7, 2021 Applicant Arguments/Remarks Munnik et al. "Recent Development in the Synthesis of Supported Catalysts," Chemical Reviews, at 6697, 6699 (2015) Deposition of Guido Aru at 111: 3-7; 225:22-226:1 References identified in Defendant's Preliminary Invalidity Contentions (GRACE 0058117 - GRACE 0058561)

Claim Term	Plaintiffs' Proposed Construction	Defendant's Proposed Construction	Defendant's Identification of Intrinsic and Extrinsic Evidence
average (D50) size	"average diameter of the particles in a combustion promoter"	Plain and ordinary meaning	References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561)
laser diffraction	"a technique for measuring particle size and particle size distribution by determining the intensity of scattered light when a laser beam is passed through a particle sample"	Plain and ordinary meaning	References identified in Defendant's Preliminary Invalidity Contentions (GRACE_0058117 - GRACE_0058561)

Respectfully submitted,

FISH & RICHARDSON P.C.

Dated: July 13, 2023

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above and foregoing document has been served on July 13, 2023, to all counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system.

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