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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	62210-501C04US
First Named Inventor	Adam Bowen
Title	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THER
Priority Mail Express® Label No.	Via EFS

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. ☐ **Applicant asserts small entity status.** See 37 CFR 1.27
3. ☐ **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. ☑ **Specification** [*Total Pages* 99] Both the claims and abstract must start on a new page. *(See MPEP § 608.01(a) for information on the preferred arrangement)*
5. ☑ **Drawing(s)** (35 U.S.C. 113) [*Total Sheets* 8]
6. **Inventor's Oath or Declaration** [*Total Pages* 2] *(including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))*
   a. ☐ Newly executed (original or copy)
   b. ☑ A copy from a prior application (37 CFR 1.63(d))
7. ☑ **Application Data Sheet** ** See note below.* See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R** in duplicate, large table, or Computer Program (*Appendix*)
   ☐ Landscape Table on CD
9. **Nucleotide and/or Amino Acid Sequence Submission** (*if applicable, items a. – c. are required*)
   a. ☐ Computer Readable Form (CRF)
   b. ☐ Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ACCOMPANYING APPLICATION PAPERS

10. ☐ **Assignment Papers** (cover sheet & document(s))
    Name of Assignee _____
11. ☐ **37 CFR 3.73(c) Statement** (*when there is an assignee*) ☐ **Power of Attorney**
12. ☐ **English Translation Document** (*if applicable*)
13. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
14. ☐ **Preliminary Amendment**
15. ☐ **Return Receipt Postcard** (*MPEP § 503*) (*Should be specifically itemized*)
16. ☐ **Certified Copy of Priority Document(s)** (*if foreign priority is claimed*)
17. ☐ **Nonpublication Request** Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
18. ☐ **Other:** _____

Note*: (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS

☑ The address associated with Customer Number: 148514 **OR** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/Jeffery C. Giering/	Date	February 9, 2021
Name (Print/Type)	Jeffery C. Giering	Registration No. (Attorney/Agent)	68,221

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Filer:	Jeffery C. Giering
Attorney Docket Number:	62210-501C04US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	320	320
UTILITY SEARCH FEE	1111	1	700	700
UTILITY EXAMINATION FEE	1311	1	800	800
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1820**

Electronic Acknowledgement Receipt	
EFS ID:	41882839
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Jeffery C. Giering/Angela Olivos
Filer Authorized By:	Jeffery C. Giering
Attorney Docket Number:	62210-501C04US
Receipt Date:	09-FEB-2021
Filing Date:	
Time Stamp:	20:35:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

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Payment Type	DA
Payment was successfully received in RAM	$1820
RAM confirmation Number	E202129K35401165
Deposit Account	
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		062210-501C04US_Application.pdf	4787405 e8ae75e7ddc1f488530441cf53bfc6edaefb247b	yes	99
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Specification		1	89	
	Claims		90	98	
	Abstract		99	99	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	062210-501C04US_Drawings.pdf	262594 eb11d99e88e90e604ba2b59d04688adeea654780	no	8
Warnings:					
Information:					
3	Oath or Declaration filed	062210-501C04US_Declarations.pdf	192971 32b45f694190b9371647befede8a7ed429e7d050	no	2
Warnings:					
Information:					
4	Application Data Sheet	62210-501C04US_ADS.pdf	1326553 0dec3fc222a3c18c8e39e22f253d4814a1d67ef6	no	9
Warnings:					
Information:					
5	Transmittal of New Application	62210-501C04US_TRANSMITTAL.pdf	281660 44778e7f582e4a04f6e715586d644a17ce9a5a62	no	2

Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	35173 c08baf8023584dee6cebc4fd93695fb23c8941f9	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	6886356	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

CROSS REFERENCE

[0001] This application claims the benefit of U.S. Provisional Patent Application Serial No. 61/820,128, filed May 6, 2013, and U.S. Provisional Patent Application Serial No. 61/912,507, filed December 5, 2013, which are incorporated herein by reference in their entireties.

SUMMARY OF THE INVENTION

[0002] Provided herein is a method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

[0003] Provided herein is a method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

[0004] Provided herein is a method of delivering nicotine to a user comprising operating an electronic cigarette wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

[0005] Provided herein is a method of delivering nicotine to a user comprising providing an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein

an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

[0006] Provided herein is a method of delivering nicotine to the blood of a user, said method comprising providing an aerosol that is inhaled by the user from an electronic cigarette that comprises a nicotine salt formulation wherein providing the aerosol comprises the electronic cigarette heating the formulation thereby generating the aerosol, wherein the aerosol is effective in delivering a level of nicotine in the blood of the user that is at least 5ng/mL at about 1.5 minutes after a first puff of ten puffs of the aerosol, each puff taken at 30 second intervals.

[0007] Provided herein is a nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

[0008] Provided herein is a nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

[0009] Provided herein is a nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

[0010] Provided herein is a nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation

in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

[0011] Provided herein is a nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

[0012] Provided herein is a nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

[0013] Provided herein is a nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

[0014] Provided herein is a nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

[0015] Provided herein is a nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

[0016] Provided herein is a nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

[0017] Provided herein is a nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

[0018] Provided herein is a nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

[0019] Provided herein is a use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

[0020] Provided herein is a use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

[0021] Provided herein is a use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine

salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

[0022] Provided herein is a use of a nicotine salt formulation for delivery of nicotine to the blood of a user from an electronic cigarette, wherein the nicotine salt formulation in the electronic cigarette is heated to form an aerosol which delivers a level of nicotine in the blood of the user that is at least 5 ng/mL at about 1.5 minutes after a first puff of ten puffs of the aerosol, each puff taken at 30 second intervals.

[0023] Provided herein is a use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

[0024] Provided herein is a cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

[0025] Provided herein is a cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

[0026] Provided herein is a cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

[0027] Provided herein is a cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

[0028] Provided herein is an electronic cigarette for generating an inhalable aerosol comprising:

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 ^{o}C;

a battery; and

a mouthpiece.

[0029] Provided herein is an electronic cigarette for generating an inhalable aerosol comprising:

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C;

a battery; and

a mouthpiece.

[0030] Provided herein is an electronic cigarette for generating an inhalable aerosol comprising:

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

a battery; and

a mouthpiece.

[0031] Provided herein is an electronic cigarette for generating an inhalable aerosol comprising:

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

a battery; and

a mouthpiece.

[0032] Provided herein is a cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein

an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

[0033] Provided herein is a cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

[0034] Provided herein is a cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

[0035] Provided herein is a cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

[0036] Provided herein is a kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

[0037] Provided herein is a kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

[0038] Provided herein is a kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

[0039] Provided herein is a kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a

nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

INCORPORATION BY REFERENCE

[0040] All publications, patents and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent or patent application was specifically and individually indicated to be incorporated by reference.

BRIEF DESCRIPTION OF THE DRAWINGS

[0041] A better understanding of the features and advantages of the present invention will be obtained by reference to the following detailed description that sets forth illustrative embodiments, in which the principles of the invention are used, and the accompanying drawings of which:

[0042] **Figure 1** illustrates results of heart rate data measured for six minutes from start of puffing. Y-axis is heart rate (bpm) and X-axis represent duration of the test (-60 to 180 seconds);

[0043] **Figure 2** illustrates results of heart rate data measured for ten minutes from start of puffing. Y-axis is heart rate (bpm) and X-axis represents duration of the test (0 to 10 minutes);

[0044] **Figure 3** illustrates the calculated vapor pressures of various acids relative to nicotine;

[0045] **Figure 4** illustrates the pharmacokinetic profiles for eight test articles in a blood plasma study;

[0046] **Figure 5** illustrates the comparison of C_{max} and T_{max} for eight test articles in a blood plasma study;

[0047] **Figure 6** illustrates the comparison of C_{max} and AUC for eight test articles in a blood plasma study;

[0048] **Figure 7** depicts an example embodiment of an electronic cigarette having a fluid storage compartment comprising an embodiment nicotine salt formulation described herein; and

[0049] **Figure 8** depicts an example embodiment of an electronic cigarette cartomizer having a fluid storage compartment, a heater, and comprising an embodiment nicotine salt formulation described herein.

DETAILED DESCRIPTION OF THE INVENTION

[0050] Nicotine is a chemical stimulant and increases heart rate and blood pressure when provided to an individual or animal. Nicotine transfer to an individual is associated with a feeling of physical and/or emotional satisfaction. Conflicting reports have been published regarding the transfer efficiency of free base nicotine in comparison to mono- or di-protonated nicotine salts. Studies on the transfer efficiency of free base nicotine and nicotine salts are complex and have yielded unpredictable results. Further, such transfer efficiency studies have been performed under extremely high temperature conditions, comparable to smoking; therefore, they offer scant guidance on the transfer efficiency of free base nicotine and nicotine salts under low-temperature vaporization conditions. Some reports have posited that nicotine free base should give rise to a greater satisfaction in a user than any corresponding nicotine salt.

[0051] It has been unexpectedly discovered herein that certain nicotine salt formulations provide satisfaction in an individual superior to that of free base nicotine, and more comparable to the satisfaction in an individual smoking a traditional cigarette. The satisfaction effect is consistent with an efficient transfer of nicotine to the lungs of an individual and a rapid rise of nicotine absorption in the plasma as shown, for non-limiting example, in Example 8, at least. It has also been unexpectedly discovered herein that certain nicotine salt formulations provide greater satisfaction than other nicotine salt formulations, and such effect has been shown in blood plasma levels of example nicotine salt formulations

herein, for non-limiting example, in Example 8, at least. These results show a difference in rate of nicotine uptake in the blood that is higher for some nicotine salt formulations aerosolized by an electronic cigarette than for other nicotine salt formulations, and likewise higher than nicotine freebase formulations, while the peak concentration of the nictoine in the blood and total amount of nicotine delivered appears comparable to a traditional cigarette, and do not appear to vary significantly between the various nicotine formulations. Therefore, described herein are nicotine salt formulations for use in an electronic cigarette, or the like, that provide a general satisfaction effect consistent with an efficient transfer of nicotine to the lungs of an individual and a rapid rise of nicotine absorption in the plasma. Provided herein, therefore, are devices, formulation of nicotine salts, systems, cartomizers, kits and methods that are used to inhale an aerosol generated from a nicotine salt liquid formulation through the mouth or nose as described herein or as would be obvious to one of skill in the art upon reading the disclosure herein.

[0052] Consistent with these satisfaction effects, it has unexpectedly been found herein that there is a difference between the C_{max} (maximum concentration) and T_{max} (time at which the maximum concentration is measured) when measuring blood plasma nicotine levels of freebase nicotine formulations inhaled using a low temperature vaporization device, i.e. electronic cigarette, as compared to the C_{max} and T_{max} (similarly measuring blood plasma nicotine levels) of a traditional cigarette. Also consistent with these satisfaction effects, it has unexpectedly been found herein that there is a difference between the C_{max} (maximum concentration) and T_{max} (time at which the maximum concentration is measured) when measuring blood plasma nicotine levels of freebase nicotine formulations inhaled using a low temperature vaporization device, i.e. electronic cigarette, as compared to the C_{max} and T_{max} (similarly measuring blood plasma nicotine levels) of nicotine salt formulations inhaled using a low temperature vaporization device, i.e. electronic cigarette. Additionally, it has unexpectedly been found that there is a difference between the rate of nicotine uptake in the plasma of users inhaling freebase nicotine formulations using a low temperature vaporization device, i.e. electronic cigarette, as compared to the rate of nicotine uptake in the plasma of users inhaling smoke of a traditional cigarette. Furthermore, it has unexpectedly been found that there is a difference between the rate of nicotine uptake in the plasma of users inhaling

freebase nicotine formulations using a low temperature vaporization device, i.e. electronic cigarette, as compared to the rate of nicotine uptake in the plasma of users inhaling nicotine salt formulations using a low temperature vaporization device, i.e. electronic cigarette.

[0053] Thus, looking at freebase nicotine as a source of nicotine in compositions used in e-cigarettes, freebase nicotine compositions' delivery of nicotine to blood when inhaled using is not necessarily comparable in blood plasma levels (C_{max} and T_{max}) to a traditional cigarette's nicotine delivery to blood when inhaled. Freebase nicotine compositions' delivery of nicotine to blood when inhaled using is not necessarily comparable in blood plasma levels (C_{max} and T_{max}) to nicotine salt formulations' nicotine delivery to blood when inhaled. Freebase nicotine compositions' delivery of nicotine to blood when inhaled using is not necessarily comparable in blood plasma levels when measuring the rate of nicotine uptake in the blood within the first 0-5 minutes to a traditional cigarette's nicotine delivery to blood when inhaled. Freebase nicotine compositions' delivery of nicotine to blood when inhaled using necessarily is not comparable in blood plasma levels when measuring the rate of nicotine uptake in the blood within the first 0-5 minutes to nicotine salt formulations' nicotine delivery to blood when inhaled.

[0054] Also consistent with these satisfaction effects, it has unexpectedly been found herein that while there appears to be comparable C_{max} and T_{max} values (measuring blood plasma nicotine levels) of nicotine salt formulations inhaled using a low temperature vaporization device, i.e. electronic cigarette, as compared to the C_{max} and T_{max} (similarly measuring blood plasma nicotine levels) of a traditional cigarette, there is a demonstrable difference between the rate of nicotine uptake in the plasma of users inhaling certain nicotine salt formulations using a low temperature vaporization device, i.e. electronic cigarette, as compared to the rate of nicotine uptake in the plasma of users inhaling other nicotine salt formulations using a low temperature vaporization device, i.e. electronic cigarette. It is also unexpected that while the C_{max} and T_{max} values are comparable to those of a traditional cigarette, (or are approaching that of a traditional cigarette), the rate of nicotine uptake in the plasma of blood of users is higher in certain nicotine salt formulations than that of the traditional cigarette. The nicotine salt formulations which demonstrate the quickest rate of nicotine uptake in the plasma were more preferred in

satisfaction evaluations, and were rated more equivalent to cigarette satisfaction than the nicotine salt formulations showing the slowest rates of rise of nicotine in the subjects' blood plasma. In addition, doubling the concentration of the nicotine salt in the formulation may not necessarily impact the rate of absorption of nicotine in the blood (see, for non-limiting example Example 8, nicotine benzoate tested in 4% and 2% concentrations).

[0055] Thus, looking at nicotine salt formulations used in e-cigarettes, nicotine salt formulations delivered using an e-cigarette appear comparable in C_{max} and T_{max} values (measuring blood plasma nicotine levels), however, not all nicotine salts perform similarly to each other or to a traditional cigarette with respect to the rate of nicotine uptake in the blood at early time periods (0-1.5 minutes). These results are unexpected. Nicotine salt formulations made using acids having a Vapor Pressure between 20 – 300 mmHg @ 200 °C, or Vapor Pressure > 20 mmHg @ 200 °C, or a Vapor Pressure from 20 to 300 mmHg @ 200 °C, or a Vapor Pressure from 20 to 200 mmHg @ 200 °C, a Vapor Pressure between 20 and 300 mmHg @ 200 °C appear to have a higher rate of nicotine uptake in the blood at early time periods (0-1.5 minutes, 0-3 minutes, 0-2 minutes, 0-4 minutes for non-limiting example) than other nicotine salt formulations, however, they also provide satisfaction comparable to a traditional cigarette or closer to a traditional cigarette (as compared to other nicotine salt formulations or as compared to nicotine freebase formulations). For non-limiting example, acids that meet one or more criteria of the prior sentence include salicylic acid, sorbic acid, benzoic acid, lauric acid, and levulinic acid. Nicotine salt formulations made using acids that have a difference between boiling point and melting point of at least 50 °C, and a boiling point greater than 160 °C, and a melting point less than 160 °C appear to have a higher rate of nicotine uptake in the blood at early time periods (0-1.5 minutes, 0-3 minutes, 0-2 minutes, 0-4 minutes for non-limiting example) than other nicotine salt formulations, however, they also provide satisfaction comparable to a traditional cigarette or closer to a traditional cigarette (as compared to other nicotine salt formulations or as compared to nicotine freebase formulations). For non-limiting example, acids that meet the criteria of the prior sentence include salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid. Nicotine salt formulations made using acids that have a difference between boiling point and melting

point of at least 50 °C, and a boiling point at most 40 °C less than operating temperature, and a melting point at least 40 °C lower than operating temperature appear to have a higher rate of nicotine uptake in the blood at early time periods (0-1.5 minutes, 0-3 minutes, 0-2 minutes, 0-4 minutes for non-limiting example) than other nicotine salt formulations, however, they also provide satisfaction comparable to a traditional cigarette or closer to a traditional cigarette (as compared to other nicotine salt formulations or as compared to nicotine freebase formulations). Operating temperature can be 100 °C to 300°C, or about 200°C, about 150°C to about 250°C, 180C to 220°C, about 180°C to about 220°C, 185°C to 215°C, about 185°C to about 215°C, about 190°C to about 210°C, 190°C to 210°C, 195°C to 205°C, or about 195°C to about 205°C. For non-limiting example, acids that meet the criteria of the prior sentence include salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid. Combinations of these criteria for preference of certain nicotine salt formulations are contemplated herein.

[0056] Other reasons for excluding certain acids from formulations may be unrelated to the rate of nicotine uptake, however. For example, an acid may be inappropriate for use with the device materials (corrosive or otherwise incompatible). Sulfuric acid is an example of this, which may be inappropriate for the e-cigarette device. An acid may be inappropriate for use in inhalation or for toxicity reasons – thus not be compatible for human consumption, ingestion, or inhalation. Sulfuric acid again is an example of this, which may be inappropriate for a user of an e-cigarette device, depending on the embodiment of the composition. An acid that is bitter or otherwise bad-tasting may also provide a reason for exclusion, such as acetic acid in some embodiments. Acids that oxidize at room temperature or at operating temperature may be inappropriate for certain embodiments, for example, sorbic acid, as this indicates a decomposition or reaction or instability that may be undesirable in the formulation. Decomposition of acids at room or operating temperatures may also indicate that the acid is inappropriate for use in the embodiment formulations. For example, citric acid decomposes at 175°C, and malic acid decomposes at 140°C, thus for a device operating at 200°C, these acids may not be appropriate. Acids that have poor solubility in the composition constituents may be inappropriate for use in certain embodiments of the compositions herein. For example, nicotine bitartrate with a composition of nicotine and tartaric acid as 1:2 molar ratio will

not produce a solution at a concentration of 0.5%(w/w) nicotine or higher and 0.9%(w/w) tartaric acid or higher in propylene glycol (PG) or vegetable glycerin (VG) or any mixture of PG and VG at ambient conditions. As used herein, weight percentage (w/w) refers to the weight of the individual component over the weight of the total formulation.

[0057] As used in this specification and the claims, the singular forms "a," "an," and "the" include plural referents unless the context clearly dictates otherwise.

[0058] The term "organic acid" as used herein, refers to an organic compound with acidic properties (e.g., by Brønsted-Lowry definition, or Lewis definition). A common organic acid is the carboxylic acids, whose acidity is associated with their carboxyl group –COOH. A dicarboxylic acid possesses two carboxylic acid groups. The relative acidity of an organic is measured by its pK_a value and one of skill in the art knows how to determine the acidity of an organic acid based on its given pKa value. The term "keto acid" as used herein, refers to organic compounds that contain a carboxylic acid group and a ketone group. Common types of keto acids include alpha-keto acids, or 2-oxoacids, such as pyruvic acid or oxaloacetic acid, having the keto group adjacent to the carboxylic acid; beta-keto acids, or 3-oxoacids, such as acetoacetic acid, having the ketone group at the second carbon from the carboxylic acid; gamma-keto acids, or 4-oxoacids, such as levulinic acid, having the ketone group at the third carbon from the carboxylic acid.

[0059] The term "electronic cigarette" or "e-cigarette" or "low temperature vaporization device" as used herein, refers to an electronic inhaler that vaporizes a liquid solution into an aerosol mist, simulating the act of tobacco smoking. The liquid solution comprises a formulation comprising nicotine. There are many electronic cigarettes which do not resemble conventional cigarettes at all. The amount of nicotine contained can be chosen by the user via the inhalation. In general, an electronic cigarette contains three essential components: a plastic cartridge that serves as a mouthpiece and a reservoir for liquid, an "atomizer" that vaporizes the liquid, and a battery. Other embodiment electronic cigarettes include a combined atomizer and reservoir, called a "cartomizer" that may or may not be disposable, a mouthpiece that may be integrated with the cartomizer or not, and a battery.

[0060] As used in this specification and the claims, unless otherwise stated, the term "about" refers to variations of 1%, 2%, 3%, 4%, 5%, 10%, 15%, or 25%, depending on the embodiment.

[0061] Suitable carriers (e.g.., a liquid solvent) for the nicotine salts described herein include a medium in which a nicotine salt is soluble at ambient conditions, such that the nicotine salt does not form a solid precipitate. Examples include, but are not limited to, glycerol, propylene glycol, trimethylene glycol, water, ethanol and the like, as well as combinations thereof. In some embodiments, the liquid carrier comprises 0% to 100% of propylene glycol and 100% to 0% of vegetable glycerin. In some embodiments, the liquid carrier comprises 10% to 70% of propylene glycol and 90% to 30% of vegetable glycerin. In some embodiments, the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin. In some embodiments, the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

[0062] The formulations described herein vary in concentration. In some formulations, a dilute concentration of the nicotine salt in the carrier is utilized. In some formulations, a less dilute concentration of the nicotine salt in the carrier is utilized. In some formulations the concentration of nicotine in the nicotine salt formulation is about 1% (w/w) to about 25% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is about 1% (w/w) to about 20% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is about 1% (w/w) to about 18% (w/w). In some embodiments the concentration of nicotine in the nicotine salt formulation is about 1% (w/w) to about 15% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is about 4% (w/w) to about 12% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is about 4% (w/w). In some embodiments the concentration of nicotine in the nicotine salt formulation is about 2% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 1% (w/w) to 25% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 1% (w/w) to 20% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 1% (w/w) to 18% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 1% (w/w) to 15% (w/w). In some formulations the concentration of nicotine in the nicotine

salt formulation is 4% (w/w) to 12% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 4% (w/w). In some formulations the concentration of nicotine in the nicotine salt formulation is 2% (w/w). In some formulations, a less dilute concentration of one nicotine salt is used in conjunction with a more dilute concentration of a second nicotine salt. In some formulations, the concentration of nicotine in the first nicotine salt formulation is about 1% to about 20%, and is combined with a second nicotine salt formulation having a concentration of nicotine therein from about 1% to about 20% or any range or concentration therein. In some formulations, the concentration of nicotine in the first nicotine salt formulation is 1% to 20%, and is combined with a second nicotine salt formulation having a concentration of nicotine therein from 1% to 20% or any range or concentration therein. As used with respect to concentrations of nicotine in the nicotine salt formulations, the term "about" refers to ranges of 0.05% (i.e. if the concentration is about 2%, the range is 1.95%-2.05%), 0.1 (i.e. if the concentration is about 2%, the range is 1.9%-2.1%), 0.25 (i.e. if the concentration is about 2%, the range is 1.75%-2.25%), 0.5 (i.e. if the concentration is about 2%, the range is 1.5%-2.5%), or 1 (i.e. if the concentration is about 4%, the range is 3%-5%), depending on the embodiment.

[0063] Nicotine salts are formed by the addition of a suitable acid, including organic or inorganic acids. In some formulations provided herein, suitable organic acids are carboxylic acids. Examples of organic carboxylic acids disclosed herein are monocarboxylic acids, dicarboxylic acids (organic acid containing two carboxylic acid groups), carboxylic acids containing an aromatic group such as benzoic acids, hydroxycarboxylic acids, heterocyclic carboxylic acids, terpenoid acids, sugar acids; such as the pectic acids, amino acids, cycloaliphatic acids, aliphatic carboxylic acids, keto carboxylic acids, and the like. In some formulations provided herein, the organic acids used herein are monocarboxylic acids. Nicotine salts are formed from the addition of a suitable acid to nicotine. In some formulations provided herein, the stoichiometric ratios of the nicotine to acid (nicotine:acid) are 1:1, 1:2, 1:3, 1:4, 2:3, 2:5, 2:7, 3:4, 3:5, 3:7, 3:8, 3:10, 3:11, 4:5, 4:7, 4:9, 4:10, 4:11, 4:13, 4:14, 4:15, 5:6, 5:7, 5:8, 5:9, 5:11, 5:12, 5:13, 5:14, 5:16, 5:17, 5:18, or 5:19. In some formulations provided herein, the stoichiometric ratios of the nicotine to acid are 1:1, 1:2, 1:3, or 1:4 (nicotine:acid).

[0064] Nicotine is an alkaloid molecule that comprises two basic nitrogens. It may occur in different states of protonation. For example, if no protonation exists, nicotine is referred to as the "free base." If one nitrogen is protonated, then the nicotine would be "mono-protonated."

[0065] Nicotine salt formulations may be formed by adding a suitable acid to nicotine, stirring the neat mixture at ambient temperature or at elevated temperature, and then diluting the neat mixture with a carrier mixture, such as a mixture of propylene glycol and glycerin. In some embodiments, the suitable acid is completely dissolved by the nicotine prior to dilution. The suitable acid may not completely dissolved by the nicotine prior to dilution. The addition of the suitable acid to the nicotine to form a neat mixture may cause an exothermic reaction. The addition of the suitable acid to the nicotine to form a neat mixture may be conducted at 55 °C. The addition of the suitable acid to the nicotine to form a neat mixture may be conducted at 90 °C. The neat mixture may be cooled to ambient temperature prior to dilution. The dilution may be carried out at elevated temperature.

[0066] Nicotine salt formulations may be prepared by combining nicotine and a suitable acid in a carrier mixture, such as a mixture of propylene glycol and glycerin. The mixture of nicotine and a first carrier mixture is combined with a mixture of a suitable acid in a second carrier mixture. In some embodiments, the first and second carrier mixtures are identical in composition. In some embodiments, the first and second carrier mixtures are not identical in composition. In some embodiments, heating of nicotine/acid/carrier mixture is required to facilitate complete dissolution.

[0067] In some embodiments, nicotine salt formulations may be prepared and added to a solution of 3:7 ratio by weight of propylene glycol (PG)/vegetable glycerin (VG), and mixed thoroughly. While described herein as producing 10g of each of the formulations, all procedures noted *infra* are scalable. Other manners of formulation may also be employed form the formulations noted infra, without departing from the disclosure herein, and as would be known to one of skill in the art upon reading the disclosure herein.

[0068] The optimal nicotine salt formulation may be determined by the vapor pressure of the constituent acid. In some embodiments, the nicotine salt formulations comprise an acid with a vapor pressure that is similar to the vapor pressure of free base nicotine. In some

embodiments, the nicotine salt formulations are formed from an acid with a vapor pressure that is similar to the vapor pressure of free base nicotine at the heating temperature of the device. Figure 3 illustrates this trend. Nicotine salts formed from nicotine and benzoic acid; nicotine and salicylic acid; or nicotine and levulinic acid are salts that produce a satisfaction in an individual user consistent with efficient transfer of nicotine and a rapid rise in nicotine plasma levels. This pattern may be due to the mechanism of action during heating of the nicotine salt formulation. The nicotine salt may disassociate at, or just below, the heating temperature of the device, resulting in a mixture of free base nicotine and the individual acid. At that point, if both the nicotine and acid have similar vapor pressures, they may aerosolize at the same time, giving rise to a transfer of both free base nicotine and the constituent acid to the user.

[0069] The nicotine salt liquid formulation for generating an inhalable aerosol upon heating in an electronic cigarette may comprise a nicotine salt in a biologically acceptable liquid carrier; wherein the acid used to form said nicotine salt is characterized by a vapor pressure between 20 – 4000 mmHg at 200 °C. In some embodiments, the acid used to form the nicotine salt is characterized by vapor pressure between 20 – 2000 mmHg at 200 °C. In some embodiments, the acid used to form the nicotine salt is characterized by vapor pressure between 100 – 300 mmHg at 200 °C.

[0070] Unexpectedly, different nicotine salt formulations produced varying degrees of satisfaction in an individual. In some embodiments, the extent of protonation of the nicotine salt affected satisfaction, such that more protonation was less satisfying as compared to less protonation. The nicotine salt formed may be monoprotonated. The nicotine salt formed may be diprotonated. The nicotine salt may exist in more than one protonation state, e.g., an equilibrium of mono-protonated and di-protonated nicotine salts. The extent of protonation of the nicotine molecule may be dependent upon the stoichiometric ratio of nicotine:acid used in the salt formation reaction. The extent of protonation of the nicotine molecule may be dependent upon the solvent. The extent of protonation of the nicotine molecule may be unknown. In some embodiments, monoprotonated nicotine salts produced a high degree of satisfaction in the user. For example, nicotine benzoate and nicotine salicylate are mono-protonated nicotine salts and all produce a high degree of satisfaction in the user. The reason for this trend may be

explained by a mechanism of action wherein the nicotine is first deprotonated prior to transfer to the vapor with the constituent acid and then retained and stabilized after re-protonated by the acid going down stream to the lungs of the user. It may be easier to remove one proton versus two protons, thus resulting in better transfer efficiency. In addition, the lack of satisfaction of free base nicotine indicates that a second factor may be important. A nicotine salt may be best performing when it is at its optimal extent of protonation, depending on the salt. For example, nicotine pyruvate is a nicotine salt with 1:2 nicotine:acid ratio. The formulation containing nicotine pyruvate (1:2) may deliver more satisfaction to the user than the one containing same amount of nicotine but only half amount of pyruvic acid, i.e. nicotine pyruvate (1:1). This may be explained as 1 mole of nicotine produces a salt with 2 moles of pyruvic acid. When there is not enough pyruvic acid to associate with all nicotine molecules, the free base nicotine left unprotonated in the formulation may reduce the satisfaction the formulation provides.

[0071] The flavor of the constituent acid used in the salt formation may be a consideration in choosing the acid. A suitable acid may have minimal or no toxicity to humans in the concentrations used. A suitable acid may be compatible with the electronic cigarette components it contacts or could contact at the concentrations used. That is, such acid does not degrade or otherwise react with the electronic cigarette components it contacts or could contact. The odor of the constituent acid used in the salt formation may be a consideration in choosing a suitable acid. The concentration of the nicotine salt in the carrier may affect the satisfaction in the individual user. In some embodiments, the flavor of the formulation is adjusted by changing the acid. In some embodiments, the flavor of the formulation is adjusted by adding exogenous flavorants. In some embodiments, an unpleasant tasting or smelling acid is used in minimal quantities to mitigate such characteristics. In some embodiments, exogenous pleasant smelling or tasting acid is added to the formulation. Examples of salts which can provide flavor and aroma to the mainstream aerosol at certain levels include nicotine acetate, nicotine oxalate, nicotine malate, nicotine isovalerate, nicotine lactate, nicotine citrate, nicotine phenylacetate and nicotine myristate.

[0072] Nicotine salt formulations may generate an inhalable aerosol upon heating in an electronic cigarette. The amount of nicotine or nicotine salt aerosol inhaled may be user-

determined. The user may, for example, modify the amount of nicotine or nicotine salt inhaled by adjusting his inhalation strength.

[0073] Formulations are described herein comprising two or more nicotine salts. In some embodiments, wherein a formulation comprises two or more nicotine salts, each individual nicotine salt is formed as described herein.

[0074] Nicotine salt formulations, as used herein, refer to a single or mixture of nicotine salts with other suitable chemical components used for e-cigarette, such as carriers, stabilizers, diluents, dispersing agents, suspending agents, thickening agents, and/or excipients. In certain embodiments, the nicotine salt formulation is stirred at ambient conditions for 20 minutes. In certain embodiments, the nicotine salt formulation is heated and stirred at 55C for 20 minutes. In certain embodiments, the nicotine salt formulation is heated and stirred at 90C for 60 minutes. In certain embodiments, the formulation facilitates administration of nicotine to an organism (e.g., lung).

[0075] The nicotine of nicotine salt formulations provided herein is either naturally occurring nicotine (e.g., from extract of nicotineous species such as tobacco), or synthetic nicotine. In some embodiments, the nicotine is (-)-nicotine, (+)-nicotine, or a mixture thereof. In some embodiments, the nicotine is employed in relatively pure form (e.g., greater than about 80% pure, 85% pure, 90% pure, 95% pure, or 99 % pure). In some embodiments, the nicotine for nicotine salt formulation provided herein is "water clear" in appearance in order to avoid or minimize the formation of tarry residues during the subsequent salt formation steps.

[0076] Nicotine salt formulations used for e-cigarettes described herein, in some embodiments, have a nicotine concentration of about 0.5% (w/w) to about 20% (w/w), wherein the concentration is of nicotine weight to total solution weight, i.e. (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 20% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 18% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 15% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 4% (w/w) to about 12% (w/w). In certain embodiments, nicotine salt formulations provided herein

have a nicotine concentration of about 1% (w/w) to about 18% (w/w), about 3% (w/w) to about 15% (w/w), or about 4% (w/w) to about 12% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 10% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 5% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 4% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 3% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 2% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 0.5% (w/w) to about 1% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 10% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 5% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 4% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 3% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 1% (w/w) to about 2% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 2% (w/w) to about 10% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 2% (w/w) to about 5% (w/w). In certain embodiments, nicotine salt formulations provided herein have a nicotine concentration of about 2% (w/w) to about 4% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 0.5%, 0.6%, 0.7%, 0.8%, 0.9%, 1.0%, 1.1%, 1.2%, 1.3%, 1.4%, 1.5%, 1.6%, 1.7%, 1.8%, 1.9%, 2.0%, 2.1%, 2.2%, 2.3%, 2.4%, 2.5%, 2.6%, 2.7%, 2.8%, 2.9%, 3.0%, 3.1%, 3.2%, 3.3%, 3.4%, 3.5%, 3.6%, 3.7%, 3.8%, 3.9%, 4.0%, 4.5%, 5.0%, 5.5%, 6.0%, 6.5%, 7.0%, 7.5%, 8.0%, 8.5%, 9.0%, 9.5%, 10%, 11%, 12%, 13%, 14%, 15%, 16%, 17%, 18%, 19%, or 20% (w/w), or more, including any increments therein. Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about

5% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 4% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 3% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 2% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 1% (w/w). Certain embodiments provide a nicotine salt formulation having a nicotine concentration of about 0.5% (w/w).

[0077] The formulation further may comprise one or more flavorants.

[0078] Thee suitable acid for the nicotine salt formulation may have a vapor pressure >20 mmHg at 200 °C and is non-corrosive to the electronic cigarette or is non-toxic to humans. In some embodiments, the suitable acid for nicotine salt formation is selected from the group consisting of salicylic acid, formic acid, sorbic acid, acetic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

[0079] Thee suitable acid for the nicotine salt formulation may have a vapor pressure of about 20 to 200 mmHg at 200 °C and is non-corrosive to the electronic cigarette or is non-toxic to humans. In some embodiments, the suitable acid for nicotine salt formation is selected from the group consisting of salicylic acid, benzoic acid, lauric acid, and levulinic acid.

[0080] Thee suitable acid for the nicotine salt formulation may have a melting point <160 °C, a boiling point >160 °C, at least a 50-degree difference between the melting point and the boiling point, and is non-corrosive to the electronic cigarette or is non-toxic to humans. In some embodiments, the suitable acid for nicotine salt formation has a melting point at least 40 degrees lower than the operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, at least a 50-degree difference between the melting point and the boiling point, and is non-corrosive to the electronic cigarette or is non-toxic to humans; wherein the operating temperature is 200 °C. In some embodiments, the suitable acid for nicotine salt formation is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

[0081] Thee suitable acid for the nicotine salt formulation does not decompose at the operating temperature of the electronic cigarette. In some embodiments, the suitable acid for nicotine salt formation does not oxidize at the operating temperature of the electronic

cigarette. In some embodiments, the suitable acid for nicotine salt formation does not oxidize at room temperature. In some embodiments, the suitable acid for nicotine salt formation does not provide an unpleasant taste. In some embodiments, the suitable acid for nicotine salt formation has good solubility in a liquid formulation for use in an electronic cigarette.

[0082] Provided herein is an electronic cigarette 2 having a fluid storage compartment 4 comprising an embodiment nicotine salt formulation of any embodiment described herein within the fluid storage compartment described herein. An embodiment is shown in FIG. 7. The electronic cigarette 2 of FIG. 7 includes a mouth end 6, and a charging end 8. The mouth-end 6 includes a mouthpiece 10. The charging end 8 may connect to a battery or a charger or both, wherein the battery is within a body of the electronic cigarette, and the charger is separate from the battery and couples to the body or the battery to charge the battery. In some embodiments the electronic cigarette comprises a rechargeable battery within a body 14 of the electronic cigarette and the charge end 8 comprises a connection 12 for charging the rechargeable battery. In some embodiments, the electronic cigarette comprises a cartomizer that comprises the fluid storage compartment and an atomizer. In some embodiments, the atomizer comprises a heater. In some embodiments the fluid storage compartment 4 is separable from an atomizer. In some embodiments the fluid storage compartment 4 is replaceable as part of a replaceable cartridge. In some embodiments the fluid storage compartment 4 is refillable. In some embodiments, the mouthpiece 10 is replaceable.

[0083] Provided herein is a cartomizer 18 for an electronic cigarette 2 having a fluid storage compartment 4 comprising an embodiment nicotine salt formulation of any embodiment described herein within the fluid storage compartment described herein. The cartomizer 18 embodiment of FIG. 8 includes a mouth end 6, and a connection end 16. The connection end 16 in the embodiment of FIG. 8 couples the cartomizer 14 to a body of an electronic cigarette, or to a battery of the electronic cigarette, or both. The mouth end 6 includes a mouthpiece 10. In some embodiments, the cartomizer does not include a mouthpiece, and in such embodiments, the cartomizer can be coupled to a mouthpiece of an electronic cigarette, or the cartomizer can be coupled to a battery or body of an electronic cigarette, while the mouthpiece is also coupled to the battery or the

body of the electronic cigarette. In some embodiments, the mouthpiece is integral with the body of the electronic cigarette. In some embodiments, including the embodiment of FIG. 8, the cartomizer 18 comprises the fluid storage compartment 4 and an atomizer (not shown). In some embodiments, the atomizer comprises a heater (not shown)

Examples

Example 1: Preparation of Nicotine salt Formulations

[0084] Various nicotine formulations were prepared and added to a solution of 3:7 ratio by weight of propylene glycol (PG)/vegetable glycerin (VG), and mixed thoroughly. The examples shown below were used to make 10g of each of the formulations. All procedures are scalable.

[0085] For example, in order to make nicotine formulations with a final nicotine free base equivalent concentration of 2% (w/w), the following procedures were applied to each individual formulation.

- Nicotine benzoate salt formulation: 0.15g benzoic acid was added to a beaker followed by adding 0.2g nicotine to the same beaker. The mixture was stirred at 55 °C for 20 minutes until benzoic acid was completely dissolved and an orange oily mixture was formed. The mixture was cooled down to ambient conditions. 9.65g PG/VG (3:7) solution was added to the orange nicotine benzoate salt and the mixture was stirred until a visually homogenous formulation solution was achieved.
- Nicotine benzoate salt formulation can also be made by adding 0.15g benzoic acid to a beaker followed by adding 0.2g nicotine and 9.65g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 55 °C for 20 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine citrate salt formulation was made by adding 0.47g citric acid to a beaker followed by adding 0.2g nicotine and 9.33g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine malate salt formulation was made by adding 0.33g L-malic acid to a beaker followed by adding 0.2g nicotine and 9.47g PG/VG (3:7) solution to the same beaker. The

mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.

- Nicotine succinate salt formulation was made by adding 0.29g succinic acid to a beaker followed by adding 0.2g nicotine and 9.51g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine salicylate salt formulation was made by adding 0.17g salicylic acid to a beaker followed by adding 0.2g nicotine and 9.63g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine salicylate salt formulation can also be made by adding 0.17g salicylic acid to a beaker followed by adding 0.2g nicotine to the same beaker. The mixture was stirred at 90 °C for 60 minutes until salicylic acid was completely dissolved and an orange oily mixture was formed. The mixture was either cooled to ambient conditions or kept at 90 °C when 9.63g PG/VG (3:7) solution was added. The mixture was then stirred at 90 °C until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine free base formulation was made by adding 0.2g nicotine to a beaker followed by adding 9.8g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at ambient conditions for 10 minutes until a visually homogenous formulation solution was achieved.

[0086] For example, in order to make nicotine salt formulations with a final nicotine free base equivalent concentration of 3% (w/w), the following procedures were applied to each individual formulation.

- Nicotine benzoate salt formulation: 0.23g benzoic acid was added to a beaker followed by adding 0.3g nicotine to the same beaker. The mixture was stirred at 55 °C for 20 minutes until benzoic acid was completely dissolved and an orange oily mixture was formed. The mixture was cooled down to ambient conditions. 9.47g PG/VG (3:7) solution was added to the orange nicotine benzoate salt and the blend was stirred until a visually homogenous formulation solution was achieved.
- Nicotine benzoate salt formulation can also be made by adding 0.23g benzoic acid to a beaker followed by adding 0.3g nicotine and 9.47g PG/VG (3:7) solution to the same

beaker. The mixture was then stirred at 55 °C for 20 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.

- Nicotine citrate salt formulation was made by adding 0.71g citric acid to a beaker followed by adding 0.3g nicotine and 8.99g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine malate salt formulation was made by adding 0.5g L-malic acid to a beaker followed by adding 0.3g nicotine and 9.2g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine levulinate salt formulation was made by adding melted 0.64g levulinic acid to a beaker followed by adding 0.3g nicotine to the same beaker. The mixture was stirred at ambient conditions for 10 minutes. Exothermic reaction took place and oily product was produced. The mixture was allowed to cool down to ambient temperature and 9.06g PG/VG (3:7) solution was added to the same beaker. The mixture was then stirred at ambient conditions for 20 minutes until a visually homogenous formulation solution was achieved.
- Nicotine pyruvate salt formulation was made by adding 0.33g pyruvic acid to a beaker followed by adding 0.3g nicotine to the same beaker. The mixture was stirred at ambient conditions for 10 minutes. Exothermic reaction took place and oily product was produced. The mixture was allowed to cool down to ambient temperature and 9.37g PG/VG (3:7) solution was added to the same beaker. The mixture was then stirred at ambient conditions for 20 minutes until a visually homogenous formulation solution was achieved.
- Nicotine succinate salt formulation was made by adding 0.44g succinic acid to a beaker followed by adding 0.3g nicotine and 9.26g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine salicylate salt formulation was made by adding 0.26g salicylic acid to a beaker followed by adding 0.3g nicotine and 9.44g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.

- Nicotine salicylate salt formulation can also be made by adding 0.26g salicylic acid to a beaker followed by adding 0.3g nicotine to the same beaker. The mixture was stirred at 90 °C for 60 minutes until salicylic acid was completely dissolved and an orange oily mixture was formed. The mixture was either cooled to ambient conditions or kept at 90 °C when 9.44g PG/VG (3:7) solution was added. The blend was then stirred at 90C until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine free base formulation was made by adding 0.3g nicotine to a beaker followed by adding 9.7g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at ambient conditions for 10 minutes until a visually homogenous formulation solution was achieved.

[0087] For example, in order to make nicotine salt formulations with a final nicotine free base equivalent concentration of 4% (w/w), the following procedures were applied to each individual formulation.

- Nicotine benzoate salt formulation: 0.3g benzoic acid was added to a beaker followed by adding 0.4g nicotine to the same beaker. The mixture was stirred at 55 °C for 20 minutes until benzoic acid was completely dissolved and an orange oily mixture was formed. The mixture was cooled down to ambient conditions. 9.7g PG/VG (3:7) solution was added to the orange nicotine benzoate salt and the blend was stirred until a visually homogenous formulation solution was achieved.
- Nicotine benzoate salt formulation can also be made by adding 0.3g benzoic acid to a beaker followed by adding 0.4g nicotine and 9.7g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 55 °C for 20 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.

For example, in order to make nicotine salt formulations with a final nicotine free base equivalent concentration of 5% (w/w), the following procedures were applied to each individual formulation.

- Nicotine benzoate salt formulation: 0.38g benzoic acid was added to a beaker followed by adding 0.5g nicotine to the same beaker. The mixture was stirred at 55 °C for 20 minutes until benzoic acid was completely dissolved and an orange oily mixture was formed. The mixture was cooled down to ambient conditions. 9.12g PG/VG (3:7) solution was added to

the orange nicotine benzoate salt and the blend was stirred until a visually homogenous formulation solution was achieved.

- Nicotine benzoate salt formulation can also be made by adding 0.38g benzoic acid to a beaker followed by adding 0.5g nicotine and 9.12g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 55 °C for 20 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine malate salt formulation was made by adding 0.83g L-malic acid to a beaker followed by adding 0.5g nicotine and 8.67g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine levulinate salt formulation was made by adding melted 1.07g levulinic acid to a beaker followed by adding 0.5g nicotine to the same beaker. The mixture was stirred at ambient conditions for 10 minutes. Exothermic reaction took place and oily product was produced. The mixture was allowed to cool down to ambient temperature and 8.43g PG/VG (3:7) solution was added to the same beaker. The mixture was then stirred at ambient conditions for 20 minutes until a visually homogenous formulation solution was achieved.
- Nicotine pyruvate salt formulation was made by adding 0.54g pyruvic acid to a beaker followed by adding 0.5g nicotine to the same beaker. The mixture was stirred at ambient conditions for 10 minutes. Exothermic reaction took place and oily product was produced. The mixture was allowed to cool down to ambient temperature and 8.96g PG/VG (3:7) solution was added to the same beaker. The mixture was then stirred at ambient conditions for 20 minutes until a visually homogenous formulation solution was achieved.
- Nicotine succinate salt formulation was made by adding 0.73g succinic acid to a beaker followed by adding 0.5g nicotine and 8.77g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine salicylate salt formulation was made by adding 0.43g salicylic acid to a beaker followed by adding 0.5g nicotine and 9.07g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at 90 °C for 60 minutes until a visually homogenous formulation solution was achieved with no undissolved chemicals.

- Nicotine salicylate salt formulation can also be made by adding 0.43g salicylic acid to a beaker followed by adding 0.5g nicotine to the same beaker. The mixture was stirred at 90 °C for 60 minutes until salicylic acid was completely dissolved and an orange oily mixture was formed. The mixture was either cooled to ambient conditions or kept at 90C when 9.07g PG/VG (3:7) solution was added. The blend was then stirred at 90 °C until a visually homogenous formulation solution was achieved with no undissolved chemicals.
- Nicotine free base formulation was made by adding 0.5g nicotine to a beaker followed by adding 9.5g PG/VG (3:7) solution to the same beaker. The mixture was then stirred at ambient conditions for 10 minutes until a visually homogenous formulation solution was achieved.

[0088] Various formulations comprising different nicotine salts can be prepared similarly, or different concentrations of the above-noted nicotine formulations or other nicotine salt formulations can be prepared as one of skill in the art would know to do upon reading the disclosure herein.

[0089] Various formulations comprising two or more nicotine salts can be prepared similarly in a solution of 3:7 ratio of propylene glycol (PG)/vegetable glycerin (VG). For example, 0.43g (2.5% w/w nicotine) of nicotine levulinate salt and 0.34 g (2.5% w/w nicotine) of nicotine acetate salt are added to 9.23g of PG/VG solution, to achieve a 5% w/w nicotine formulation.

[0090] Also provided is another exemplary formulation. For example, 0.23g (1.33% w/w nicotine) of nicotine benzoate salt (molar ratio 1:1 nicotine/benzoic acid), 0.25g (1.33% w/w nicotine) of nicotine salicylate salt(molar ratio 1:1 nicotine/salicylic acid) and 0.28 g (1.34% w/w nicotine) of nicotine pyruvate salt (molar ratio 1:2 nicotine/pyruvic acid) are added to 9.25g of PG/VG solution, to achieve a 5% w/w nicotine formulation.

Example 2: Heart rate study of nicotine solutions via e-cigarette

[0091] Exemplary formulations of nicotine levulinate, nicotine benzoate, nicotine succinate, nicotine salicylate, nicotine malate, nicotine pyruvate, nicotine citrate, nicotine freebase, and a control of propylene glycol were prepared as noted in Example 1 in 3% w/w solutions and were administered in the same fashion by an electronic cigarette to the same human subject. About 0.5 mL of each solution was loaded into an "eRoll" cartridge atomizer (joyetech.com) to be used in the study. The atomizer was then attached to an

"eRoll" e-cigarette (same manufacturer). The operating temperature was from about 150°C to about 250 °C, or from about 180°C to about 220 °C.

[0092] Heart rate measurements were taken for 6 minutes; from 1 minute before start of puffing, for 3 minutes during puffing, and continuing until 2 minutes after end of puffing. The test participant took 10 puffs over 3 minutes in each case. The base heart rate was the average heart rate over the first 1 minute before start of puffing. Heart rate after puffing started was averaged over 20-second intervals. Puffing (inhalation) occurred every 20 seconds for a total of 3 minutes. Normalized heart rate was defined as the ratio between individual heart rate data point and the base heart rate. Final results were presented as normalized heart rate, shown for the first 4 minutes in FIG. 1.

[0093] FIG. 1 summarizes results from heart rate measurements taken for a variety of nicotine salt formulations. For ease of reference in reviewing FIG. 1, at the 180-second timepoint, from top to bottom (highest normalized heart rate to lowest normalized heart rate), the nicotine formulations are as follows: nicotine salicylate formulation, nicotine malate formulation, nicotine levulinate formulation (nearly identical to nicotine malate formulation at 180 seconds, thus, as a second reference point: the nicotine malate formulation curve is lower than the nicotine levulinate formulation curve at the 160-second time point), nicotine pyruvate formulation, nicotine benzoate formulation, nicotine citrate formulation, nicotine succinate formulation, and nicotine free base formulation. The bottom curve (lowest normalized heart rate) at the 180-second timepoint is associated with the placebo (100% propylene glycol). The test formulations comprising a nicotine salt cause a faster and more significant rise in heart rate than the placebo. The test formulations comprising a nicotine salt also cause faster and more significant rise when compared with a nicotine freebase formulation with the same amount of nicotine by weight. In addition, the nicotine salts (e.g., nicotine benzoate and nicotine pyruvate) prepared from the acids having calculated vapor pressures between 20 - 200 mmHg at 200 °C (benzoic acid (171.66 mmHg), with the exception of pyruvic acid (having a boiling point of 165C), respectively) cause a faster rise in heart rate than the rest. The nicotine salts (e.g., nicotine levulinate, nicotine benzoate, and nicotine salicylate) prepared from the acids (benzoic acid, levulinic acid and salicylic acid, respectively) also cause a more significant heart rate increase. Thus, other suitable nicotine salts formed by

the acids with the similar vapor pressure and/or similar boiling point may be used in accordance with the practice of the present invention. This experience of increased heart rate theoretically approaching or theoretically comparable to that of a traditional burned cigarette has not been demonstrated or identified in other electronic cigarette devices. Nor has it been demonstrated or identified in low temperature tobacco vaporization devices (electronic cigarettes) that do not burn the tobacco, even when a nicotine salt was used (a solution of 20% (w/w) or more of nicotine salt) as an additive to the tobacco. Thus the results from this experiment are surprising and unexpected.

Example 3: Satisfaction Study of Nicotine salt Solution via e-cigarette

[0094] In addition to the heart rate study shown in Example 2, nicotine formulations (using 3% w/w nicotine formulations as described in Example 1) were used to conduct a satisfaction study in a single test participant. The test participant, an e-cigarette and/or traditional cigarette user, was required to have no nicotine intake for at least 12 hours before the test. The participant took 10 puffs using an e-cigarette (same as used in Example 2) over 3 minutes in each case, and then was asked to rate the level of physical and emotional satisfaction he or she felt on a scale of 0 - 10, with 0 being no physical or emotional satisfaction. The results indicated that the least satisfying compound was the nicotine free base. Nicotine benzoate, nicotine salicylate, and nicotine succinate all performed well, followed by nicotine pyruvate, nicotine citrate, and nicotine pyruvate.

[0095] Based on the Satisfaction Study, the nicotine salts formulations with acids having vapor pressure ranges between >20 mmHg @ 200 °C, or 20-200 mmHg @ 200 °C, or 100 – 300 mmHg @ 200 °C provide more satisfaction than the rest (except the pyruvic acid which has boiling point of 165 °C). For reference, it has been determined that salicylic acid has a vapor pressure of about 135.7 mmHg @ 200 °C, benzoic acid has a vapor pressure of about 171.7 mmHg @ 200 °C, lauric acid has a vapor pressure of about 38 mmHg @ 200 °C, and levulinic acid has a vapor pressure of about 149 mmHg @ 200 °C.

Example 4: Test formulation 1 (TF1):

[0096] A solution of nicotine levulinate in glycerol comprising nicotine salt used: 1.26g (12.6% w/w) of 1:3 nicotine levulinate 8.74g (87.4% w/w) of glycerol - Total weight 10.0g.

[0097] Neat nicotine levulinate was added to the glycerol, and mixed thoroughly. L-Nicotine has a molar mass of 162.2g, and levulinic acid molar mass is 116.1g. In a 1:3 molar ratio, the percentage of nicotine in nicotine levulinate by weight is given by: 162.2g / (162.2g + (3 x 116.1g)) = 31.8% (w/w).

Example 5: Test formulation 2 (TF2):

[0098] A solution of free base nicotine in glycerol comprising 0.40g (4.00% w/w) of L-nicotine was dissolved in 9.60g (96.0% w/w) of glycerol and mixed thoroughly.

Example 6: Heart rate study of nicotine solutions via e-cigarette:

[0099] Both formulations (TF1 and TF2) were administered in the same fashion by an electronic cigarette to the same human subject: about 0.6 mL of each solution was loaded into "eGo-C" cartridge atomizer (joyetech.com). The atomizer was then attached to an "eVic" e-cigarette (same manufacturer). This model of e-cigarette allows for adjustable voltage, and therefore wattage, through the atomizer. The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C.

[00100] The atomizer in both cases has resistance 2.4ohms, and the e-cigarette was set to 4.24V, resulting in 7.49W of power. (**P = V^2 / R)**

[00101] Heart rate was measured in a 30-second interval for ten minutes from start of puffing. Test participants took 10 puffs over 3 minutes in each case (solid line (2nd highest peak): cigarette, dark dotted line (highest peak): test formulation 1 (TF1-nicotine salt formulation), light dotted line: test formulation 2 (TF2 — nicotine formulation). Comparison between cigarette, TF1, and TF2 is shown in FIG. 2.

[00102] It is clearly shown in FIG. 2 that the test formulation with nicotine levulinate (TF1) causes a faster rise in heart rate than just nicotine (TF2). Also, TF1 more closely resembles the rate of increase for a cigarette. Other salts were tried and also found to increase heart rate relative to a pure nicotine solution. Thus, other suitable nicotine salts that cause the similar effect may be used in accordance with the practice of the present invention. For example, other keto acids (alpha-keto acids, beta-keto acids, gamma-keto acids, and the like) such as pyruvic acid, oxaloacetic acid, acetoacetic acid, and the like. This experience of increased heart rate comparable to that of a traditional burned cigarette has not been demonstrated or identified in other electronic cigarette devices, nor has it been demonstrated or identified in low temperature tobacco

vaporization devices that do not burn the tobacco, even when a nicotine salt was used (a solution of 20% (W/W) or more of nicotine salt) as an additive to the tobacco. Thus the results from this experiment are surprising and unexpected.

[00103] In addition, the data appears to correlate well with the previous findings shown in FIG. 2.

[00104] As previously noted in the Satisfaction Study, the nicotine salts formulations with acids having vapor pressures between 20 – 300 mmHg @ 200 °C provide more satisfaction than the rest, with the exception of the nicotine salt formulation made with pyruvic acid, which has a boiling point of 165 °C, as noted in FIG. 3. Based on the findings herein, it was anticipated that these nicotine salt formulations having either:

- a Vapor Pressure between 20 – 300 mmHg @ 200 °C,
- a Vapor Pressure > 20 mmHg @ 200 °C,
- a difference between boiling point and melting point of at least 50 °C, and a boiling point greater than 160 °C, and a melting point less than 160 °C,
- a difference between boiling point and melting point of at least 50 °C, and a boiling point greater than 160 °C, and a melting point less than 160 °C,
- a difference between boiling point and melting point of at least 50 °C, and a boiling point at most 40 °C less than operating temperature, and a melting point at least 40 °C lower than operating temperature, or
- a combination thereof produce one or more of the following effects:

[00105] T_{max} – Time to maximum blood concentration: Based on the results established herein, a user of an e-cigarette comprising the nicotine salt formulation will experience a comparable rate of physical and emotional satisfaction from using a formulation comprising a mixture of nicotine salts prepared with an appropriate acid at least 1.2X to 3X faster than using a formulation comprising a freebase nicotine. As illustrated in FIG. 1: Nicotine from a nicotine salts formulation appears to generate a heartbeat that is nearly 1.2 times that of a normal heart rate for an individual approximately 40 seconds after the commencement of puffing; whereas the nicotine from a nicotine freebase formulation appears to generate a heartbeat that is nearly 1.2 times that of a normal heart rate for an individual approximately 110 seconds after the commencement of puffing; a 2.75 X difference in time to achieve a comparable initial satisfaction level.

[00106] Again this would not be inconsistent with the data from FIG. 2, where the data illustrated that at approximately 120 seconds (2 minutes), the heart rate of test participants reached a maximum of 105 – 110 bpm with either a regular cigarette or a nicotine salt formulation (TF1); whereas those same participants heart rates only reached a maximum of approximately 86 bpm at approximately 7 minutes with a nicotine freebase formulation (TF2); also a difference in effect of 1.2 times greater with nicotine salts (and regular cigarettes) versus freebase nicotine.

[00107] Further, when considering peak satisfaction levels (achieved at approximately 120 seconds from the initiation of puffing (time =0) and looking at the slope of the line for a normalized heart rate, the approximate slope of those nicotine salt formulations that exceeded the freebase nicotine formulation range between 0.0054 hr_n/sec and 0.0025 hr_n/sec. By comparison, the slope of the line for the freebase nicotine formulation is about 0.002. This would suggest that the concentration of available nicotine will be delivered to the user at a rate that is between 1.25 and 2.7 times faster than a freebase formulation.

[00108] In another measure of performance; C_{max} – Maximum blood nicotine concentration; it is anticipated that similar rates of increase will be measured in blood nicotine concentration, as those illustrated above. That is, it was anticipated based on the findings herein, and unexpected based on the art known to date, that there would be comparable C_{max} between the common cigarette and certain nicotine salt formulations, but with a lower C_{max} in a freebase nicotine solution.

[00109] Similarly, anticipated based on the findings herein, and unexpected based on the art known to date, that certain nicotine salt formulations would have higher rate of nicotine uptake levels in the blood at early time periods. Indeed, Example 8 presents data for multiple salt formulations consistent with these predictions which were made based on the findings and tests noted herein, and unexpected compared to the art available to date.

Example 7: Heart rate study of nicotine solutions via e-cigarette

[00110] Exemplary formulations of nicotine levulinate, nicotine benzoate, nicotine succinate, nicotine salicylate, nicotine malate, nicotine pyruvate, nicotine citrate, nicotine sorbate, nicotine laurate, nicotine freebase, and a control of propylene glycol are prepared as noted in Example 1 and are administered in the same fashion by an electronic cigarette

to the same human subject. About 0.5 mL of each solution is loaded into an "eRoll" cartridge atomizer (joyetech.com) to be used in the study. The atomizer is then attached to an "eRoll" e-cigarette (same manufacturer). The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C.

[00111] Heart rate measurements are taken for 6 minutes; from 1 minute before start of puffing, for 3 minutes during puffing, and continuing until 2 minutes after end of puffing. The test participant takes 10 puffs over 3 minutes in each case. The base heart rate is the average heart rate over the first 1 minute before start of puffing. Heart rate after puffing started is averaged over 20-second intervals. Normalized heart rate is defined as the ratio between individual heart rate data point and the base heart rate. Final results are presented as normalized heart rate.

Example 8: Blood Plasma testing

[00112] Blood plasma testing was conducted on three subjects (n = 3). Eight test articles were used in this study: one reference cigarette and seven blends used in an e-cigarette device having an operating temperature of the e-cigarette from about 150°C to about 250 °C, or from about 180°C to about 220 °C. The reference cigarette was Pall Mall (New Zealand). Seven blends were tested in the e-cigarette: 2% free base, 2% benzoate, 4% benzoate, 2% citrate, 2% malate, 2% salicylate, and 2% succinate. Except for 2% succinate (n = 1), all other blends have n = 3. The seven blends were liquid formulations prepared as described in Example 1.

[00113] The concentration of nicotine in each of the formulations was confirmed using UV spectrophotometer (Cary 60, manufactured by Agilent). The sample solutions for UV analysis were made by dissolving 20mg of each of the formulations in 20mL 0.3% HCl in water. The sample solutions were then scanned in UV spectrophotometer and the characteristic nicotine peak at 259nm was used to quantify nicotine in the sample against a standard solution of 19.8 μg/mL nicotine in the same diluent. The standard solution was prepared by first dissolving 19.8mg nicotine in 10mL 0.3% HCl in water followed by a 1:100 dilution with 0.3% HCl in water. Nicotine concentrations reported for all formulations were within the range of 95%-105% of the claimed concentrations

[00114] All subjects were able to consume 30-55 mg of the liquid formulation of each tested blend using the e-cigarette.

[00115] Literature results: C. Bullen et al, Tobacco Control 2010, 19:98-103

Cigarette (5min adlib, n=9): T_{max} = 14.3 (8.8-19.9), C_{max} = 13.4 (6.5-20.3)

1.4% E-cig (5min adlib, n=8): T_{max} = 19.6 (4.9-34.2), C_{max} = 1.3 (0.0-2.6)

Nicorette Inhalator (20mg/20min, n=10): T_{max} = 32.0 (18.7-45.3), C_{max} = 2.1 (1.0-3.1)

[00116] Estimated C_{max} of 2% nicotine blends:

C_{max} = Mass consumed * Strength * Bioavailability / (Vol of Distribution * Body Weight) = 40mg * 2% * 80% / (2.6L/kg * 75kg) = 3.3 ng/mL

[00117] Estimated C_{max} of 4% nicotine blends:

C_{max} = Mass consumed * Strength * Bioavailability / (Vol of Distribution * Body Weight) = 40mg * 4% * 80% / (2.6L/kg * 75kg) = 6.6 ng/mL

[00118] Pharmacokinetic profiles of the blood plasma testing are shown in FIG. 4; showing blood nicotine concentrations (ng/mL) over time after the first puff (inhalation) of the aerosol from the e-cigarette or the smoke of the Pall Mall. Ten puffs were taken at 30 sec intervals starting at time =0 and continuing for 4.5 minutes. For ease of reference and review of FIG. 4, at the 5-minute timepoint, the curves on the graph show from top to bottom (highest average blood nicotine concentration to lowest average blood nicotine concentration) are 4% benzoate, 2% succinate, 2% salicylate, 2% citrate, Pall Mall cigarette, 2% benzoate, 2% malate, and 2% free base blend. Although noted as highest to lowest at this time point, this is not to say that there is a statistically significant difference between any of the salt formulations, or between any of the salt formulations and the Pall Mall cigarette. However, it is possible there may be a statistically significant difference between the C_{max} of particular salt formulations, and it is also likely based on the data shown in FIG. 4 and in other studies herein that the freebase formulation is statistically different from salt formulations and/or the Pall Mall with respect to C_{max}, since it appears lower than others tested at several time points. One of skill in the art, upon review of the disclosure herein could properly power a test to determine actual statistically-based differences between one or more formulations and the cigarette, or between the formulations themselves in an e-cigarette. For ease of reference Tables 1 & 2 present the amount of nicotine detected (as an average of all users) for each formulation and the Pall Mall, presented in ng/mL, along with C_{max} and T_{max} and AUC. Data from these tables, along with the raw data therefore, was used to generate FIG. 4, 5, and 6.

Table 1

Time	Pall Mall	2% Freebase	2% Benzoate	4% Benzoate
-2	0.46	0.03	0.09	0.05
0	-0.46	-0.03	-0.09	-0.05
1.5	1.54	0.08	5.67	6.02
3	9.98	1.19	8.60	11.47
5	11.65	1.70	11.44	15.06
7.5	11.34	3.09	6.43	12.12
10	9.24	3.42	5.03	11.08
12.5	8.85	3.35	4.68	10.10
15	8.40	2.81	4.47	8.57
30	5.51	1.74	2.72	5.56
60	3.39	0.79	1.19	3.60
T_{max} (min)	**5.17**	**10.00**	**6.67**	**5.83**
C_{max} (ng/mL)	**11.65**	**3.42**	**11.44**	**15.06**
AUC (ng*min/mL)	**367.5**	**106.2**	**207.8**	**400.2**

Table 2

Time	2% Citrate	2% Malate	2% Salicylate	2% Succinate
-2	0.06	-0.17	-0.19	-0.06
0	-0.06	0.17	0.19	0.06
1.5	4.80	1.09	6.14	2.10
3	8.33	5.30	12.04	10.81
5	12.09	10.02	13.46	13.81
7.5	6.93	5.93	5.21	5.15
10	6.01	4.85	4.60	5.18
12.5	5.34	4.17	3.83	4.17
15	4.72	3.79	3.52	3.41
30	3.40	1.56	2.19	2.01
60	1.70	0.46	0.55	1.00
T_{max} (min)	**5.83**	**5.00**	**4.33**	**5.00**
C_{max} (ng/mL)	**12.09**	**10.02**	**13.46**	**13.81**
AUC (ng*min/mL)	**238.0**	**146.1**	**182.9**	**179.5**

[00119] Comparison of T_{max} and C_{max} of the seven blends and reference cigarette are shown in FIG. 5. Comparison of C_{max} and AUC of the seven blends and reference cigarette are shown in FIG. 6. Due to the time limit of the wash-period, baseline blood

nicotine concentration (at t=-2 and t=0 min) was higher for samples consumed at a later time on the test day. The data in FIGS. 4-6 show corrected blood nicotine concentration values (i.e. apparent blood nicotine concentration at each time point minus baseline nicotine concentration of the same sample).

[00120] Rates of nicotine uptake in the blood of the users of each sample within the first 90 seconds are shown in Table 3.

Table 3

Sample	Rate of nicotine uptake (ng/mL/min)
2% Salicylate	4.09
2% Benzoate	3.78
2% Citrate	3.20
2% Succinate	1.40
Pall Mall (reference)	1.03
2% Malate	0.73
2% Freebase	0.05
4% Benzoate	4.01

[00121] Although the T_{max} and C_{max} values are comparable between the tested blends and the reference cigarette (with the exception of the 2% free base blend), the rates of nicotine absorption within the first 90 seconds differed among the test articles. In particular, four blends (2% salicylate, 2% benzoate, 4% benzoate, and 2% citrate) showed markedly higher rates of absorption within the first 90 seconds compared to the other blends and with the reference cigarette. These four blends contain salts (salicylate, benzoate, and citrate) which performed well in the Satisfaction Study of Example 3. Moreover, 2% benzoate and 4% benzoate had comparable rates of absorption, suggesting that a lower concentration of nicotinic salt may not adversely impact the rate of absorption.

Example 9: Blood Plasma testing

[00122] Blood plasma testing is conducted on 24 subjects (n = 24). Eight test articles are used in this study: one reference cigarette and seven blends delivered to a user in an e-cigarette as an aerosol. The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C. The reference cigarette is Pall Mall (New Zealand). Seven blends are tested: 2% free base, 2% benzoate, 4% benzoate, 2% citrate, 2% malate, 2% salicylate, and 2% succinate. The seven blends are liquid

formulations prepared according to protocols similar to that described *infra* and in Example 1.

[00123] All subjects are to consume 30-55 mg of the liquid formulation of each tested blend. Ten puffs are to be taken at 30 sec intervals starting at time =0 and continuing for 4.5 minutes. Blood plasma testing is to occur for at least 60 minutes from the first puff (t=0) Pharmacokinetic data (e.g., C_{max}, T_{max}, AUC) for nicotine in the plasma of users are obtained at various time periods during those 60 minutes, along with rates of nicotine absorption within the first 90 seconds for each test article.

Example 10: Blood Plasma testing

[00124] Blood plasma testing is conducted on twenty-four subjects (n = 24). Eleven test articles are used in this study: one reference cigarette and ten blends delivered to a user in an e-cigarette as an aerosol. The reference cigarette is Pall Mall (New Zealand). The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C. Ten blends are tested: 2% free base, 2% benzoate, 2% sorbate, 2% pyruvate, 2% laurate, 2% levulinate, 2% citrate, 2% malate, 2% salicylate, and 2% succinate. The ten blends are liquid formulations prepared according to protocols similar to that described *infra* and in Example 1.

[00125] All subjects are to consume 30-55 mg of the liquid formulation of each tested blend. Ten puffs are to be taken at 30 sec intervals starting at time =0 and continuing for 4.5 minutes. Blood plasma testing is to occur for at least 60 minutes from the first puff (t=0) . Pharmacokinetic data (e.g., C_{max}, T_{max}, AUC) for nicotine in the plasma of users are obtained at various time periods during those 60 minutes, along with rates of nicotine absorption within the first 90 seconds for each test article.

Example 11: Blood Plasma testing

[00126] Blood plasma testing is conducted on twenty-four subjects (n = 24). Twenty-one test articles are used in this study: one reference cigarette and twenty blends delivered to a user in an e-cigarette as an aerosol. The reference cigarette is Pall Mall (New Zealand). The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C. Twenty blends are tested: 2% free base, 4% free base, 2% benzoate, 4% benzoate, 2% sorbate, 4% sorbate, 2% pyruvate, 4% pyruvate, 2% laurate, 4% laurate, 2% levulinate, 4% levulinate, 2% citrate, 4% citrate, 2% malate, 4% malate,

2% salicylate, 4% salicylate, 2% succinate, and 4% succinate. The twenty blends are liquid formulations prepared according to protocols similar to that described *infra* and in Example 1.

[00127] All subjects are to consume 30-55 mg of the liquid formulation of each tested blend. Ten puffs are to be taken at 30 sec intervals starting at time =0 and continuing for 4.5 minutes. Blood plasma testing is to occur for at least 60 minutes from the first puff (t=0) . Pharmacokinetic data (e.g., C_{max}, T_{max}, AUC) for nicotine in the plasma of users are obtained at various time periods during those 60 minutes, along with rates of nicotine absorption within the first 90 seconds for each test article.

Example 12: Blood Plasma testing

[00128] Blood plasma testing is conducted on twenty-four subjects (n = 24). Twenty-one test articles are used in this study: one reference cigarette and twenty blends delivered to a user in an e-cigarette as an aerosol. The reference cigarette is Pall Mall (New Zealand). The operating temperature of the e-cigarette is from about 150°C to about 250 °C, or from about 180°C to about 220 °C. Twenty blends are tested: 2% free base, 1% free base, 2% benzoate, 1% benzoate, 2% sorbate, 1% sorbate, 2% pyruvate, 1% pyruvate, 2% laurate, 1% laurate, 2% levulinate, 1% levulinate, 2% citrate, 1% citrate, 2% malate, 1% malate, 2% salicylate, 1% salicylate, 2% succinate, and 1% succinate. The twenty blends are liquid formulations prepared according to protocols similar to that described *infra* and in Example 1.

[00129] All subjects are to consume 30-55 mg of the liquid formulation of each tested blend. Ten puffs are to be taken at 30 sec intervals starting at time =0 and continuing for 4.5 minutes. Blood plasma testing is to occur for at least 60 minutes from the first puff (t=0) . Pharmacokinetic data (e.g., C_{max}, T_{max}, AUC) for nicotine in the plasma of users are obtained at various time periods during those 60 minutes, along with rates of nicotine absorption within the first 90 seconds for each test article.

[00130] Further understanding may be gained through contemplation of the numbered embodiments below.

1. A method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a

nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

2. A method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

3. A method of delivering nicotine to a user comprising operating an electronic cigarette wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

4. A method of delivering nicotine to a user comprising providing an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

5. The method of any one of embodiments 1-3, wherein an operating temperature is from 150 °C to 250 °C.

6. The method of any one of embodiments 1-3, wherein an operating temperature is from 180 °C to 220 °C.

7. The method any one of embodiments 1-3, wherein an operating temperature is about 200 °C.

8. The method of embodiment 4, wherein the operating temperature is from 150 °C to 250 °C.

9. The method of embodiment 4, wherein the operating temperature is from 180 °C to 220 °C.

10. The method of embodiment 4, wherein the operating temperature is about 200 °C.

11. The method any one of embodiments 1-10, wherein the aerosol comprises condensate of the nicotine salt.

12. The method any one of embodiments 1-10, wherein the aerosol comprises condensate of freebase nicotine.

13. The method any one of embodiments 1-10, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

14. The method any one of embodiments 1-10, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

15. The method any one of embodiments 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

16. The method any one of embodiments 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

17. The method any one of embodiments 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

18. The method any one of embodiments 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

19. The method any one of embodiments 1-18, wherein the acid is a carboxylic acid.

20. The method of any one of embodiments 1-18, wherein the acid used to form said nicotine salt is an organic acid.

21. The method of embodiment 20, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

22. The method of embodiment 20, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

23. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is salicylic acid.

24. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is benzoic acid.

25. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is pyruvic acid.

26. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is sorbic acid.

27. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is lauric acid.

28. The method of any one of embodiments 1-18, wherein the acid used to form the nicotine salt is levulinic acid.

29. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine pyruvate.

30. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine salicylate.

31. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine sorbate.

32. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine laurate.

33. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine levulinate.

34. The method of any one of embodiments 1-18, wherein said nicotine salt comprises nicotine benzoate.

35. The method of any one of embodiments 1-34, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

36. The method of any one of embodiments 1-34, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

37. The method of any one of embodiments 1-34, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

38. The method of any one of embodiments 1-34, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

39. The method of any one of embodiments 1-38, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

40. The method of any one of embodiments 1-38, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

41. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

42. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

43. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

44. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

45. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

46. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

47. The method of any one of embodiments 1-40, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

48. The method of any one of embodiments 1-47, wherein the formulation further comprises a flavorant.

49. The method of any one of embodiments 1-48, wherein the formulation is non-corrosive to an electronic cigarette.

50. The method of any one of embodiments 1-49, wherein the acid is stable at and below operating temperature or about 200 °C.

51. The method of any one of embodiments 1-50, wherein the acid does not decompose at and below operating temperature or about 200 °C.

52. The method of any one of embodiments 1-51, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

53. The method of any one of embodiments 1-52, wherein the formulation is non-corrosive to the electronic cigarette.

54. The method of any one of embodiments 1-53, wherein the formulation is non-toxic to a user of the electronic cigarette.

55. The method of any one of embodiments 1-54, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

56. The method of embodiment 55, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

57. A method of delivering nicotine to the blood of a user, said method comprising providing an aerosol that is inhaled by the user from an electronic cigarette that comprises a nicotine salt formulation wherein providing the aerosol comprises the electronic cigarette heating the formulation thereby generating the aerosol, wherein the aerosol is effective in delivering a level of nicotine in the blood of the user that is at least 5ng/mL at about 1.5 minutes after a first puff of ten puffs of the aerosol, each puff taken at 30 second intervals.

58. The method of embodiment 54, wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

59. The method of embodiment 54, wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

60. The method of embodiment 54, wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

61. The method of any one of embodiments 57-60, wherein the heating of the formulation is at a temperature from 150 °C to 250 °C.

62. The method of any one of embodiments 57-60, wherein the heating of the formulation is at a temperature from 180 °C to 220 °C.

63. The method of any one of embodiments 57-60, wherein the heating of the formulation is at a temperature of about 200 °C.

64. The method of embodiment 54, wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than the operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point; and the operating temperature is 200 °C.

65. The method of any one of embodiments 57-64, wherein the Cmax is over 10 ng/mL on average.

66. The method of any one of embodiments 57-64, wherein the Cmax is over 11 ng/mL on average.

67. The method of any one of embodiments 57-64, wherein the Cmax is between 10 ng/mL and 16 ng/mL on average.

68. The method of any one of embodiments 57-64, wherein the Cmax is between 11 ng/mL and 15 ng/mL on average.

69. The method of any one of embodiments 57-64, wherein the Cmax is between 11 ng/mL and 14 ng/mL on average.

70. The method of any one of embodiments 57-69, wherein the Tmax under 10 minutes on average.

71. The method of any one of embodiments 57-69, wherein the Tmax is under 9 minutes on average.

72. The method of any one of embodiments 57-69, wherein the Tmax is under 8 minutes on average.

73. The method of any one of embodiments 57-69, wherein the Tmax is under 7 minutes on average.

74. The method of any one of embodiments 54-63, wherein the Tmax is from 3 minutes to 10 minutes on average.

75. The method of any one of embodiments 57-69, wherein the Tmax is from 3 minutes to 7.5 minutes on average.

76. The method of any one of embodiments 57-75, wherein the aerosol comprises condensate of the nicotine salt.

77. The method of any one of embodiments 57-75, wherein the aerosol comprises condensate of freebase nicotine.

78. The method of any one of embodiments 57-75, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

79. The method of any one of embodiments 57-75, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

80. The method of any one of embodiments 57-79, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

81. The method of any one of embodiments 57-79, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

82. The method of any one of embodiments 57-79, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

83. The method of any one of embodiments 57-79, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

84. The method of any one of embodiments 57-83, wherein the acid is a carboxylic acid.

85. The method of any one of embodiments 57-83, wherein the acid used to form said nicotine salt is an organic acid.

86. The method of embodiment 85, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

87. The method of embodiment 85, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

88. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is salicylic acid.

89. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is benzoic acid.

90. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is pyruvic acid.

91. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is sorbic acid.

92. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is lauric acid.

93. The method of any one of embodiments 57-83, wherein the acid used to form the nicotine salt is levulinic acid.

94. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine pyruvate.

95. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine salicylate.

96. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine sorbate.

97. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine laurate.

98. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine levulinate.

99. The method of any one of embodiments 57-83, wherein said nicotine salt comprises nicotine benzoate.

100. The method of any one of embodiments 57-99, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

101. The method of any one of embodiments 57-99, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

102. The method of any one of embodiments 57-99, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

103. The method of any one of embodiments 57-99, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

104. The method of any one of embodiments 57-103, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

105. The method of any one of embodiments 57-103, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

106. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

107. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

108. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

109. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

110. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

111. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

112. The method of any one of embodiments 57-105, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

113. The method of any one of embodiments 57-112, wherein the formulation further comprises a flavorant.

114. The method of any one of embodiments 57-113, wherein the formulation is non-corrosive to an electronic cigarette.

115. The method of any one of embodiments 57-114, wherein the acid is stable at and below operating temperature or about 200 °C.

116. The method of any one of embodiments 57-115, wherein the acid does not decompose at and below operating temperature or about 200 °C.

117. The method of any one of embodiments 57-116, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

118. The method of any one of embodiments 57-117, wherein the formulation is non-corrosive to the electronic cigarette.

119. The method of any one of embodiments 57-118, wherein the formulation is non-toxic to a user of the electronic cigarette.

120. The method of any one of embodiments 57-119, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

121. The method of embodiment 120, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

122. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

123. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

124. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

125. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

126. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-124, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

127. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-124, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

128. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-124, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

129. The nicotine salt liquid formulation in the electronic cigarette of embodiment 125, wherein the operating temperature is from 150 °C to 250 °C.

130. The nicotine salt liquid formulation in the electronic cigarette of embodiment 125, wherein the operating temperature is from 180 °C to 220 °C.

131. The nicotine salt liquid formulation in the electronic cigarette of embodiment 125, wherein the operating temperature is about 200 °C.

132. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid is a carboxylic acid.

133. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form said nicotine salt is an organic acid.

134. The nicotine salt liquid formulation in the electronic cigarette of embodiment 133, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

135. The nicotine salt liquid formulation in the electronic cigarette of embodiment 133, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

136. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is salicylic acid.

137. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is benzoic acid.

138. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is pyruvic acid.

139. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is sorbic acid.

140. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is lauric acid.

141. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein the acid used to form the nicotine salt is levulinic acid.

142. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine pyruvate.

143. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine salicylate.

144. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine sorbate.

145. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine laurate.

146. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine levulinate.

147. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-131, wherein said nicotine salt comprises nicotine benzoate.

148. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-147, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

149. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-147, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

150. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-147, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

151. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-147, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

152. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-151, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

153. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-151, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

154. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

155. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

156. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

157. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

158. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

159. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

160. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-153, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

161. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-160, wherein the formulation further comprises a flavorant.

162. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-161, wherein the formulation is non-corrosive to an electronic cigarette.

163. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-162, wherein the acid is stable at and below operating temperature or about 200 °C.

164. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-163, wherein the acid does not decompose at and below operating temperature or about 200 °C.

165. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-164, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

166. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-165, wherein the formulation is non-corrosive to the electronic cigarette.

167. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-166, wherein the formulation is non-toxic to a user of the electronic cigarette.

168. The nicotine salt liquid formulation in the electronic cigarette of any one of embodiments 122-167 further comprising one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

169. The nicotine salt liquid formulation in the electronic cigarette of embodiment 168, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

170. A nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

171. A nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

172. A nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further

characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

173. A nicotine salt liquid formulation for generating an inhalable aerosol upon heating in the electronic cigarette, the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

174. The nicotine salt liquid formulation of any one of embodiments 170-172, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

175. The nicotine salt liquid formulation of any one of embodiments 170-172, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

176. The nicotine salt liquid formulation of any one of embodiments 170-172, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

177. The nicotine salt liquid formulation of embodiment 173, wherein the operating temperature is from 150 °C to 250 °C.

178. The nicotine salt liquid formulation of embodiment 173, wherein the operating temperature is from 180 °C to 220 °C.

179. The nicotine salt liquid formulation of embodiment 173, wherein the operating temperature is about 200 °C.

180. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid is a carboxylic acid.

181. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form said nicotine salt is an organic acid.

182. The nicotine salt liquid formulation of embodiment 181, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

183. The nicotine salt liquid formulation of embodiment 181, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

184. The liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is salicylic acid.

185. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is benzoic acid.

186. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is pyruvic acid.

187. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is sorbic acid.

188. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is lauric acid.

189. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein the acid used to form the nicotine salt is levulinic acid.

190. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine pyruvate.

191. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine salicylate.

192. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine sorbate.

193. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine laurate.

194. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine levulinate.

195. The nicotine salt liquid formulation of any one of embodiments 170-179, wherein said nicotine salt comprises nicotine benzoate.

196. The nicotine salt liquid formulation of any one of embodiments 170-195, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

197. The nicotine salt liquid formulation of any one of embodiments 170-195, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

198. The nicotine salt liquid formulation of any one of embodiments 170-195, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

199. The nicotine salt liquid formulation of any one of embodiments 170-195, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

200. The nicotine salt liquid formulation of any one of embodiments 170-199, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

201. The nicotine salt liquid formulation of any one of embodiments 170-199, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

202. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

203. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

204. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

205. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

206. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

207. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

208. The nicotine salt liquid formulation of any one of embodiments 170-201, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

209. The nicotine salt liquid formulation of any one of embodiments 170-208, wherein the formulation further comprises a flavorant.

210. The nicotine salt liquid formulation of any one of embodiments 170-209, wherein the formulation is non-corrosive to an electronic cigarette.

211. The nicotine salt liquid formulation of any one of embodiments 170-210, wherein the acid is stable at and below operating temperature or about 200 °C.

212. The nicotine salt liquid formulation of any one of embodiments 170-211, wherein the acid does not decompose at and below operating temperature or about 200 °C.

213. The nicotine salt liquid formulation of any one of embodiments 170-212, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

214. The nicotine salt liquid formulation of any one of embodiments 170-213, wherein the formulation is non-corrosive to the electronic cigarette.

215. The nicotine salt liquid formulation of any one of embodiments 170-214, wherein the formulation is non-toxic to a user of the electronic cigarette.

216. The nicotine salt liquid formulation of any one of embodiments 170-215, further comprising one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

217. The nicotine salt liquid formulation of embodiment 216, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

218. A nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

219. A nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

220. A nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

221. A nicotine salt liquid formulation for use in an electronic cigarette the nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees

lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

222. The nicotine salt liquid formulation of any one of embodiments 218-220, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

223. The nicotine salt liquid formulation of any one of embodiments 218-220, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

224. The nicotine salt liquid formulation of any one of embodiments 218-220, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

225. The nicotine salt liquid formulation of embodiment 221, wherein the operating temperature is from 150 °C to 250 °C.

226. The nicotine salt liquid formulation of embodiment 221, wherein the operating temperature is from 180 °C to 220 °C.

227. The nicotine salt liquid formulation of embodiment 221, wherein the operating temperature is about 200 °C.

228. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid is a carboxylic acid.

229. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form said nicotine salt is an organic acid.

230. The nicotine salt liquid formulation of embodiment 229, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

231. The nicotine salt liquid formulation of embodiment 229, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

232. The liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is salicylic acid.

233. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is benzoic acid.

234. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is pyruvic acid.

235. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is sorbic acid.

236. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is lauric acid.

237. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein the acid used to form the nicotine salt is levulinic acid.

238. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine pyruvate.

239. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine salicylate.

240. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine sorbate.

241. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine laurate.

242. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine levulinate.

243. The nicotine salt liquid formulation of any one of embodiments 218-227, wherein said nicotine salt comprises nicotine benzoate.

244. The nicotine salt liquid formulation of any one of embodiments 218-243, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

245. The nicotine salt liquid formulation of any one of embodiments 218-243, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

246. The nicotine salt liquid formulation of any one of embodiments 218-243, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

247. The nicotine salt liquid formulation of any one of embodiments 218-243, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

248. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

249. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

250. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

251. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

252. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

253. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

254. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

255. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

256. The nicotine salt liquid formulation of any one of embodiments 218-247, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

257. The nicotine salt liquid formulation of any one of embodiments 218-256, wherein the formulation further comprises a flavorant.

258. The nicotine salt liquid formulation of any one of embodiments 218-257, wherein the formulation is non-corrosive to an electronic cigarette.

259. The nicotine salt liquid formulation of any one of embodiments 218-258, wherein the acid is stable at and below operating temperature or about 200 °C.

260. The nicotine salt liquid formulation of any one of embodiments 218-259, wherein the acid does not decompose at and below operating temperature or about 200 °C.

261. The nicotine salt liquid formulation of any one of embodiments 218-260, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

262. The nicotine salt liquid formulation of any one of embodiments 218-261, wherein the formulation is non-corrosive to the electronic cigarette.

263. The nicotine salt liquid formulation of any one of embodiments 218-262, wherein the formulation is non-toxic to a user of the electronic cigarette.

264. The nicotine salt liquid formulation of any one of embodiments 218-263, further comprising one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

265. The nicotine salt liquid formulation of embodiment 264, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

266. Use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

267. Use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

268. Use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

269. Use of a nicotine salt formulation for delivery of nicotine to the blood of a user from an electronic cigarette, wherein the nicotine salt formulation in the electronic cigarette is heated to form an aerosol which delivers a level of nicotine in the blood of the user that is at least 5 ng/mL at about 1.5 minutes after a first puff of ten puffs of the aerosol, each puff taken at 30 second intervals.

270. Use of a nicotine salt formulation for delivery of nicotine to a user from an electronic cigarette wherein the nicotine salt formulation comprises a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point, and the nicotine salt formulation is heated by the electronic cigarette to generate an aerosol inhalable by the user.

271. The use of any one of embodiments 266-269, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature is from 150 °C to 250 °C.

272. The use of any one of embodiments 266-269, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature is from 180 °C to 220 °C.

273. The use of any one of embodiments 266-269, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature is about 200 °C.

274. The use of embodiment 270, wherein the operating temperature is from 150 °C to 250 °C.

275. The use of embodiment 270, wherein the operating temperature is from 180 °C to 220 °C.

276. The use of embodiment 270, wherein the operating temperature is about 200 °C.

277. The use of any one of embodiments 266-276, wherein the aerosol comprises condensate of the nicotine salt.

278. The use of any one of embodiments 266-276, wherein the aerosol comprises condensate of freebase nicotine.

279. The use of any one of embodiments 266-276, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

280. The use of any one of embodiments 266-276, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

281. The use of any one of embodiments 266-280, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

282. The use of any one of embodiments 266-280, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

283. The use of any one of embodiments 266-280, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

284. The use of any one of embodiments 266-280, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

285. The use of any one of embodiments 266-284, wherein the acid is a carboxylic acid.

286. The use of any one of embodiments 266-284, wherein the acid used to form said nicotine salt is an organic acid.

287. The use of embodiment 286, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

288. The use of embodiment 286, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

289. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is salicylic acid.

290. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is benzoic acid.

291. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is pyruvic acid.

292. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is sorbic acid.

293. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is lauric acid.

294. The use of any one of embodiments 266-284, wherein the acid used to form the nicotine salt is levulinic acid.

295. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine pyruvate.

296. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine salicylate.

297. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine sorbate.

298. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine laurate.

299. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine levulinate.

300. The use of any one of embodiments 266-284, wherein said nicotine salt comprises nicotine benzoate.

301. The use of any one of embodiments 266-300, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

302. The use of any one of embodiments 266-300, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

303. The use of any one of embodiments 266-300, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

304. The use of any one of embodiments 266-300, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

305. The use of any one of embodiments 266-304, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

306. The use of any one of embodiments 266-304, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

307. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

308. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

309. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

310. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

311. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

312. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

313. The use of any one of embodiments 266-306, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

314. The use of any one of embodiments 266-313, wherein the formulation further comprises a flavorant.

315. The use of any one of embodiments 266-314, wherein the formulation is non-corrosive to an electronic cigarette.

316. The use of any one of embodiments 266-315, wherein the acid is stable at and below operating temperature or about 200 °C.

317. The use of any one of embodiments 266-316, wherein the acid does not decompose at and below operating temperature or about 200 °C.

318. The use of any one of embodiments 266-317, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

319. The use of any one of embodiments 266-318, wherein the formulation is non-corrosive to the electronic cigarette.

320. The use of any one of embodiments 266-319, wherein the formulation is non-toxic to a user of the electronic cigarette.

321. The use of any one of embodiments 266-320, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

322. The use of embodiment 321, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid

323. A cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

324. A cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

325. A cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

326. A cartomizer for an electronic cigarette comprising:

a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

an atomizer comprising a heating element in fluid communication with the nicotine salt liquid formulation; and

a fluid storage compartment that stores the nicotine salt liquid formulation.

327. The cartomizer of any one of embodiments 323-325, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

328. The cartomizer of any one of embodiments 323-325, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

329. The cartomizer of any one of embodiments 323-325, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

330. The cartomizer of embodiment 326, wherein the operating temperature is from 150 °C to 250 °C.

331. The cartomizer of embodiment 326, wherein the operating temperature is from 180 °C to 220 °C.

332. The cartomizer of embodiment 326, wherein the operating temperature is about 200 °C.

333. The cartomizer of any one of embodiments 323-332, wherein the cartomizer further comprises a mouthpiece.

334. The cartomizer of any one of embodiments 323-333, wherein the acid is a carboxylic acid.

335. The cartomizer of any one of embodiments 323-333, wherein the acid used to form said nicotine salt is an organic acid.

336. The cartomizer of embodiment 335, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

337. The cartomizer of embodiment 335, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

338. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is salicylic acid.

339. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is benzoic acid.

340. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is pyruvic acid.

341. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is sorbic acid.

342. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is lauric acid.

343. The cartomizer of any one of embodiments 323-333, wherein the acid used to form the nicotine salt is levulinic acid.

344. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine pyruvate.

345. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine salicylate.

346. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine sorbate.

347. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine laurate.

348. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine levulinate.

349. The cartomizer of any one of embodiments 323-333, wherein said nicotine salt comprises nicotine benzoate.

350. The cartomizer of any one of embodiments 323-349, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

351. The cartomizer of any one of embodiments 323-349, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

352. The cartomizer of any one of embodiments 323-349, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

353. The cartomizer of any one of embodiments 323-349, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

354. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

355. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

356. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

357. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

358. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

359. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

360. The cartomizer of any one of embodiments 323-353, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

361. The cartomizer of any one of embodiments 323-360, wherein the electronic cigarette is configured to generate an aerosol inhalable by a user.

362. The cartomizer of embodiment 361, wherein the aerosol comprises condensate of the nicotine salt.

363. The cartomizer of embodiment 361, wherein the aerosol comprises condensate of freebase nicotine.

364. The cartomizer of embodiment 361, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

365. The cartomizer of embodiment 361, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

366. The cartomizer of any one of embodiments 361-365, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

367. The cartomizer of any one of embodiments 361-365, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

368. The cartomizer of any one of embodiments 361-365, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

369. The cartomizer of any one of embodiments 361-365, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

370. The cartomizer of any one of embodiments 361-369, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

371. The cartomizer of any one of embodiments 361-369, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

372. The cartomizer of any one of embodiments 323-371, wherein the formulation further comprises a flavorant.

373. The cartomizer of any one of embodiments 323-372, wherein the formulation is non-corrosive to an electronic cigarette.

374. The cartomizer of any one of embodiments 323-373, wherein the acid is stable at and below operating temperature or about 200 °C.

375. The cartomizer of any one of embodiments 323-374, wherein the acid does not decompose at and below operating temperature or about 200 °C.

376. The cartomizer of any one of embodiments 323-375, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

377. The cartomizer of any one of embodiments 323-376, wherein the formulation is non-corrosive to the electronic cigarette.

378. The cartomizer of any one of embodiments 323-377, wherein the formulation is non-toxic to a user of the electronic cigarette.

379. The cartomizer of any one of embodiments 323-378, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

380. The cartomizer of embodiment 379, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

381. An electronic cigarette for generating an inhalable aerosol comprising

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C;

a battery; and

a mouthpiece.

382. An electronic cigarette for generating an inhalable aerosol comprising

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used

to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C;

a battery; and

a mouthpiece.

383. An electronic cigarette for generating an inhalable aerosol comprising

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

a battery; and

a mouthpiece.

384. An electronic cigarette for generating an inhalable aerosol comprising

a fluid storage compartment;

a heater; and

a nicotine salt liquid formulation in the fluid storage compartment, the liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

a battery; and

a mouthpiece.

385. The electronic cigarette of any one of embodiments 381-384, wherein the heater comprises a heater chamber, a fluid wick, and a resistive heating element in contact with the fluid wick.

386. The electronic cigarette of any one of embodiments 381-384, wherein the mouthpiece, the heater and the fluid storage compartment form a cartomizer separable from the battery.

387. The electronic cigarette of any one of embodiments 381-384, wherein the heater and the fluid storage compartment form a cartomizer separable from the battery and the mouthpiece.

388. The electronic cigarette of any one of embodiments 381-384, wherein the fluid storage compartment is separable from the heater, the battery and the mouthpiece.

389. The electronic cigarette of any one of embodiments 381-383, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

390. The electronic cigarette of any one of embodiments 381-383, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

391. The electronic cigarette of any one of embodiments 381-383, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

392. The electronic cigarette of embodiment 384, wherein the operating temperature is from 150 °C to 250 °C.

393. The electronic cigarette of embodiment 384, wherein the operating temperature is from 180 °C to 220 °C.

394. The electronic cigarette of embodiment 384, wherein the operating temperature is about 200 °C.

395. The electronic cigarette of any one of embodiments 381-394, wherein the aerosol comprises condensate of the nicotine salt.

396. The electronic cigarette of any one of embodiments 381-394, wherein the aerosol comprises condensate of freebase nicotine.

397. The electronic cigarette of any one of embodiments 381-394, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

398. The electronic cigarette of any one of embodiments 381-394, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

399. The electronic cigarette of any one of embodiments 381-398, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

400. The electronic cigarette of any one of embodiments 381-398, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

401. The electronic cigarette of any one of embodiments 381-398, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

402. The electronic cigarette of any one of embodiments 381-398, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

403. The electronic cigarette of any one of embodiments 381-402, wherein the acid is a carboxylic acid.

404. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form said nicotine salt is an organic acid.

405. The electronic cigarette of embodiment 404, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

406. The electronic cigarette of embodiment 404, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

407. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is salicylic acid.

408. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is benzoic acid.

409. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is pyruvic acid.

410. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is sorbic acid.

411. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is lauric acid.

412. The electronic cigarette of any one of embodiments 381-402, wherein the acid used to form the nicotine salt is levulinic acid.

413. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine pyruvate.

414. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine salicylate.

415. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine sorbate.

416. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine laurate.

417. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine levulinate.

418. The electronic cigarette of any one of embodiments 381-402, wherein said nicotine salt comprises nicotine benzoate.

419. The electronic cigarette of any one of embodiments 381-419, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

420. The electronic cigarette of any one of embodiments 381-419, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

421. The electronic cigarette of any one of embodiments 381-419, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

422. The electronic cigarette of any one of embodiments 381-419, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

423. The electronic cigarette of any one of embodiments 381-422, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

424. The electronic cigarette of any one of embodiments 381-422, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

425. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

426. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

427. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

428. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

429. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

430. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

431. The electronic cigarette of any one of embodiments 381-424, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

432. The electronic cigarette of any one of embodiments 381-431, wherein the formulation further comprises a flavorant.

433. The electronic cigarette of any one of embodiments 381-432, wherein the formulation is non-corrosive to an electronic cigarette.

434. The electronic cigarette of any one of embodiments 381-433, wherein the acid is stable at and below operating temperature or about 200 °C.

435. The electronic cigarette of any one of embodiments 381-434, wherein the acid does not decompose at and below operating temperature or about 200 °C.

436. The electronic cigarette of any one of embodiments 381-435, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

437. The electronic cigarette of any one of embodiments 381-436, wherein the formulation is non-corrosive to the electronic cigarette.

438. The electronic cigarette of any one of embodiments 381-437, wherein the formulation is non-toxic to a user of the electronic cigarette.

439. The electronic cigarette of any one of embodiments 381-438, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

440. The electronic cigarette of embodiment 439, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

441. A cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

442. A cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a

nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

443. A cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

444. A cartridge in an electronic cigarette comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

445. The cartridge of any one of embodiments 441-444, wherein the cartridge is separable from the electronic cigarette.

446. The cartridge of any one of embodiments 441-445, wherein the acid is a carboxylic acid.

447. The cartridge of any one of embodiments 441-445, wherein the acid used to form said nicotine salt is an organic acid.

448. The cartridge of embodiment 447, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

449. The cartridge of embodiment 447, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

450. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is salicylic acid.

451. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is benzoic acid.

452. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is pyruvic acid.

453. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is sorbic acid.

454. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is lauric acid.

455. The cartridge of any one of embodiments 441-445, wherein the acid used to form the nicotine salt is levulinic acid.

456. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine pyruvate.

457. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine salicylate.

458. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine sorbate.

459. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine laurate.

460. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine levulinate.

461. The cartridge of any one of embodiments 441-445, wherein said nicotine salt comprises nicotine benzoate.

462. The cartridge of any one of embodiments 441-461, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

463. The cartridge of any one of embodiments 441-461, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

464. The cartridge of any one of embodiments 441-461, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

465. The cartridge of any one of embodiments 441-461, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

466. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

467. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

468. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

469. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

470. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

471. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

472. The cartridge of any one of embodiments 441-465, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

473. The cartridge of any one of embodiments 441-472, wherein the formulation further comprises a flavorant.

474. The cartridge of any one of embodiments 441-473, wherein the formulation is non-corrosive to an electronic cigarette.

475. The cartridge of any one of embodiments 441-474, wherein the acid is stable at and below operating temperature or about 200 °C.

476. The cartridge of any one of embodiments 441-475, wherein the acid does not decompose at and below operating temperature or about 200 °C.

477. The cartridge of any one of embodiments 441-476, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

478. The cartridge of any one of embodiments 441-477, wherein the formulation is non-corrosive to the electronic cigarette.

479. The cartridge of any one of embodiments 441-478, wherein the formulation is non-toxic to a user of the electronic cigarette.

480. The cartridge of any one of embodiments 441-479, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

481. The cartridge of embodiment 480, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

482. A kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 ^{o}C;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

483. A kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 ^{o}C;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

484. A kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is

further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

485. A kit comprising:

(a) an electronic cigarette for generating an inhalable aerosol comprising

i. a device body comprising a cartridge receptacle;

ii. a cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point;

iii. a heater;

iv. a battery; and

v. a mouthpiece; and

(b) instructions for using the electronic cigarette to generate an inhalable aerosol.

486. The kit of any one of embodiments 482-485, wherein the acid is a carboxylic acid.

487. The kit of any one of embodiments 482-485, wherein the acid used to form said nicotine salt is an organic acid.

488. The kit of embodiment 487, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

489. The kit of embodiment 487, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

490. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is salicylic acid.

491. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is benzoic acid.

492. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is pyruvic acid.

493. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is sorbic acid.

494. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is lauric acid.

495. The kit of any one of embodiments 482-485, wherein the acid used to form the nicotine salt is levulinic acid.

496. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine pyruvate.

497. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine salicylate.

498. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine sorbate.

499. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine laurate.

500. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine levulinate.

501. The kit of any one of embodiments 482-485, wherein said nicotine salt comprises nicotine benzoate.

502. The kit of any one of embodiments 482-501, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

503. The kit of any one of embodiments 482-501, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

504. The kit of any one of embodiments 482-501, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

505. The kit of any one of embodiments 482-501, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

506. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

507. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

508. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

509. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

510. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

511. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

512. The kit of any one of embodiments 482-505, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

513. The kit of any one of embodiments 482-512, wherein the formulation further comprises a flavorant.

514. The kit of any one of embodiments 482-513, wherein the formulation is non-corrosive to an electronic cigarette.

515. The kit of any one of embodiments 482-514, wherein the acid is stable at and below operating temperature or about 200 °C.

516. The kit of any one of embodiments 482-515, wherein the acid does not decompose at and below operating temperature or about 200 °C.

517. The kit of any one of embodiments 482-516, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

518. The kit of any one of embodiments 482-517, wherein the formulation is non-corrosive to the electronic cigarette.

519. The kit of any one of embodiments 482-518, wherein the formulation is non-toxic to a user of the electronic cigarette.

520. The kit of any one of embodiments 482-519, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

521. The kit of embodiment 520, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

522. A cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

523. A cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

524. A cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

525. A cartridge comprising a fluid storage compartment, wherein the fluid storage compartment stores a nicotine salt liquid formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

526. The cartridge of any one of embodiments 523-526, wherein the cartridge can be connected to an electronic cigarette.

527. The cartridge of any one of embodiments 523-527, wherein the acid is a carboxylic acid.

528. The cartridge of any one of embodiments 523-527, wherein the acid used to form said nicotine salt is an organic acid.

529. The cartridge of embodiment 529, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

530. The cartridge of embodiment 529, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

531. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is salicylic acid.

532. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is benzoic acid.

533. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is pyruvic acid.

534. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is sorbic acid.

535. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is lauric acid.

536. The cartridge of any one of embodiments 523-527, wherein the acid used to form the nicotine salt is levulinic acid.

537. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine pyruvate.

538. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine salicylate.

539. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine sorbate.

540. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine laurate.

541. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine levulinate.

542. The cartridge of any one of embodiments 523-527, wherein said nicotine salt comprises nicotine benzoate.

543. The cartridge of any one of embodiments 523-543, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

544. The cartridge of any one of embodiments 523-543, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

545. The cartridge of any one of embodiments 523-543, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

546. The cartridge of any one of embodiments 523-543, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

547. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

548. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

549. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

550. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

551. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

552. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

553. The cartridge of any one of embodiments 523-547, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

554. The cartridge of any one of embodiments 523-553, wherein the formulation further comprises a flavorant.

555. The cartridge of any one of embodiments 523-554, wherein the formulation is non-corrosive to an electronic cigarette.

556. The cartridge of any one of embodiments 523-555, wherein the acid is stable at and below operating temperature or about 200 °C.

557. The cartridge of any one of embodiments 523-556, wherein the acid does not decompose at and below operating temperature or about 200 °C.

558. The cartridge of any one of embodiments 523-557, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

559. The cartridge of any one of embodiments 523-558, wherein the formulation is non-corrosive to the electronic cigarette.

560. The cartridge of any one of embodiments 523-559, wherein the formulation is non-toxic to a user of the electronic cigarette.

561. The cartridge of any one of embodiments 523-560, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

562. The cartridge of embodiment 561, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

[00131] Although preferred embodiments of the present invention have been shown and described herein, it will be obvious to those skilled in the art that such embodiments are provided by way of example only. Numerous variations, changes, and substitutions will now occur to those skilled in the art without departing from the invention. It should be understood that various alternatives to the embodiments of the invention described herein can be employed in practicing the invention. It is intended that the following embodiments define the scope of the invention and that methods and structures within the scope of these embodiments and their equivalents be covered thereby.

WHAT IS CLAIMED IS:

1. A method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

2. A method of delivering nicotine to a user comprising operating an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

3. A method of delivering nicotine to a user comprising operating an electronic cigarette wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

4. A method of delivering nicotine to a user comprising providing an electronic cigarette to a user wherein the electronic cigarette comprises a nicotine salt formulation comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point, and inhaling an aerosol generated from the nicotine salt formulation heated by the electronic cigarette.

5. The method of any one of claims 1-3, wherein an operating temperature is from 150 °C to 250 °C.

6. The method of any one of claims 1-3, wherein an operating temperature is from 180 °C to 220 °C.

7. The method any one of claims 1-3, wherein an operating temperature is about 200 °C.

8. The method of claim 4, wherein the operating temperature is from 150 °C to 250 °C.

9. The method of claim 4, wherein the operating temperature is from 180 °C to 220 °C.

10. The method of claim 4, wherein the operating temperature is about 200 °C.

11. The method any one of claims 1-10, wherein the aerosol comprises condensate of the nicotine salt.

12. The method any one of claims 1-10, wherein the aerosol comprises condensate of freebase nicotine.

13. The method any one of claims 1-10, wherein the aerosol comprises condensate of freebase nicotine and condensate of the carrier.

14. The method any one of claims 1-10, wherein the aerosol comprises condensate of freebase nicotine and condensate of the acid.

15. The method any one of claims 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 5 microns.

16. The method any one of claims 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 1 or 2 microns.

17. The method any one of claims 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.1 microns to about 0.7 microns.

18. The method any one of claims 1-14, wherein the aerosol comprises condensate in particle sizes from about 0.3 microns to about 0.4 microns.

19. The method any one of claims 1-18, wherein the acid is a carboxylic acid.

20. The method of any one of claims 1-18, wherein the acid used to form said nicotine salt is an organic acid.

21. The method of claim 20, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

22. The method of claim 20, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

23. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is salicylic acid.

24. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is benzoic acid.

25. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is pyruvic acid.

26. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is sorbic acid.

27. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is lauric acid.

28. The method of any one of claims 1-18, wherein the acid used to form the nicotine salt is levulinic acid.

29. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine pyruvate.

30. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine salicylate.

31. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine sorbate.

32. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine laurate.

33. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine levulinate.

34. The method of any one of claims 1-18, wherein said nicotine salt comprises nicotine benzoate.

35. The method of any one of claims 1-34, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

36. The method of any one of claims 1-34, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

37. The method of any one of claims 1-34, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

38. The method of any one of claims 1-34, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

39. The method of any one of claims 1-38, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

40. The method of any one of claims 1-38, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

41. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

42. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

43. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

44. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

45. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

46. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

47. The method of any one of claims 1-40, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

48. The method of any one of claims 1-47, wherein the formulation further comprises a flavorant.

49. The method of any one of claims 1-48, wherein the formulation is non-corrosive to an electronic cigarette.

50. The method of any one of claims 1-49, wherein the acid is stable at and below operating temperature or about 200 °C.

51. The method of any one of claims 1-50, wherein the acid does not decompose at and below operating temperature or about 200 °C.

52. The method of any one of claims 1-51, wherein the acid does not oxidize at and below operating temperature or about 200 °C.

53. The method of any one of claims 1-52, wherein the formulation is non-corrosive to the electronic cigarette.

54. The method of any one of claims 1-53, wherein the formulation is non-toxic to a user of the electronic cigarette.

55. The method of any one of claims 1-54, wherein the formulation further comprises one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

56. The method of claim 55, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

57. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure >20 mmHg at 200 °C.

58. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is characterized by vapor pressure of about 20 to 200 mmHg at 200 °C.

59. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point <160 °C, a boiling point >160 °C, and at least a 50-degree difference between the melting point and the boiling point.

60. A nicotine salt liquid formulation in an electronic cigarette for generating an inhalable aerosol upon heating in the electronic cigarette, the formulation in the cigarette comprising a nicotine salt in a biologically acceptable liquid carrier wherein an acid used to form said nicotine salt is further characterized by a melting point at least 40 degrees lower than an operating temperature of the electronic cigarette, a boiling point no more than 40 degrees lower than the operating temperature of the electronic cigarette, and at least a 50-degree difference between the melting point and the boiling point.

61. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-59, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 150 °C to 250 °C.

62. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-59, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature from 180 °C to 220 °C.

63. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-59, wherein the electronic cigarette heats the nicotine salt formulation to an operating temperature of about 200 °C.

64. The nicotine salt liquid formulation in the electronic cigarette of claim 60, wherein the operating temperature is from 150 °C to 250 °C.

65. The nicotine salt liquid formulation in the electronic cigarette of claim 60, wherein the operating temperature is from 180 °C to 220 °C.

66. The nicotine salt liquid formulation in the electronic cigarette of claim 60, wherein the operating temperature is about 200 °C.

67. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid is a carboxylic acid.

68. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form said nicotine salt is an organic acid.

69. The nicotine salt liquid formulation in the electronic cigarette of claim 68, wherein the organic acid is monocarboxylic acid, aromatic acid, or keto acid.

70. The nicotine salt liquid formulation in the electronic cigarette of claim 68, wherein the organic acid is formic acid, acetic acid, propionic acid, butyric acid, valeric acid, caproic acid, caprylic acid, capric acid, citric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, phenylacetic acid, benzoic acid, pyruvic acid, levulinic acid, tartaric acid, lactic acid, malonic acid, succinic acid, fumaric acid, finnaric acid, gluconic acid, saccharic acid, salicylic acid, sorbic acid, malonic acid, or malic acid.

71. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is salicylic acid.

72. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is benzoic acid.

73. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is pyruvic acid.

74. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is sorbic acid.

75. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is lauric acid.

76. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein the acid used to form the nicotine salt is levulinic acid.

77. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-661, wherein said nicotine salt comprises nicotine pyruvate.

78. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein said nicotine salt comprises nicotine salicylate.

79. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein said nicotine salt comprises nicotine sorbate.

80. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein said nicotine salt comprises nicotine laurate.

81. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein said nicotine salt comprises nicotine levulinate.

82. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-66, wherein said nicotine salt comprises nicotine benzoate.

83. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-82, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

84. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-82, wherein the liquid carrier comprises propylene glycol and vegetable glycerin.

85. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-82, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of vegetable glycerin.

86. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-82, wherein the liquid carrier comprises 30% propylene glycol and 70% vegetable glycerin.

87. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-86, wherein the nicotine salt is in an amount that forms about 0.5% to about 20% nicotine in the inhalable aerosol.

88. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-86, wherein the nicotine salt is in an amount that forms about 1% to about 20% nicotine in the inhalable aerosol.

89. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 25% (w/w).

90. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 20% (w/w).

91. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 18% (w/w).

92. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 1% (w/w) to about 15% (w/w).

93. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 4% (w/w) to about 12% (w/w).

94. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 4% (w/w).

95. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-89, wherein the liquid formulation has a nicotine concentration of about 2% (w/w).

96. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-95, wherein the formulation further comprises a flavorant.

97. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-96, wherein the formulation is non-corrosive to an electronic cigarette.

98. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-97, wherein the acid is stable at and below operating temperature or about 200 °C.

99. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-98, wherein the acid does not decompose at and below operating temperature or about 200 °C.

100. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-99, wherein the acid does not oxidize at and below operating temperature or about 200 ^{o}C.

101. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-100, wherein the formulation is non-corrosive to the electronic cigarette.

102. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-101, wherein the formulation is non-toxic to a user of the electronic cigarette.

103. The nicotine salt liquid formulation in the electronic cigarette of any one of claims 57-102, further comprising one or more additional nicotine salts in a biologically acceptable liquid carrier suitable for generating the inhalable aerosol upon heating.

104. The nicotine salt liquid formulation in the electronic cigarette of claim 103, wherein a second acid used to form the additional nicotine salt is selected from the group consisting of salicylic acid, sorbic acid, benzoic acid, pyruvic acid, lauric acid, and levulinic acid.

ABSTRACT OF THE DISCLOSURE

A nicotine salt liquid formulation for generating an inhalable aerosol in an electronic cigarette comprising nicotine salt that forms about 0.5% to about 20% nicotine is provided.

FIG. 1

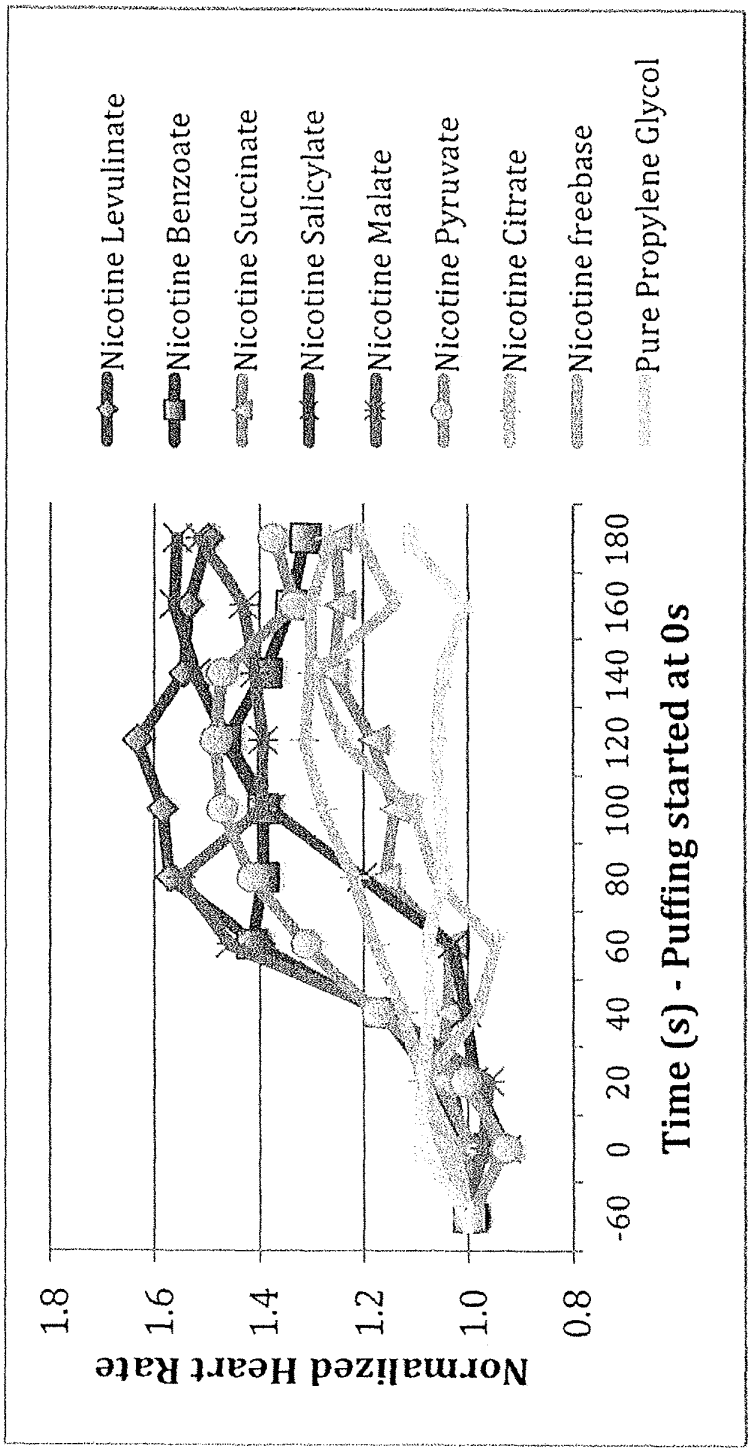

Nicotine Levulinate
Nicotine Benzoate
Nicotine Succinate
Nicotine Salicylate
Nicotine Malate
Nicotine Pyruvate
Nicotine Citrate
Nicotine freebase
Pure Propylene Glycol
Normalized Heart Rate
1.8
1.6
1.4
1.2
1.0
0.8
-60 0 20 40 60 80 100 120 140 160 180
Time (s) - Puffing started at 0s

FIG. 2

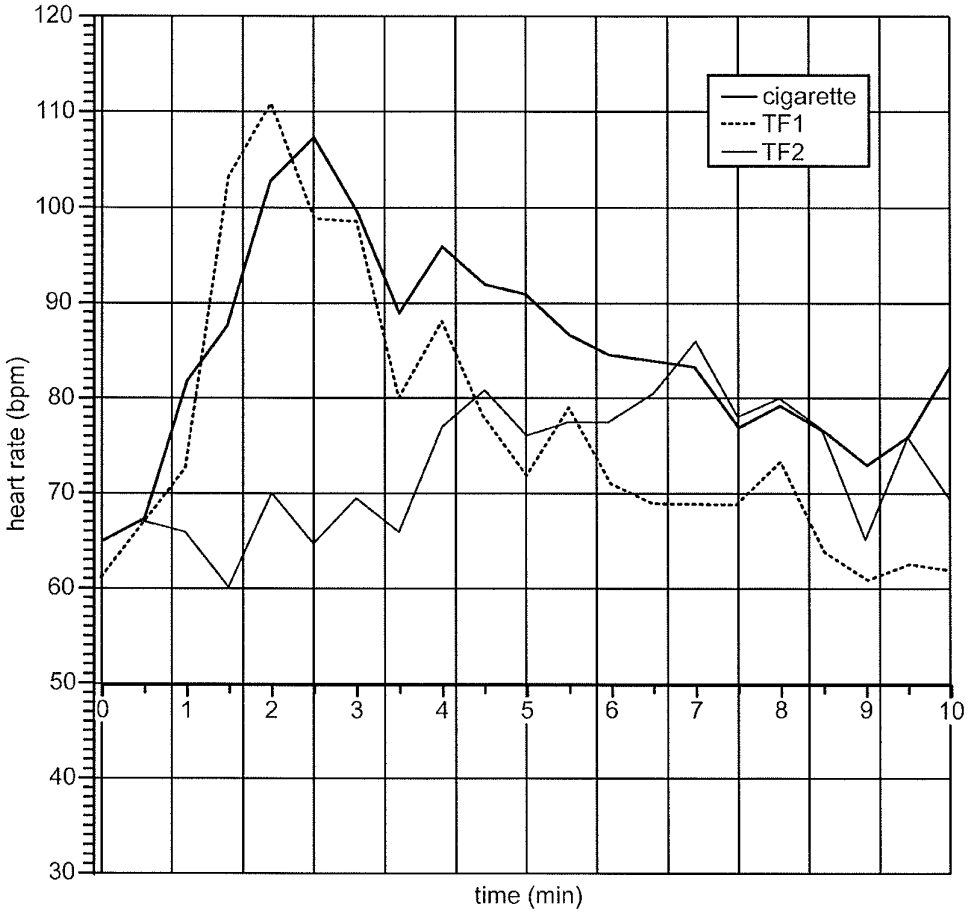

120
110
100
90
80
70
60
50
40
30
heart rate (bpm)
0
1
2
3
4
5
6
7
8
9
10
time (min)
cigarette
TF1
TF2

FIG. 3

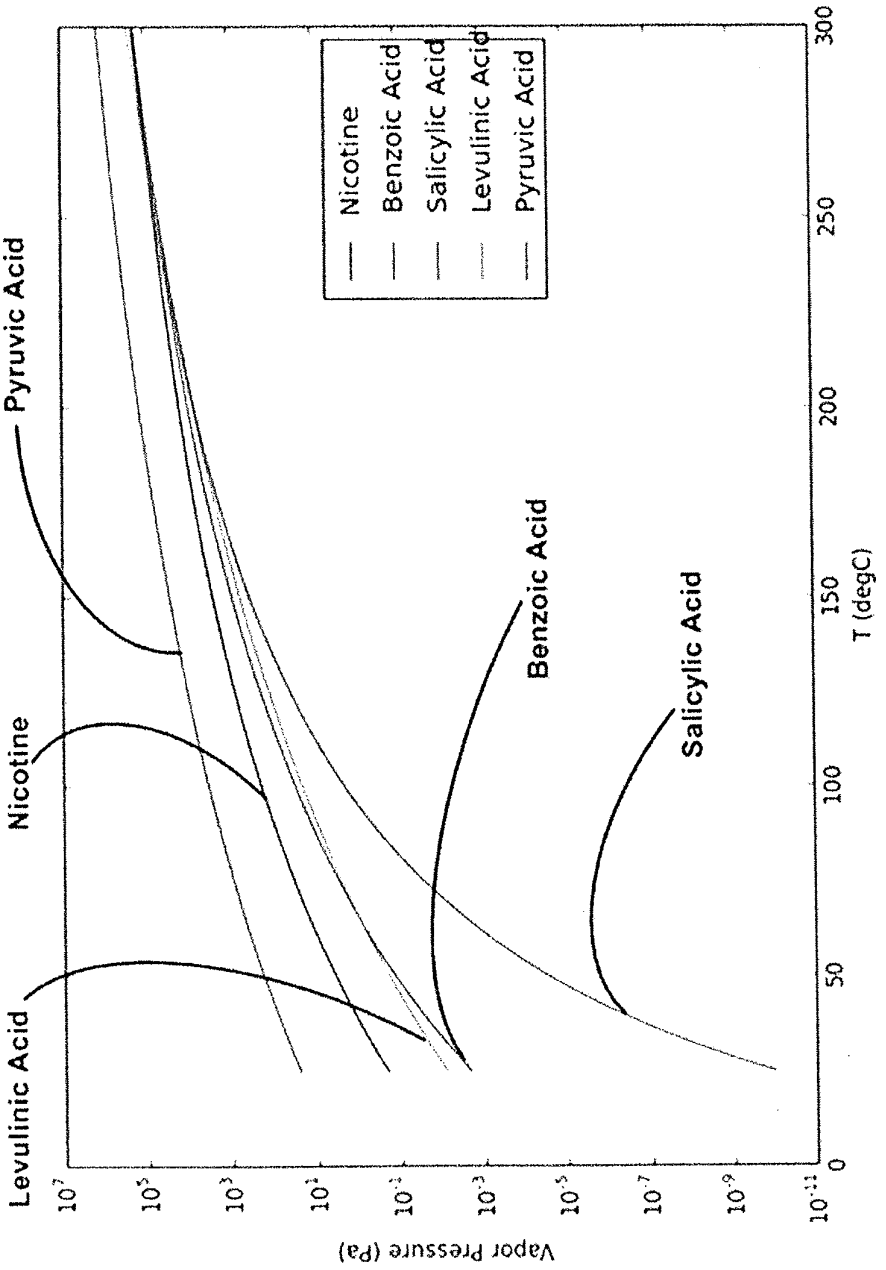

Nicotine
Benzoic Acid
Salicylic Acid
Levulinic Acid
Pyruvic Acid
Pyruvic Acid
Nicotine
Benzoic Acid
Salicylic Acid
Levulinic Acid
Vapor Pressure (Pa)
T (degC)
10^7
10^5
10^3
10^1
10^-1
10^-3
10^-5
10^-7
10^-9
10^-11
0
50
100
150
200
250
300

FIG. 4

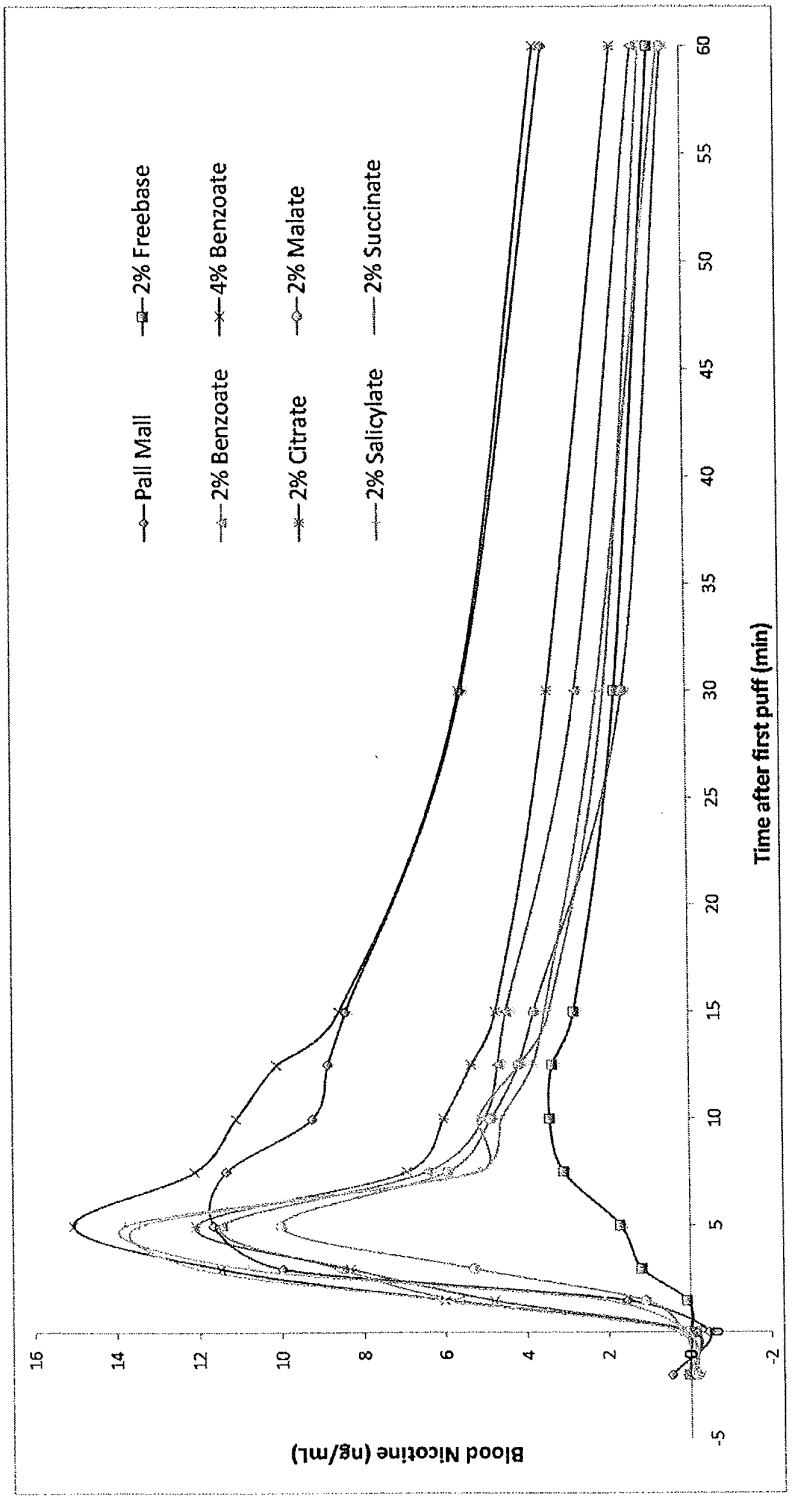

Pall Mall
2% Freebase
2% Benzoate
4% Benzoate
2% Citrate
2% Malate
2% Salicylate
2% Succinate
Blood Nicotine (ng/mL)
Time after first puff (min)
16
14
12
10
8
6
4
2
0
-2
-5
0
5
10
15
20
25
30
35
40
45
50
55
60

FIG. 5

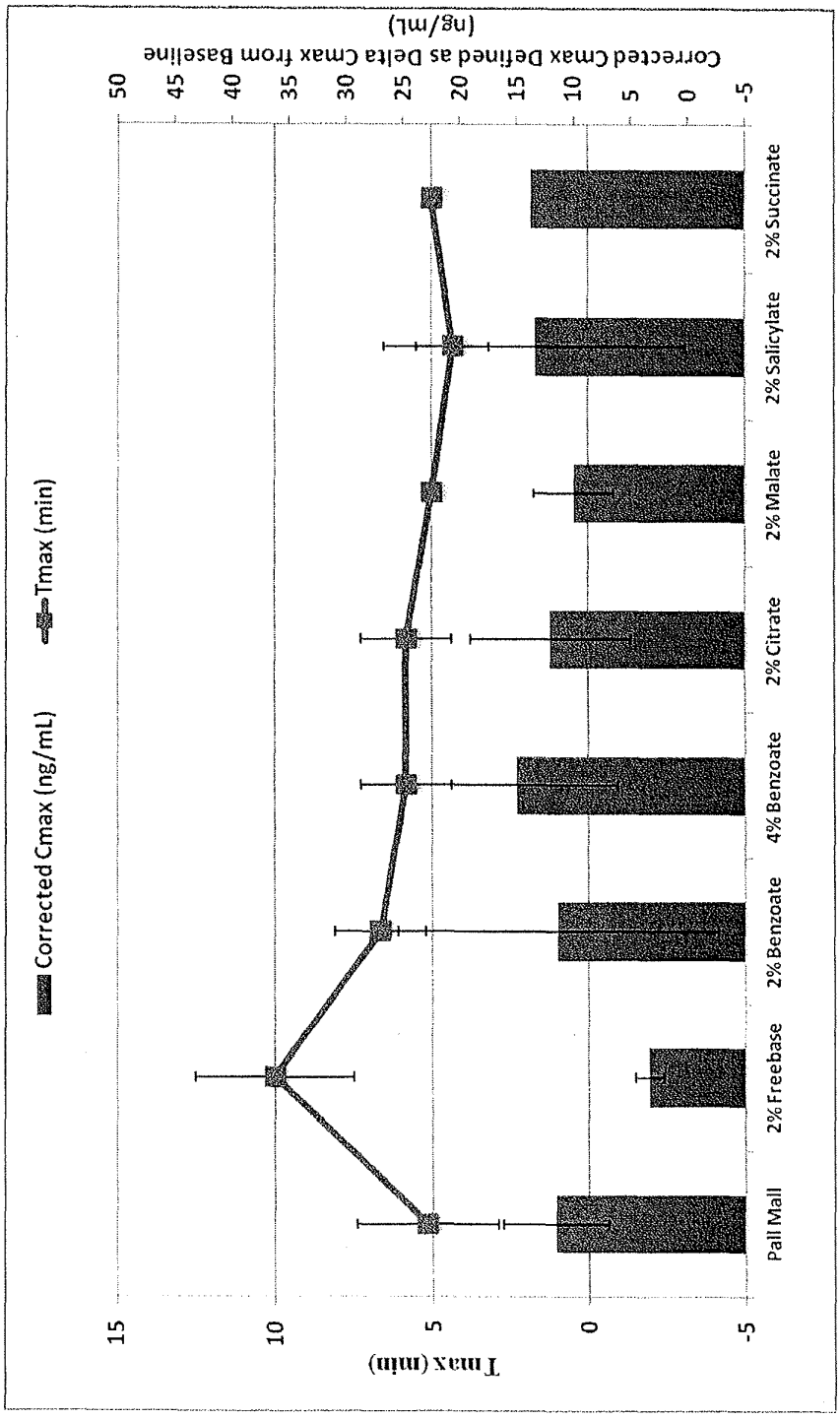

Corrected Cmax (ng/mL)
Tmax (min)
Tmax (min)
Corrected Cmax Defined as Delta Cmax from Baseline (ng/mL)
15
10
5
0
-5
50
45
40
35
30
25
20
15
10
5
0
-5
Pall Mall
2% Freebase
2% Benzoate
4% Benzoate
2% Citrate
2% Malate
2% Salicylate
2% Succinate

FIG. 6

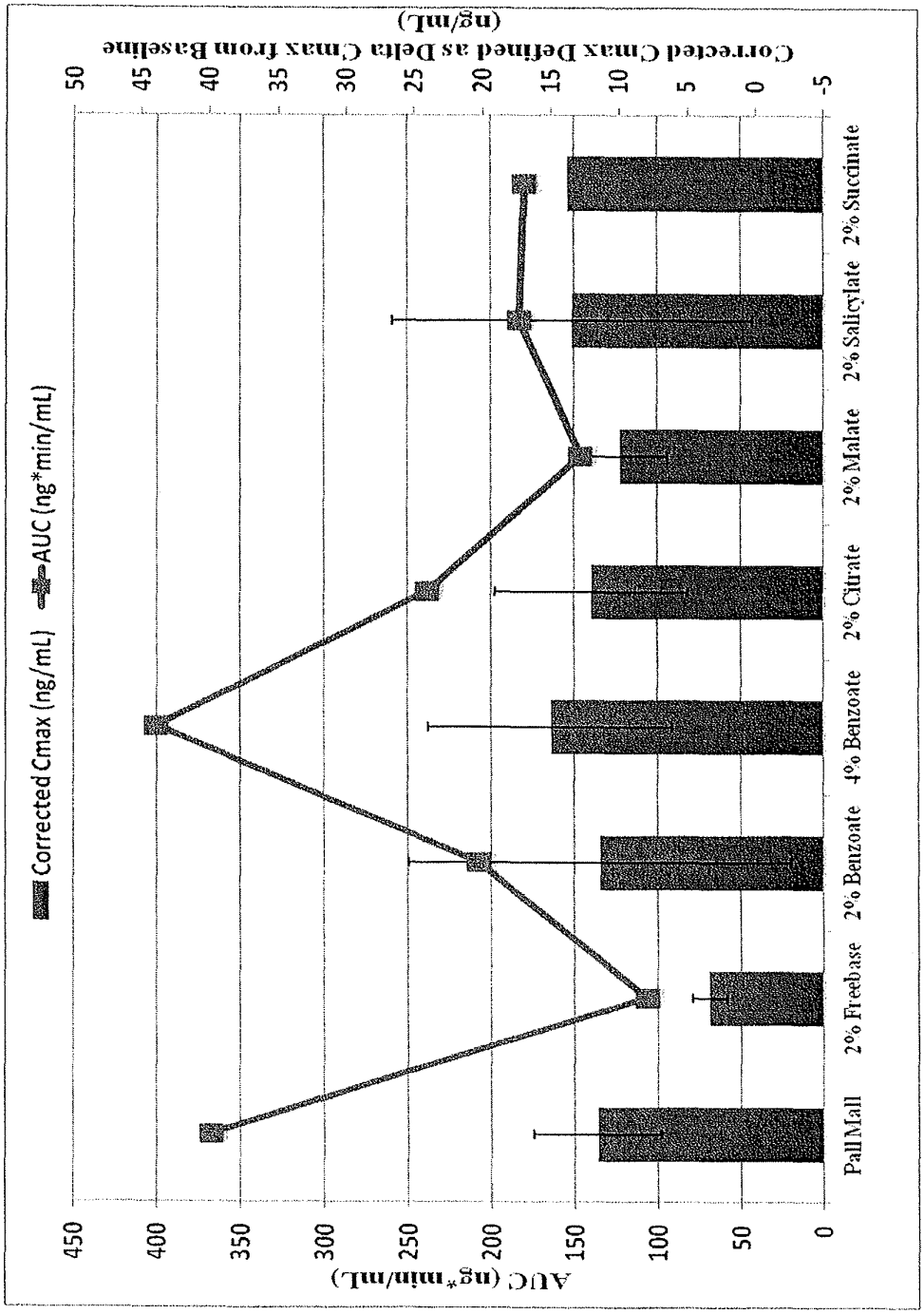

Corrected Cmax (ng/mL)
AUC (ng*min/mL)
Corrected Cmax Defined as Delta Cmax from Baseline (ng/mL)
AUC (ng*min/mL)
450
400
350
300
250
200
150
100
50
0
50
45
40
35
30
25
20
15
10
5
0
-5
Pall Mall
2% Freebase
2% Benzoate
4% Benzoate
2% Citrate
2% Malate
2% Salicylate
2% Succinate

FIG. 7

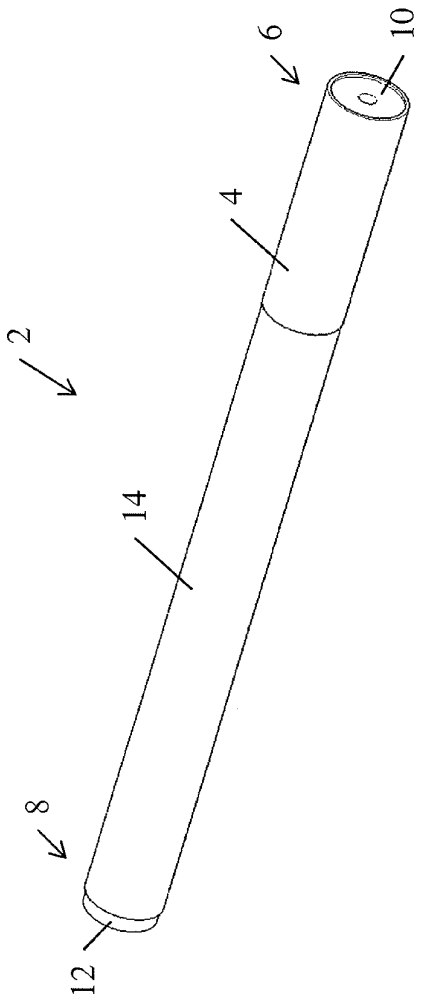
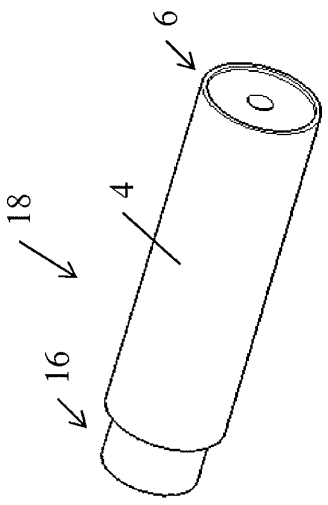


FIG. 8



PTO/AIA/01 (08-12)
Approved for use through 01/31/2014. OMB 0651-0032
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

■ United States application or PCT international application number 14/271,071 filed on May 6, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Adam Bowen Date (Optional): 5/14/14

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

■ United States application or PCT international application number 14/271,071 filed on May 6, 2014.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

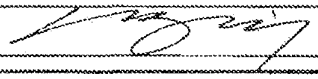
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Chenyue Xing Date (Optional): 05/19/14

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Adam		Bowen	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
San Francisco	CA	US

Mailing Address of Inventor:

Address 1	560 20th Street, Building 104
Address 2	
City	San Francisco
State/Province	CA
Postal Code	94107
Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Chenyue		XING	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
San Francisco	CA	US

Mailing Address of Inventor:

Address 1	560 20th Street, Building 104
Address 2	
City	San Francisco
State/Province	CA
Postal Code	94107
Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

PTO/AIA/14 (02-18)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	148514		
Email Address	IPDocketingBOS@mintz.com	Add Email	Remove Email

Application Information:

Title of the Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF		
Attorney Docket Number	62210-501C04US	**Small Entity Status Claimed** ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	8	**Suggested Figure for Publication (if any)**	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	148514		

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	14925961	2015-10-28
Prior Application Status	Abandoned		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
14925961	Continuation of	14271071	2014-05-06
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
14271071	Claims benefit of provisional	61912507	2013-12-05
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
14271071	Claims benefit of provisional	61820128	2013-05-06

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

EFS Web 2.2.13

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

PTO/AIA/14 (02-18)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	JUUL Labs, Inc.		
Mailing Address Information For Applicant:			
Address 1	560 20th Street, Building 104		
Address 2			
City	San Francisco	**State/Province**	CA
Country	US	Postal Code	94107
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Jeffery C. Giering/			Date (YYYY-MM-DD)	2021-02-09
First Name	Jeffery C.	Last Name	Giering	Registration Number	68221

Additional Signature may be generated within this form by selecting the Add button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	62210-501C04US
	Application Number	
Title of Invention	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
17/171,976	02/09/2021		1820	62210-501C04US	104	8

CONFIRMATION NO. 1080

148514
Mintz/JUUL
One Financial Center
Boston, MA 02111

FILING RECEIPT



Date Mailed: 03/15/2021

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Adam Bowen, San Francisco, CA;
Chenyue XING, San Francisco, CA;

Applicant(s)

JUUL Labs, Inc., San Francisco, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 14/925,961 10/28/2015 PAT 10952468
which is a CON of 14/271,071 05/06/2014 ABN
which claims benefit of 61/912,507 12/05/2013
and claims benefit of 61/820,128 05/06/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 03/11/2021
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/171,976**
Projected Publication Date: 06/24/2021
Non-Publication Request: No
Early Publication Request: No
Title

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/171,976	02/09/2021	Adam Bowen	62210-501C04US

CONFIRMATION NO. 1080

148514
Mintz/JUUL
One Financial Center
Boston, MA 02111

FORMALITIES LETTER

OC000000124027105

Date Mailed: 03/15/2021

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing.

Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- Additional claim fees of $ **12860** as an undiscounted entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

The fee(s) required within **TWO MONTHS** from the date of this Notice to avoid abandonment is/are itemized below. No entity status discount is in effect. If applicant is qualified for small entity status, a written assertion of small entity status must be submitted to establish small entity status. (See 37 CFR 1.27). If applicant is qualified for micro entity status, an acceptable Certification of Micro Entity Status must be submitted to establish micro entity status. (See 37 CFR 1.29 and forms PTO/SB/15A and 15B.)

- $ **2400** for **5** independent claims over 3.
- $ **9600** for **96** total claims over 20.
- $ **860** for multiple dependent claim surcharge.
- $(**0**) previous unapplied payment amount.
- $ **12860** TOTAL FEE BALANCE DUE.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/asahle/

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

Substitute for Form PTO-1360
(For use with Form PTO/SB/06)

Application Number	Filing Date
17171976	

Applicant(s) Adam Bowen

* May be used for additional claims or amendments

CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT	
	Indep	Depend	Indep	Depend	Indep	Depend
1	1					
2	1					
3	1					
4	1					
5		3				
6		3				
7		3				
8		1				
9		1				
10		1				
11		(1)				
12		(1)				
13		(1)				
14		(1)				
15		(1)				
16		(1)				
17		(1)				
18		(1)				
19		(1)				
20		(1)				
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44		(1)				
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47		(1)				
48		(1)				
49		(1)				
50		(1)				

	*		*		*	
	Indep	Depend	Indep	Depend	Indep	Depend
51		(1)				
52		(1)				
53		(1)				
54		(1)				
55		(1)				
56		(1)				
57	1					
58	1					
59	1					
60	1					
61		3				
62		3				
63		3				
64		1				
65		1				
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97		(1)				
98		(1)				
99		(1)				
100		(1)				

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

Substitute for Form PTO-1360
(For use with Form PTO/SB/06)

Application Number	Filing Date
17171976	

Applicant(s) Adam Bowen

* May be used for additional claims or amendments

CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT	
	Indep	Depend	Indep	Depend	Indep	Depend
101		(1)				
102		(1)				
103		(1)				
104		(1)				
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108						
109						
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Total Indep	8		0		0	
Total Depend	108	↵	0	↵	0	↵
Total Claims	116		0		0	

	*		*		*	
	Indep	Depend	Indep	Depend	Indep	Depend
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 17/171,976

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	116 minus 20 =	* 96			OR	x 100 =	9600
INDEPENDENT CLAIMS (37 CFR 1.16(h))	8 minus 3 =	* 5				x 480 =	2400
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							860
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	14680

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	28	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A	US-374584	12-13-1887	Cook	
	B	US-576653	02-09-1897	Bowlby	
	C	US-595070	12-07-1897	Oldenbusch	
	D	US-720,007	02-10-1903	Dexter	
	E	US-799844	09-19-1905	Fuller	
	F	US-968160	08-23-1910	Johnson	
	G	US-969076	08-30-1910	Pender	
	H	US-1,067,531	07-15-1913	MacGregor	
	I	US-1,163,183	12-07-1915	Stoll	
	J	US-1,299,162	04-01-1919	Fisher	
	K	US-1,505,748	08-19-1924	Louis	
	L	US-1,552,877	09-08-1925	Phillipps et al.	
	M	US-1,632,335	06-14-1927	Hiering	
	N	US-1,706,244	03-19-1929	Louis	
	O	US-1,845,340	02-16-1932	Ritz	
	P	US-1,972,118	09-04-1934	McDill	
	Q	US-1,998,683	04-23-1935	Montgomery	
	R	US-2,031,363	02-18-1936	Elof	
	S	US-2,039,559	05-05-1936	Segal	
	T	US-2,104,266	01-04-1938	McCormick	
	U	US-2,159,698	05-23-1939	Harris, et al.	
	V	US-2,177,636	10-31-1939	Coffelt, et al.	
	W	US-2,195,260	03-26-1940	Rasener	
	X	US-2,231,909	02-18-1941	Hempal	
	Y	US-2,327,120	08-17-1943	McCoon	
	Z	US-2,460,427	02-01-1949	Musselman et al.	
	AA	US-2,483,304	09-27-1949	Rudolf	
	AB	US-2,502,561	04-04-1950	Ludwig	
	AC	US-2,765,949	10-09-1956	Swan	
	AD	US-2,830,597	04-15-1958	Kummli	
	AE	US-2,860,638	11-18-1958	Bartolomeo	
	AF	US-2,897,958	08-04-1959	Tarleton et al.	
	AG	US-2,935,987	05-10-1960	Ackerbauer	
	AH	US-3,146,937	09-01-1964	Joseph	
	AI	US-3,258,015	06-28-1966	Ellis et al.	
	AJ	US-3,271,719	09-06-1966	Ovshinsky	
	AK	US-3,292,634	12-20-1966	Beucler	
	AL	US-3,373,915	03-19-1968	Anderson et al.	
	AM	US-3,420,360	01-07-1969	Young	
	AN	US-3,443,827	05-13-1969	Acker et al.	
	AO	US-3,456,645	07-22-1969	Brock	
	AP	US-3,479,561	11-18-1969	Janning	

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	28	Attorney Docket Number	

	AQ	US-3,567,014	03-02-1971	Feigelman	
	AR	US-3,675,661	07-11-1972	Weaver	
	AS	US-3,707,017	12-26-1972	Paquette	
	AT	US-3,792,704	02-19-1974	Parker	
	AU	US-3,815,597	06-11-1974	Goettelman	
	AV	US-3,861,523	01-21-1975	Fountain et al.	
	AW	US-3,941,300	03-02-1976	Troth	
	AX	US-4,020,853	05-03-1977	Nuttall	
	AY	US-4,049,005	09-20-1977	Hernandez et al.	
	AZ	US-4,066,088	01-03-1978	Ensor	
	BA	US-4,207,976	06-17-1980	Herman	
	BB	US-4,215,708	08-05-1980	Bron	
	BC	US-4,219,032	08-26-1980	Tabatznik et al.	
	BD	US-4,303,083	12-01-1981	Burruss, Jr.	
	BE	US-4,312,367	01-26-1982	Seeman	
	BF	US-4,506,683	03-26-1985	Cantrell et al.	
	BG	US-4,519,319	05-28-1985	Howlett	
	BH	US-4,520,938	06-04-1985	Finke	
	BI	US-4,579,858	04-01-1986	Ferno et al.	
	BJ	US-4,595,024	06-17-1986	Greene et al.	
	BK	US-4,597,961	07-01-1986	Etscorn	
	BL	US-4,648,393	03-10-1987	Landis et al.	
	BM	US-4,708,151	11-24-1987	Shelar	
	BN	US-4,735,217	04-05-1988	Gerth et al.	
	BO	US-4,771,796	09-20-1988	Myer	
	BP	US-4,793,365	12-27-1988	Sensabaugh, Jr. et al.	
	BQ	US-4,794,323	12-27-1988	Zhou et al.	
	BR	US-4,798,310	01-17-1989	Kasai et al.	
	BS	US-4,813,536	03-21-1989	Willis	
	BT	US-4,819,665	04-11-1989	Roberts et al.	
	BU	US-4,830,028	05-16-1989	Lawson et al.	
	BV	US-4,836,224	06-06-1989	Lawson et al.	
	BW	US-4,846,199	07-11-1989	Rose	
	BX	US-4,848,374	07-18-1989	Chard et al.	
	BY	US-4,848,563	07-18-1989	Robbins	
	BZ	US-4,893,639	01-16-1990	White	
	CA	US-4,907,606	03-13-1990	Lilja et al.	
	CB	US-4,941,483	07-17-1990	Ridings et al.	
	CC	US-4,944,317	07-31-1990	Thal	
	CD	US-4,947,874	08-14-1990	Brooks et al.	
	CE	US-4,947,875	08-14-1990	Brooks et al.	
	CF	US-5,005,759	04-09-1991	Bouche	
	CG	US-5,020,548	06-04-1991	Farrier et al.	
	CH	US-5,027,836	07-02-1991	Shannon et al.	
	CI	US-5,031,646	07-16-1991	Lippiello et al.	
	CJ	US-5,042,509	08-27-1991	Banerjee et al.	

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	3	of	28	Attorney Docket Number	

	CK	US-5,050,621	09-24-1991	Creighton et al.	
	CL	US-5,060,671	10-29-1991	Counts et al.	
	CM	US-5,065,776	11-19-1991	Lawson et al.	
	CN	US-5,076,297	12-31-1991	Farrier et al.	
	CO	US-5,105,831	04-21-1992	Banerjee et al.	
	CP	US-5,105,838	04-21-1992	White et al.	
	CQ	US-5,123,530	06-23-1992	Lee	
	CR	US-5,133,368	07-28-1992	Neumann et al.	
	CS	US-5,141,004	08-25-1992	Porenski	
	CT	US-5,144,962	09-08-1992	Counts et al.	
	CU	US-5,152,456	10-06-1992	Ross et al.	
	CV	US-5,183,062	02-02-1993	Clearman et al.	
	CW	US-5,224,498	07-06-1993	Deevi et al.	
	CX	US-5,240,012	08-31-1993	Ehrman et al.	
	CY	US-5,249,586	10-05-1993	Morgan et al.	
	CZ	US-5,261,424	11-16-1993	Sprinkel, Jr.	
	DA	US-5,269,237	12-14-1993	Baker et al.	
	DB	US-5,269,327	12-14-1993	Counts et al.	
	DC	US-5,303,720	04-19-1994	Banerjee et al.	
	DD	US-5,322,075	06-21-1994	Deevi et al.	
	DE	US-5,324,498	06-28-1994	Streusand et al.	
	DF	US-5,372,148	12-13-1994	McCafferty et al.	
	DG	US-5,388,574	02-14-1995	Ingebrethsen	
	DH	US-5,449,078	09-12-1995	Akers	
	DI	US-5,456,269	10-10-1995	Kollasch	
	DJ	US-5,497,791	03-12-1996	Bowen et al.	
	DK	US-5,529,078	06-25-1996	Rehder et al.	
	DL	US-5,579,934	12-03-1996	Buono	
	DM	US-5,591,368	01-07-1997	Fleischhauer et al.	
	DN	US-5,605,226	02-25-1997	Hernlein	
	DO	US-5,626,866	05-06-1997	Ebert et al.	
	DP	US-5,641,064	06-24-1997	Goserud	
	DQ	US-5,649,552	07-22-1997	Cho et al.	
	DR	US-5,666,977	09-16-1997	Higgins et al.	
	DS	US-5,666,978	09-16-1997	Counts et al.	
	DT	US-5,708,258	01-13-1998	Counts et al.	
	DU	US-5,730,118	03-24-1998	Hermanson	
	DV	US-5,730,158	03-24-1998	Collins et al.	
	DW	US-5,746,587	05-05-1998	Racine, deceased et al.	
	DX	US-5,810,164	09-22-1998	Rennecamp	
	DY	US-5,819,756	10-13-1998	Mielordt	
	DZ	US-5,845,649	12-08-1998	Saito et al.	
	EA	US-5,865,185	02-02-1999	Collins et al.	
	EB	US-5,878,752	03-09-1999	Adams et al.	
	EC	US-5,881,884	03-16-1999	Podosek	
	ED	US-5,894,841	04-20-1999	Voges	

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	EE	US-5,931,828	08-03-1999	Durkee	
	EF	US-5,934,289	08-10-1999	Watkins et al.	
	EG	US-5,938,018	08-17-1999	Keaveney et al.	
	EH	US-5,944,025	08-31-1999	Cook et al.	
	EI	US-5,954,979	09-21-1999	Counts et al.	
	EJ	US-5,967,310	10-19-1999	Hill	
	EK	US-5,975,415	11-02-1999	Zehnal	
	EL	US-5,979,460	11-09-1999	Matsumura	
	EM	US-5,994,025	11-30-1999	Iwasa et al.	
	EN	US-5,996,589	12-07-1999	St. Charles	
	EO	US-6,053,176	04-25-2000	Adams et al.	
	EP	US-6,089,857	07-18-2000	Matsuura et al.	
	EQ	US-6,095,153	08-01-2000	Kessler et al.	
	ER	US-6,102,036	08-15-2000	Slutsky et al.	
	ES	US-6,125,853	10-03-2000	Susa et al.	
	ET	US-6,155,268	12-05-2000	Takeuchi	
	EU	US-6,164,287	12-26-2000	White	
	EV	US-6,196,232	03-06-2001	Chkadua	
	EW	US-6,211,194	04-03-2001	Westman et al.	
	EX	US-6,234,169	05-22-2001	Bulbrook et al.	
	EY	US-6,269,966	08-07-2001	Pallo et al.	
	EZ	US-6,324,261	11-27-2001	Merte	
	FA	US-6,344,222	02-05-2002	Cherukuri et al.	
	FB	US-6,349,728	02-26-2002	Pham	
	FC	US-6,381,739	04-30-2002	Breternitz, Jr. et al.	
	FD	US-6,386,371	05-14-2002	Parsons	
	FE	US-6,431,363	08-13-2002	Hacker	
	FF	US-6,446,793	09-10-2002	Layshock	
	FG	US-6,510,982	01-28-2003	White et al.	
	FH	US-6,532,965	03-18-2003	Abhulimen et al.	
	FI	US-6,536,442	03-25-2003	St. Charles et al.	
	FJ	US-6,557,708	05-06-2003	Polacco	
	FK	US-6,598,607	07-29-2003	Adiga et al.	
	FL	US-6,603,924	08-05-2003	Brown et al.	
	FM	US-6,606,998	08-19-2003	Gold	
	FN	US-6,612,404	09-02-2003	Sweet et al.	
	FO	US-6,615,840	09-09-2003	Fournier et al.	
	FP	US-6,622,867	09-23-2003	Menceles	
	FQ	US-6,655,379	12-02-2003	Clark et al.	
	FR	US-6,672,762	01-06-2004	Faircloth et al.	
	FS	US-6,688,313	02-10-2004	Wrenn et al.	
	FT	US-6,726,006	04-27-2004	Funderburk et al.	
	FU	US-6,772,756	08-10-2004	Shayan	
	FV	US-6,799,576	10-05-2004	Farr	
	FW	US-6,803,545	10-12-2004	Blake et al.	
	FX	US-6,805,545	10-19-2004	Slaboden	

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	FY	US-6,810,883	11-02-2004	Felter et al.	
	FZ	US-6,827,573	12-07-2004	St. Charles et al.	
	GA	US-6,874,507	04-05-2005	Farr	
	GB	US-6,909,840	06-21-2005	Harwig et al.	
	GC	US-6,954,979	10-18-2005	Logan	
	GD	US-7,000,775	02-21-2006	Gelardi et al.	
	GE	US-7,015,796	03-21-2006	Snyder	
	GF	US-7,025,066	04-11-2006	Lawson et al.	
	GG	US-7,374,048	05-20-2008	Mazurek	
	GH	US-7,428,905	09-30-2008	Mua	
	GI	US-7,488,171	02-10-2009	St. Charles et al.	
	GJ	US-7,546,703	06-16-2009	Johnske et al.	
	GK	US-7,621,403	11-24-2009	Althoff et al.	
	GL	US-7,644,823	01-12-2010	Gelardi et al.	
	GM	US-7,726,320	06-01-2010	Robinson et al.	
	GN	US-7,766,013	08-03-2010	Wensley et al.	
	GO	US-7,767,698	08-03-2010	Warchol et al.	
	GP	US-7,801,573	09-21-2010	Yazdi et al.	
	GQ	US-7,815,332	10-19-2010	Smith	
	GR	US-7,832,410	11-16-2010	Hon	
	GS	US-7,886,507	02-15-2011	McGuinness, Jr.	
	GT	US-7,988,034	08-02-2011	Pezzoli	
	GU	US-8,003,080	08-23-2011	Rabinowitz et al.	
	GV	US-8,079,371	12-20-2011	Robinson et al.	
	GW	US-8,141,701	03-27-2012	Hodges	
	GX	US-8,156,944	04-17-2012	Han	
	GY	US-8,251,060	08-28-2012	White et al.	
	GZ	US-8,308,624	11-13-2012	Travers et al.	
	HA	US-8,314,235	11-20-2012	Dixit et al.	
	HB	US-8,322,350	12-04-2012	Lipowicz	
	HC	US-8,371,310	02-12-2013	Brenneise	
	HD	US-8,375,957	02-19-2013	Hon	
	HE	US-8,381,739	02-26-2013	Gonda	
	HF	US-8,387,612	03-05-2013	Damani et al.	
	HG	US-8,443,534	05-21-2013	Goodfellow et al.	
	HH	US-8,464,867	06-18-2013	Holloway et al.	
	HI	US-8,479,747-B2	07-09-2013	O'Connell	
	HJ	US-8,490,629	07-23-2013	Shenassa et al.	
	HK	US-8,511,318	08-20-2013	Hon	
	HL	US-8,539,959	09-24-2013	Scatterday	
	HM	US-8,541,401	09-24-2013	Mishra et al.	
	HN	US-8,550,069	10-08-2013	Alelov	
	HO	US-8,596,460	12-03-2013	Scatterday	
	HP	US-8,671,952	03-18-2014	Winterson et al.	
	HQ	US-8,707,965	04-29-2014	Newton	
	HR	US-8,714,150-B2	05-06-2014	Alelov	

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	HS	US-8,741,348	06-03-2014	Hansson et al.	
	HT	US-8,794,245	08-05-2014	Scatterday	
	HU	US-8,794,434	08-05-2014	Scatterday et al.	
	HV	US-8,809,261	08-19-2014	Elsohly et al.	
	HW	US-8,820,330	09-02-2014	Bellinger et al.	
	HX	US-8,851,081	10-07-2014	Fernando et al.	
	HY	US-8,851,083	10-07-2014	Oglesby et al.	
	HZ	US-8,881,737	11-11-2014	Collett et al.	
	IA	US-8,899,238-B2	12-02-2014	Robinson et al.	
	IB	US-8,905,040	12-09-2014	Scatterday et al.	
	IC	US-8,910,641-B2	12-16-2014	Hon	
	ID	US-8,915,254	12-23-2014	Monsees et al.	
	IE	US-8,919,561	12-30-2014	Boisseau	
	IF	US-8,925,555	01-06-2015	Monsees et al.	
	IG	US-8,931,492	01-13-2015	Scatterday	
	IH	US-8,991,402	03-31-2015	Bowen et al.	
	II	US-9,004,073	04-14-2015	Tucker et al.	
	IJ	US-9,072,321	07-07-2015	Liu	
	IK	US-9,095,175	08-04-2015	Terry et al.	
	IL	US-9,215,895	12-22-2015	Bowen et al.	
	IM	US-9,220,302	12-29-2015	DePiano et al.	
	IN	US-9,226,526	01-05-2016	Liu	
	IO	US-9,254,002	02-09-2016	Chong et al.	
	IP	US-9,255,277	02-09-2016	Bakker et al.	
	IQ	US-9,271,525	03-01-2016	Liu	
	IR	US-9,271,529	03-01-2016	Alima	
	IS	US-9,272,103	03-01-2016	Storz	
	IT	US-9,277,768	03-08-2016	Xiu	
	IU	US-9,277,769	03-08-2016	Liu	
	IV	US-9,282,772	03-15-2016	Tucker et al.	
	IW	US-9,282,773	03-15-2016	Greim et al.	
	IX	US-9,289,014	03-22-2016	Tucker et al.	
	IY	US-9,308,336	04-12-2016	Newton	
	IZ	US-9,315,890	04-19-2016	Frick et al.	
	JA	US-9,319,865	04-19-2016	Van Phan et al.	
	JB	US-9,326,547	05-03-2016	Tucker et al.	
	JC	US-9,345,269	05-24-2016	Liu	
	JD	US-9,351,522	05-31-2016	Safari	
	JE	US-9,380,810	07-05-2016	Rose et al.	
	JF	US-9,420,829	08-23-2016	Thorens et al.	
	JG	US-9,427,022	08-30-2016	Levin et al.	
	JH	US-9,456,632	10-04-2016	Hon	
	JI	US-9,462,832	10-11-2016	Lord	
	JJ	US-9,497,995	11-22-2016	Liu	
	JK	US-9,510,624	12-06-2016	Li et al.	
	JL	US-9,538,781	01-10-2017	Zheng	

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	JM	US-9,554,597	01-31-2017	Liu	
	JN	US-9,596,881	03-21-2017	Chiolini et al.	
	JO	US-9,629,391	04-25-2017	Dube et al.	
	JP	US-9,635,886	05-02-2017	Tu	
	JQ	US-9,642,397	05-09-2017	Dai et al.	
	JR	US-9,648,905	05-16-2017	Levitz et al.	
	JS	US-9,675,108	06-13-2017	Liu	
	JT	US-9,682,203	06-20-2017	Dahne et al.	
	JU	US-9,682,204	06-20-2017	Matsumoto et al.	
	JV	US-9,687,025	06-27-2017	Cyphert et al.	
	JW	US-9,687,027	06-27-2017	Poston et al.	
	JX	US-9,693,584	07-04-2017	Hearn et al.	
	JY	US-9,717,274	08-01-2017	Daehne et al.	
	JZ	US-9,717,279	08-01-2017	Hon	
	KA	US-20010015209-A1	08-23-2001	Zielke	
	KB	US-20010032643-A1	10-25-2001	Hochrainer et al.	
	KC	US-20010032795-A1	10-25-2001	Weinstein et al.	
	KD	US-20010052480-A1	12-20-2001	Kawaguchi et al.	
	KE	US-20020043554-A1	04-18-2002	White et al.	
	KF	US-20020059939-A1	05-23-2002	Fox	
	KG	US-20020078951-A1	06-27-2002	Nichols et al.	
	KH	US-20020175164-A1	11-28-2002	Dees et al.	
	KI	US-20030005926-A1	01-09-2003	Jones et al.	
	KJ	US-20030089377-A1	05-15-2003	Hajaligol et al.	
	KK	US-20040002520-A1	01-01-2004	Soderlund et al.	
	KL	US-20040031495-A1	02-19-2004	Steinberg	
	KM	US-20040050382-A1	03-18-2004	Goodchild	
	KN	US-20040099266-A1	05-27-2004	Cross et al.	
	KO	US-20040149296-A1	08-05-2004	Rostami et al.	
	KP	US-20040149624-A1	08-05-2004	Wischusen et al.	
	KQ	US-20040173229-A1	09-09-2004	Crooks et al.	
	KR	US-20040182403-A1	09-23-2004	Andersson et al.	
	KS	US-20040191322-A1	09-30-2004	Hansson	
	KT	US-20040221857-A1	11-11-2004	Dominguez	
	KU	US-20040237974-A1	12-02-2004	Min	
	KV	US-20050016549-A1	01-27-2005	Banerjee et al.	
	KW	US-20050016550-A1	01-27-2005	Katase	
	KX	US-20050034723-A1	02-17-2005	Bennett et al.	
	KY	US-20050061759-A1	03-24-2005	Doucette	
	KZ	US-20050118545-A1	06-02-2005	Wong	
	LA	US-20050145533-A1	07-07-2005	Seligson	
	LB	US-20050169849-A1	08-04-2005	Farr	
	LC	US-20050172976-A1	08-11-2005	Newman et al.	
	LD	US-20050244521-A1	11-03-2005	Strickland et al.	
	LE	US-20050268911-A1	12-08-2005	Cross et al.	
	LF	US-20060018840-A1	01-26-2006	Lechuga-Ballesteros et al.	

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	LG	US-20060054676-A1	03-16-2006	Wischusen	
	LH	US-20060102175-A1	05-18-2006	Nelson	
	LI	US-20060150991-A1	07-13-2006	Lee	
	LJ	US-20060157072-A1	07-20-2006	Albino et al.	
	LK	US-2006/0191546-A1	08-31-2006	Takano et al.	
	LL	US-20060191548-A1	08-31-2006	Strickland et al.	
	LM	US-20060196518	09-2006	Hon	
	LN	US-20060254948-A1	11-16-2006	Herbert et al.	
	LO	US-20060255105-A1	11-16-2006	Sweet	
	LP	US-20070006889-A1	01-11-2007	Kobal et al.	
	LQ	US-20070045288-A1	03-01-2007	Nelson	
	LR	US-20070062548-A1	03-22-2007	Horstmann et al.	
	LS	US-20070074734-A1	04-05-2007	Braunshteyn et al.	
	LT	US-20070098148-A1	05-03-2007	Sherman	
	LU	US-20070102013-A1	05-10-2007	Adams et al.	
	LV	US-20070144514-A1	06-28-2007	Yeates et al.	
	LW	US-20070163610-A1	07-19-2007	Lindell et al.	
	LX	US-20070215164-A1	09-20-2007	Mehio	
	LY	US-20070235046-A1	10-11-2007	Gedevanishvili	
	LZ	US-20070267031-A1	11-22-2007	Hon	
	MA	US-20070267033-A1	11-22-2007	Mishra et al.	
	MB	US-20070277816-A1	12-06-2007	Morrison et al.	
	MC	US-20070280652-A1	12-06-2007	Williams	
	MD	US-2007/0283972-A1	12-13-2007	Monsees et al.	
	ME	US-20080000763-A1	01-03-2008	Cove	
	MF	US-20080023003-A1	01-31-2008	Rosenthal	
	MG	US-20080029095-A1	02-07-2008	Esser	
	MH	US-20080092912-A1	04-24-2008	Robinson et al.	
	MI	US-20080149118-A1	06-26-2008	Oglesby et al.	
	MJ	US-20080216828-A1	09-11-2008	Wensley et al.	
	MK	US-20080228214-A1	09-18-2008	Hoan et al.	
	ML	US-20080241255-A1	10-02-2008	ROSE et al.	
	MM	US-20080257367-A1	10-23-2008	Paterno et al.	
	MN	US-20080276947-A1	11-13-2008	Martzel	
	MO	US-20080286340-A1	11-20-2008	Andersson et al.	
	MP	US-20080302375-A1	12-11-2008	Andersson et al.	
	MQ	US-20090004249-A1	01-01-2009	Gonda	
	MR	US-20090095287-A1	04-16-2009	Emarlou	
	MS	US-2009/0095311-A1	04-16-2009	Han	
	MT	US-20090111287-A1	04-30-2009	Lindberg et al.	
	MU	US-20090126745-A1	05-21-2009	Hon	
	MV	US-20090133691-A1	05-28-2009	Yamada et al.	
	MW	US-20090151717-A1	06-18-2009	Bowen et al.	
	MX	US-20090230117-A1	09-17-2009	Fernando et al.	
	MY	US-20090255534-A1	10-15-2009	Paterno	
	MZ	US-20090267252-A1	10-29-2009	Ikeyama	

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	NA	US-20090272379-A1	11-05-2009	THORENS et al.	
	NB	US-20090283103-A1	11-19-2009	Nielsen et al.	
	NC	US-20090288668-A1	11-26-2009	Inagaki	
	ND	US-20090288669-A1	11-26-2009	Hutchens	
	NE	US-2009/0293892-A1	12-03-2009	Williams et al.	
	NF	US-20090293895-A1	12-03-2009	Axelsson et al.	
	NG	US-20100000672-A1	01-07-2010	Fogle	
	NH	US-20100006092-A1	01-14-2010	Hale et al.	
	NI	US-20100024834-A1	02-04-2010	Oglesby et al.	
	NJ	US-20100031968-A1	02-11-2010	SHEIKH et al.	
	NK	US-20100156193-A1	06-24-2010	Rhodes et al.	
	NL	US-2010/0163063-A1	07-01-2010	FERNANDO et al.	
	NM	US-20100186757-A1	07-29-2010	Crooks et al.	
	NN	US-20100200006-A1	08-12-2010	Robinson et al.	
	NO	US-20100200008-A1	08-12-2010	Taieb	
	NP	US-20100236562-A1	09-23-2010	Hearn et al.	
	NQ	US-20100242974-A1	09-30-2010	Pan	
	NR	US-20100242976-A1	09-30-2010	KATAYAMA et al.	
	NS	US-20100275938-A1	11-04-2010	Roth et al.	
	NT	US-20100276333-A1	11-04-2010	Couture	
	NU	US-20100307116-A1	12-09-2010	FISHER	
	NV	US-20110030706-A1	02-10-2011	Gibson et al.	
	NW	US-20110036346-A1	02-17-2011	Cohen et al.	
	NX	US-20110041861-A1	02-24-2011	Sebastian et al.	
	NY	US-20110049226-A1	03-03-2011	Moreau et al.	
	NZ	US-20110094523-A1	04-28-2011	Thorens et al.	
	OA	US-20110108023-A1	05-12-2011	McKinney et al.	
	OB	US-20110155153-A1	06-30-2011	Thorens et al.	
	OC	US-20110162667-A1	07-07-2011	Burke et al.	
	OD	US-20110168194-A1	07-14-2011	Hon	
	OE	US-20110180433-A1	07-28-2011	Rennecamp	
	OF	US-20110192397-A1	08-11-2011	Saskar et al.	
	OG	US-20110226236-A1	09-22-2011	Buchberger	
	OH	US-20110226266-A1	09-22-2011	Tao	
	OI	US-20110232654-A1	09-29-2011	Mass	
	OJ	US-20110236002-A1	09-29-2011	OGLESBY et al.	
	OK	US-20110240047-A1	10-06-2011	Adamic	
	OL	US-20110265806-A1	11-03-2011	ALARCON et al.	
	OM	US-20110268809-A1	11-03-2011	Brinkley et al.	
	ON	US-20110274628-A1	11-10-2011	Borschke	
	OO	US-20110277780-A1	11-17-2011	Terry et al.	
	OP	US-20110278189-A1	11-17-2011	Terry et al.	
	OQ	US-20110293535-A1	12-01-2011	Kosik et al.	
	OR	US-20110315701-A1	12-29-2011	Everson	
	OS	US-20120006342-A1	01-12-2012	Rose et al.	
	OT	US-20120039981-A1	02-16-2012	PEDERSEN et al.	

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	OU	US-20120060853-A1	03-15-2012	Robinson et al.	
	OV	US-20120111347-A1	05-10-2012	Hon	
	OW	US-20120152265-A1	06-21-2012	Dube et al.	
	OX	US-20120192880-A1	08-02-2012	Dube et al.	
	OY	US-20120199146-A1	08-09-2012	Marangos	
	OZ	US-20120204889-A1	08-16-2012	Xiu	
	PA	US-20120227753-A1	09-13-2012	Newton	
	PB	US-20120255567-A1	10-11-2012	Rose et al.	
	PC	US-20120260927-A1	10-18-2012	Liu	
	PD	US-20120261286-A1	10-18-2012	Holloway et al.	
	PE	US-20120267383-A1	10-25-2012	VAN ROOYEN	
	PF	US-20120273589-A1	11-01-2012	Hon	
	PG	US-20120285475-A1	11-15-2012	Liu	
	PH	US-20120325227-A1	12-27-2012	Robinson et al.	
	PI	US-2013/0042865-A1	02-21-2013	MONSEES et al.	
	PJ	US-20130068239-A1	03-21-2013	YOUN	
	PK	US-20130081642-A1	04-04-2013	Safari	
	PL	US-20130098377-A1	04-25-2013	Borschke et al.	
	PM	US-20130140200-A1	06-06-2013	Scatterday	
	PN	US-20130152922-A1	06-20-2013	Benassayag et al.	
	PO	US-20130186416-A1	07-25-2013	Gao et al.	
	PP	US-20130199528-A1	08-08-2013	Goodman et al.	
	PQ	US-20130228191-A1	09-05-2013	Newton	
	PR	US-20130247924-A1	09-26-2013	Scatterday et al.	
	PS	US-20130248385-A1	09-26-2013	Scatterday et al.	
	PT	US-20130255702-A1	10-03-2013	Griffith, JR. et al.	
	PU	US-20130276802-A1	10-24-2013	Scatterday	
	PV	US-20130284190-A1	10-31-2013	Scatterday et al.	
	PW	US-20130284191-A1	10-31-2013	Scatterday et al.	
	PX	US-20130298905-A1	11-14-2013	Levin et al.	
	PY	US-20130312742-A1	11-28-2013	MONSEES et al.	
	PZ	US-20130313139-A1	11-28-2013	Scatterday et al.	
	QA	US-20130319435-A1	12-05-2013	Flick	
	QB	US-20130319440-A1	12-05-2013	Capuano	
	QC	US-20130333700-A1	12-19-2013	Buchberger	
	QD	US-20130333712-A1	12-19-2013	Scatterday	
	QE	US-20130340775-A1	12-26-2013	Juster et al.	
	QF	US-20140000638-A1	01-02-2014	Sebastian et al.	
	QG	US-20140007891-A1	01-09-2014	Liu	
	QH	US-2014/0014124-A1	01-16-2014	Glasberg et al.	
	QI	US-20140014126-A1	01-16-2014	Peleg et al.	
	QJ	US-20140041655-A1	02-13-2014	Barron et al.	
	QK	US-2014/0041658-A1	02-13-2014	Goodman et al.	
	QL	US-20140053856-A1	02-27-2014	Liu	
	QM	US-20140053858-A1	02-27-2014	Liu	
	QN	US-20140060552-A1	03-06-2014	Cohen	

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	QO	US-20140060556-A1	03-06-2014	Liu	
	QP	US-20140096781-A1	04-10-2014	Sears et al.	
	QQ	US-20140096782-A1	04-10-2014	Ampolini et al.	
	QR	US-20140109921-A1	04-24-2014	Chen	
	QS	US-20140116455-A1	05-01-2014	Youn	
	QT	US-20140123990-A1	05-08-2014	Timmermans	
	QU	US-20140144429-A1	05-29-2014	Wensley et al.	
	QV	US-20140150810-A1	06-05-2014	Hon	
	QW	US-20140166028-A1	06-19-2014	FUISZ et al.	
	QX	US-20140174459-A1	06-26-2014	Burstyn	
	QY	US-2014/0190501-A1	07-10-2014	Liu	
	QZ	US-20140190503-A1	07-10-2014	LI et al.	
	RA	US-20140196731-A1	07-17-2014	Scatterday	
	RB	US-20140196735-A1	07-17-2014	Liu	
	RC	US-20140202474-A1	07-24-2014	Peleg et al.	
	RD	US-20140209105-A1	07-31-2014	Sears et al.	
	RE	US-20140216450-A1	08-07-2014	Liu	
	RF	US-20140230835-A1	08-21-2014	SALIMAN	
	RG	US-20140261474-A1	09-18-2014	GONDA	
	RH	US-20140261486-A1	09-18-2014	Potter et al.	
	RI	US-20140261487-A1	09-18-2014	Chapman et al.	
	RJ	US-20140270727-A1	09-18-2014	Ampolini et al.	
	RK	US-20140271946-A1	09-18-2014	Kobal et al.	
	RL	US-20140301721-A1	10-09-2014	Ruscio et al.	
	RM	US-20140305450-A1	10-16-2014	Xiang	
	RN	US-20140345631-A1	11-27-2014	Bowen et al.	
	RO	US-20140345633-A1	11-27-2014	Talon et al.	
	RP	US-20140345635-A1	11-27-2014	RABINOWITZ et al.	
	RQ	US-20140355969-A1	12-04-2014	Stern	
	RR	US-20140366898-A1	12-18-2014	MONSEES et al.	
	RS	US-20140378790-A1	12-25-2014	COHEN	
	RT	US-20150020823-A1	01-22-2015	Lipowicz et al.	
	RU	US-20150020824-A1	01-22-2015	Bowen et al.	
	RV	US-20150020825-A1	01-22-2015	Galloway et al.	
	RW	US-20150020830-A1	01-22-2015	Koller	
	RX	US-20150020831-A1	01-22-2015	Weigensberg et al.	
	RY	US-20150027457-A1	01-29-2015	Janardhan et al.	
	RZ	US-20150027468-A1	01-29-2015	Li et al.	
	SA	US-20150027472-A1	01-29-2015	Amir	
	SB	US-20150034103-A1	02-05-2015	Hon	
	SC	US-20150034104-A1	02-05-2015	Zhou	
	SD	US-20150038567-A1	02-05-2015	Herkenroth et al.	
	SE	US-20150040929-A1	02-12-2015	Hon	
	SF	US-20150101625-A1	04-16-2015	Newton et al.	
	SG	US-20150122252-A1	05-07-2015	Frija	
	SH	US-20150122274-A1	05-07-2015	Cohen et al.	

Used in Lieu of PTO/SB/08A/B
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	SI	US-20150128965-A1	05-14-2015	Lord	
	SJ	US-20150128966-A1	05-14-2015	Lord	
	SK	US-20150128967-A1	05-14-2015	Robinson et al.	
	SL	US-20150128976-A1	05-14-2015	Verleur et al.	
	SM	US-20150136153-A1	05-21-2015	Lord	
	SN	US-20150136158-A1	05-21-2015	Stevens et al.	
	SO	US-2015/0142387-A1	05-21-2015	Alarcon et al.	
	SP	US-20150144147-A1	05-28-2015	LI et al.	
	SQ	US-20150150308-A1	06-04-2015	Monsees et al.	
	SR	US-2015/0157054-A1	06-11-2015	Liu	
	SS	US-20150157056-A1	06-11-2015	Bowen et al.	
	ST	US-20150164141-A1	06-18-2015	Newton	
	SU	US-20150164144-A1	06-18-2015	Liu	
	SV	US-20150164147-A1	06-18-2015	Verleur et al.	
	SW	US-20150181928-A1	07-02-2015	Liu	
	SX	US-20150189695-A1	07-02-2015	Xiang	
	SY	US-20150196059-A1	07-16-2015	LIU	
	SZ	US-20150196060-A1	07-16-2015	Wensley et al.	
	TA	US-20150208729	07-2015	Monsees et al.	
	TB	US-20150208731-A1	07-30-2015	MALAMUD et al.	
	TC	US-20150216237-A1	08-06-2015	Wensley et al.	
	TD	US-20150223521-A1	08-13-2015	Menting et al.	
	TE	US-20150224268-A1	08-13-2015	Henry et al.	
	TF	US-20150237917-A1	08-27-2015	Lord	
	TG	US-20150237918-A1	08-27-2015	Liu	
	TH	US-2015/0245654-A1	09-03-2015	MEMARI et al.	
	TI	US-20150245660-A1	09-03-2015	Lord	
	TJ	US-20150257445-A1	09-17-2015	Henry, Jr. et al.	
	TK	US-20150258289-A1	09-17-2015	Henry, JR. et al.	
	TL	US-20150272220-A1	10-01-2015	SPINKA et al.	
	TM	US-20150272222-A1	10-01-2015	Spinka et al.	
	TN	US-20150282525-A1	10-08-2015	Plojoux et al.	
	TO	US-20150282527-A1	10-08-2015	Henry, Jr.	
	TP	US-2015/0305409-A1	10-29-2015	Verleur et al.	
	TQ	US-20150313275-A1	11-05-2015	ANDERSON et al.	
	TR	US-20150313285-A1	11-05-2015	WALLER et al.	
	TS	US-20150320114-A1	11-12-2015	WU	
	TT	US-20150335074-A1	11-26-2015	Leung	
	TU	US-20150351456-A1	12-10-2015	Johnson et al.	
	TV	US-20150359264-A1	12-17-2015	Fernando et al.	
	TW	US-20150366265-A1	12-24-2015	Lansing	
	TX	US-20150366266-A1	12-24-2015	Chen	
	TY	US-20160021931-A1	01-28-2016	HAWES et al.	
	TZ	US-20160021932-A1	01-28-2016	SILVESTRINI et al.	
	UA	US-20160021933-A1	01-28-2016	THORENS et al.	
	UB	US-20160021934-A1	01-28-2016	CADIEUX et al.	

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	UC	US-20160029694-A1	02-04-2016	CLEMENTS et al.	
	UD	US-20160029697-A1	02-04-2016	SHAFER	
	UE	US-20160029698-A1	02-04-2016	XIANG	
	UF	US-20160044967-A1	02-18-2016	Bowen et al.	
	UG	US-20160044968-A1	02-18-2016	Bowen et al.	
	UH	US-20160053988-A1	02-25-2016	Quintana	
	UI	US-20160057811-A1	02-25-2016	Alarcon et al.	
	UJ	US-20160058071-A1	03-03-2016	HEARN	
	UK	US-20160058072-A1	03-03-2016	LIU	
	UL	US-20160073692-A1	03-17-2016	Alarcon et al.	
	UM	US-20160081393-A1	03-24-2016	Black	
	UN	US-20160081395-A1	03-24-2016	THORENS et al.	
	UO	US-20160095355-A1	04-07-2016	HEARN	
	UP	US-20160106154-A1	04-21-2016	Lord	
	UQ	US-20160106155-A1	04-21-2016	REEVELL	
	UR	US-20160106936-A1	04-21-2016	Kimmel	
	US	US-20160109115-A1	04-21-2016	LIPOWICZ	
	UT	US-20160120218-A1	05-05-2016	SCHENNUM et al.	
	UU	US-20160120220-A1	05-05-2016	MALGAT et al.	
	UV	US-20160120227-A1	05-05-2016	LEVITZ et al.	
	UW	US-20160120228-A1	05-05-2016	ROSTAMI et al.	
	UX	US-20160135503-A1	05-19-2016	LIU	
	UY	US-20160143359-A1	05-26-2016	Xiang	
	UZ	US-20160143365-A1	05-26-2016	LIU	
	VA	US-20160157524-A1	06-09-2016	BOWEN et al.	
	VB	US-20160166564-A1	06-16-2016	MYERS et al.	
	VC	US-20160174611-A1	06-23-2016	MONSEES et al.	
	VD	US-20160200463-A1	07-14-2016	Hodges et al.	
	VE	US-20160227839-A1	08-11-2016	ZUBER et al.	
	VF	US-20160227840-A1	08-11-2016	XIANG	
	VG	US-20160242466-A1	08-25-2016	Lord et al.	
	VH	US-20160249680-A1	09-01-2016	LIU	
	VI	US-20160250201-A1	09-01-2016	Rose et al.	
	VJ	US-20160270451-A1	09-22-2016	HON	
	VK	US-20160278435-A1	09-29-2016	CHOUKROUN et al.	
	VL	US-20160295924-A1	10-13-2016	Liu	
	VM	US-20160295926-A1	10-13-2016	ZUBER	
	VN	US-20160302471-A1	10-20-2016	BOWEN et al.	
	VO	US-20160302483-A1	10-20-2016	LIU	
	VP	US-20160302484-A1	10-20-2016	GUPTA et al.	
	VQ	US-20160302486-A1	10-20-2016	Eroch	
	VR	US-20160309784-A1	10-27-2016	SILVESTRINI et al.	
	VS	US-20160324215-A1	11-10-2016	MIRONOV et al.	
	VT	US-20160331033-A1	11-17-2016	HOPPS et al.	
	VU	US-20160331038-A1	11-17-2016	FARINE et al.	
	VV	US-20160331040-A1	11-17-2016	NAKANO et al.	

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	VW	US-20160338402-A1	11-24-2016	BUEHLER et al.	
	VX	US-20160338410-A1	11-24-2016	Batista et al.	
	VY	US-20160338411-A1	11-24-2016	Liu	
	VZ	US-20160345627-A1	12-01-2016	Liu	
	WA	US-20160345630-A1	12-01-2016	MIRONOV et al.	
	WB	US-20160366939-A1	12-22-2016	Alarcon et al.	
	WC	US-20160368670-A1	12-22-2016	Beardsall	
	WD	US-20160371464-A1	12-22-2016	Bricker	
	WE	US-20160374390-A1	12-29-2016	LIU	
	WF	US-20160374398-A1	12-29-2016	AMIR	
	WG	US-20170019951-A1	01-19-2017	LOUVEAU et al.	
	WH	US-20170049155-A1	02-23-2017	LIU	
	WI	US-20170064999-A1	03-09-2017	PEREZ et al.	
	WJ	US-20170071257-A1	03-16-2017	Lin	
	WK	US-20170079329-A1	03-23-2017	ZITZKE	
	WL	US-D590990	04-21-2009	Hon	
	WM	US-D590991	04-21-2009	Hon	
	WN	US-D624238	09-21-2010	Turner	
	WO	US-D642330	07-26-2011	Turner	
	WP	US-D644375	08-30-2011	Zhou	
	WQ	US-D653803	02-07-2012	Timmermans	
	WR	US-D691324	10-08-2013	Saliman	
	WS	US-D695450	12-10-2013	Benassayag et al.	
	WT	US-D707389	06-17-2014	Liu	
	WU	US-D725310	03-24-2015	Eksouzian	

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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	**A	CA-2641869-A1	05-06-2010	Xia, Hao Ran		
	**B	CN-101869356-A	10-27-2010	Zheqi, Liu		
	**C	CN-102754924-A	10-31-2012	Gongyun, Long		
	**D	CN-105263345-A	01-20-2016	Ploom Inc		
	**E	CN-1122213-A	05-15-1996	Philip Morris Prod		
	**F	CN-85106876-A	09-03-1986	RJ Reynolds Tobacco Company		
	**G	DE-19854005-A1	05-18-2000	Reemtsma H F & Ph		
	**H	DE-19854012-A1	05-18-2000	Reemtsma H F & Ph		
	**I	DE-4200639-A1	07-23-1992	Brown & Williamson Tobacco Corp., Louisville		
	**J	EP-0283672-A2	09-28-1988	Reynolds Tobacco Co R		
	**K	EP-0532194-A1	03-17-1993	Philip Morris		
	**L	EP-0535695-A2	04-07-1993	Phillips Petroleum Co		
	**M	EP-1458388-A1	09-22-2004	Pfizer Health Ab		
	**N	EP-1618803-A1	01-25-2006	Hon, Lik		
	**O	EP-2022349-A1	02-11-2009	Han, Li		
	**P	EP-2022350-A1	02-11-2009	Hon, Lik		
	**Q	EP-2110033-A1	10-21-2009	Philip, Morris Products S.a		
	**R	EP-2152313-A1	02-17-2010	Mcneil Ab		
	**S	EP-2319934-A2	05-11-2011	Stichting Dienst Landbouwkundi		
	**T	EP-2325093-A1	05-25-2011	Imp Tobacco Ltd		
	**U	EP-2609821-A1	07-03-2013	Philip Morris Prod		
	**V	EP-2856893-A1	04-08-2015	Fontem Ventures B V		
	**W	EP-2908675-A1	08-26-2015	Nicoventures Holdings Ltd		
	**X	EP-2915443-B1	08-14-2019	Fontem Holdings 1 BV		
	**Y	EP-3024343-A2	06-01-2016	Altria Client Services LLC		
	**Z	EP-3062646-A1	09-07-2016	Rai Strategic Holdings, Inc		
	**AA	EP-3065581-A2	09-14-2016	Sis Resources, Ltd		
	**AB	EP-3068244-A1	09-21-2016	Vmr Products, LLC		
	**AC	ES-2118034-A1	09-01-1998	Nugar Bobinajes Sl		
	**AD	GB-1025630-A	04-14-1966	British American Tobacco Co		
	**AE	GB-1065678-A	04-19-1967	Super Temp Corp		
	**AF	IE-20050615	09-2005	Oglesby & Butler Research & Development Ltd.		
	**AG	IE-S20050051	02-2005	Oglesby & Butler Research & Development Ltd.		

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	**AH	IE-S20050563	08-24-2005	Oglesby & Butler Research & Development Ltd.		
	**AI	JP-02-145179	06-04-1990	Hercules Inc		
	**AJ	JP-03049671	04-1991	Brown & Williamson Tobacco Corp.		
	**AK	JP-03180166	06-1991	RJ Reynolds Tobacco Company		
	**AL	JP-09-075058	03-25-1997	Nagai		
	**AM	JP-10-501999	02-24-1998	Boehringer		
	**AN	JP-11178563	06-1999	Japan Tobacco Inc.		
	**AO	JP-2000203639-A	07-25-2000	S & B Foods Inc		
	**AP	JP-2000236865-A	09-05-2000	Seiko Kogyo Kk		
	**AQ	JP-2001165437-A	06-22-2001	Tsubota Pearl Co Ltd		
	**AR	JP-2005034021-A	02-10-2005	Seiko Epson Corp		
	**AS	JP-2006-524494-A	11-02-2006			
	**AT	JP-2006504430-A	02-09-2006	RJ Reynolds Tobacco Company		
	**AU	JP-62278975	12-1987	Watabe Isamu		
	**AV	JP-6437276	02-1989	Hansgen et al.		
	**AW	JP-S61254170-A	11-11-1986	Advanced Tobacco Prod Inc		
	**AX	KR-0193885	06-1999	Philip Morris, Inc.		
	**AY	UA-67598-U	02-27-2012	Rohov, Dmytro Yuriiovych		
	**AZ	WO-0028842-A1	05-25-2000	Reemtsma H F & Ph		
	**BA	WO-03056948-A1	07-17-2003	Japan Tobacco Inc		
	**BB	WO-03082031-A1	10-09-2003	Steinberg, Dan		
	**BC	WO-03094900-A1	11-20-2003	Alexza Molecular Delivery Corp		
	**BD	WO-2003103387-A2	12-18-2003	S.c. Johnson & Son, Inc		
	**BE	WO-2004064548-A1	08-05-2004	Netzer, Omry		
	**BF	WO-2004076289-A2	09-10-2004	Pharmacia AB		
	**BG	WO-2004080216-A1	09-23-2004	Best Partners Worldwide Ltd		√
	**BH	WO-2005020726-A1	03-10-2005	Lee, Seunghyun		
	**BI	WO-2006004646-A1	01-12-2006	Nektar Therapeutics		
	**BJ	WO-2006015070-A1	02-09-2006	Brown & Williamson Holdings, Inc		
	**BK	WO-2007026131-A1	03-08-2007	Acetate Products Ltd		
	**BL	WO-2007078273-A1	07-12-2007	Augite Inc		
	**BM	WO-2008077271-A1	07-03-2008	Maas, Bernard		√
	**BN	WO-2008121610-A1	10-09-2008	Univ Duke		
	**BO	WO-2009001085-A2	12-31-2008	Kind Consumer Ltd		
	**BP	WO-2009079641-A2	06-25-2009	Ploom, Inc		
	**BQ	WO-2010023561-A1	03-04-2010	Actavis Group Ptc Ehf		

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	**BR	WO-2011/117580-A2	09-29-2011	Kind Consumer Ltd		
	**BS	WO-2011033396-A2	03-24-2011	Minilogic Device Corp Ltd		
	**BT	WO-2011034723-A1	03-24-2011	Univ Duke		
	**BU	WO-2011038104-A2	03-31-2011	Mcnell-ppc, Inc		
	**BV	WO-2011109849-A1	09-15-2011	Buchberger, Helmut		
	**BW	WO-2012/085207-A1	06-28-2012	Philip Morris Products SA		
	**BX	WO-2012021972-A1	02-23-2012	Cogestor Inc		
	**BY	WO-2012027350-A2	03-01-2012	Alelov, Eli		
	**BZ	WO-2012120487-A2	09-13-2012	Chong Corp		
	**CA	WO-2013/098398-A2	07-04-2013	Philip Morris Prod		
	**CB	WO-2013044537-A1	04-04-2013	Joyetech (changzhou) Electronics Co., Ltd		
	**CC	WO-2013050934-A1	04-11-2013	Sis Resources Ltd		
	**CD	WO-2013083631-A1	06-13-2013	Philip Morris Prod		
	**CE	WO-2013083635-A1	06-13-2013	Philip Morris Prod		
	**CF	WO-2013088230-A1	06-20-2013	Dks Aromatic S R L		
	**CG	WO-2013089551-A1	06-20-2013	Foo, Kit Seng		
	**CH	WO-2013116558-A1	08-08-2013	Altria Client Services Inc		
	**CI	WO-2013116561-A1	08-08-2013	Altria Client Services Inc		
	**CJ	WO-2013142678-A1	09-26-2013	Njoy, Inc		
	**CK	WO-2014004648-A1	01-03-2014	Reynolds Tobacco Co R		
	**CL	WO-2014040915-A1	03-20-2014	Snoke Gmbh & Co Kg		
	**CM	WO-2014093127-A2	06-19-2014	Fuisz, Richard C		
	**CN	WO-2014101734-A1	07-03-2014	Shenzhen Smoore Technology Ltd		
	**CO	WO-2014118286-A2	08-07-2014	Philip Morris Prod		
	**CP	WO-2014139611-A1	09-18-2014	Philip Morris Products SA		
	**CQ	WO-2014140087-A1	09-18-2014	Philip Morris Products SA		
	**CR	WO-2014150245-A1	09-25-2014	Aradigm Corp		
	**CS	WO-2014150704-A2	09-25-2014	Altria Client Services Inc		
	**CT	WO-2014151434-A2	09-25-2014	Altria Client Services Inc		
	**CU	WO-2014159250-A1	10-02-2014	Reynolds Tobacco Co R		
	**CV	WO-2014159982-A1	10-02-2014	Reynolds Tobacco Co R		
	**CW	WO-2014177859-A1	11-06-2014	Nicoventures Holdings Ltd		
	**CX	WO-2014182736-A1	11-13-2014	Ploom, Inc		
	**CY	WO-2014187763-A1	11-27-2014	Philip Morris Products SA		
	**CZ	WO-2014187770-A2	11-27-2014	Philip Morris Products SA		
	**DA	WO-2014190079-A2	11-27-2014	Njoy, Inc		
	**DB	WO-2014205263-A1	12-24-2014	Loec, Inc		
	**DC	WO-2015/006652-A1	01-15-2015	Alexza Pharmaceuticals, Inc		
	**DD	WO-2015/009862-A2	01-22-2015	Altria Client Services Inc		
	**DE	WO-2015/063126-A1	05-07-2015	Choukroun, Benjamin		

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	**DF	WO-2015/082652-A1	06-11-2015	Philip Morris Products SA		
	**DG	WO-2015/124878-A1	08-27-2015	Smokio		
	**DH	WO-2015/148547-A1	10-01-2015	Nicotech , LLC		
	**DI	WO-2015/149647-A1	10-08-2015	Kimree Hi Tech Inc		
	**DJ	WO-2015028815-A1	03-05-2015	British American Tobacco Co		
	**DK	WO-2015040180-A2	03-26-2015	Philip Morris Products SA		
	**DL	WO-2015042412-A1	03-26-2015	Nicotine Technology Inc E		
	**DM	WO-2015058387-A1	04-30-2015	Kimree Hi Tech Inc		
	**DN	WO-2015066136-A1	05-07-2015	Reynolds Tobacco Co R		
	**DO	WO-2015073975-A1	05-21-2015	Vmr Products, LLC		
	**DP	WO-2015084544-A1	06-11-2015	Ploom, Inc		
	**DQ	WO-2015089711-A1	06-25-2015	Kimree Hi Tech Inc		
	**DR	WO-2015091258-A1	06-25-2015	Philip Morris Products SA		
	**DS	WO-2015101651-A1	07-09-2015	Philip Morris Products SA		
	**DT	WO-2015109616-A1	07-30-2015	Kimree Hi Tech Inc		
	**DU	WO-2015157893-A1	10-22-2015	Kimree Hi Tech Inc		
	**DV	WO-2015157901-A1	10-22-2015	Kimree Hi Tech Inc		
	**DW	WO-2015165067-A1	11-05-2015	Kimree Hi Tech Inc		
	**DX	WO-2015168828-A1	11-12-2015	Kimree Hi Tech Inc		
	**DY	WO-2015175979-A1	11-19-2015	Pax Labs, Inc		
	**DZ	WO-2015179292-A1	11-26-2015	Reynolds Tobacco Co R		
	**EA	WO-2015193456-A1	12-23-2015	Oglesby, Ciaran		√
	**EB	WO-2016/062777-A1	04-28-2016	British American Tobacco Co		
	**EC	WO-2016012769-A1	01-28-2016	Nicoventures Holdings Ltd		
	**ED	WO-2016020675-A1	02-11-2016	Nicoventures Holdings Ltd		
	**EE	WO-2016030661-A1	03-03-2016	Nicoventures Holdings Ltd		
	**EF	WO-2016040575-A1	03-17-2016	Fontem Holdings 1 Bv		
	**EG	WO-2016041114-A1	03-24-2016	Huizhou Kimree Technology Co Ltd		
	**EH	WO-2016041140-A1	03-24-2016	Huizhou Kimree Technology Co Ltd		
	**EI	WO-2016050247-A1	04-07-2016	Fertin Pharma As		
	**EJ	WO-2016058189-A1	04-21-2016	Huizhou Kimree Technology Co., Ltd		
	**EK	WO-2016063775-A1	04-28-2016	Japan Tobacco Inc		
	**EL	WO-2016065606-A1	05-06-2016	Huizhou Kimree Technology Co.,ltd		
	**EM	WO-2016071705-A1	05-12-2016	Nicoventures Holdings Ltd		
	**EN	WO-2016071706-A1	05-12-2016	Nicoventures Holdings Ltd		
	**EO	WO-9501137-A1	01-12-1995	Voges Innovation Pty Ltd		
	**EP	WO-9712639-A1	04-10-1997	Slutsky, Arthur		

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Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	**A	"A Randomised Placebo-Controlled Trial of a Nicotine Inhaler and Nicotine Patches for Smoking cessation," 5 pages, available at http://www.otago.ac.nz/wellington/otago047634.pdf.	
	**B	"How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attibutable Disease," U.S. Department of Health and Human Services, 2010.	
	C	"substantially" entry from dictionary.com, printed from internet on 12/21/2020	
	**D	'Goniewicz, et al., "Nicotine levels in electronic cigarettes," Nicotine Tobacco Research, 15(1), pp. 158-166, January 2013.	
	**E	(https://www.e-cigarette-forum.com/forum/threads/any-interest-in-determining-nicotine-by-dvap.35922/); blog posts dated: 2009; 8 pgs.; print/retrieval date: July 31, 2014	
	**F	3: In vitro toxicity of whole smoke; Food and Chemical Toxicology; 36(3); pp. 191-197; March 1998	
	**G	Adam, Thomas, Stefan Mitschke, and Richard R. Baker. "Investigation of tobacco pyrolysis gases and puff-by-puff resolved cigarette smoke by single photon ionisation (SPI)-time-of-flight mass spectrometry (TOFMS)." Beitrage zur Tabakforschung International/Contributions to Tobacco Research 23.4 (2009): 203-226.	
	**H	BAKER et al.; The pyrolysis of tobacco ingredients; J. Anal. Appl. Pyrolysis; 71(1); pp. 223-311; March 2004	
	**I	Baker, R., et al., "An overview of the effects of tobacco ingredients on smoke chemistry and toxicity," Food and Chemical Toxicology, 42S, 2004.	
	**J	Baker, R., et al., "The effect of tobacco ingredients on smoke chemisty. Part II: Casing ingredients," Food and Chemical Toxicology, 42S, 2004.	
	**K	Bao, M., et al., "An improved headspace solid-phase microextraction method for the analysis of free-base nicotine in particulate phase of mainstream cigarette smoke," Analytica Chimic Acta, 49-54, 2010.	
	**L	Bastin, R., et al., "Salt Selection and Optimisation Procedures for Pharmaceutical New Checmical Entities," Organic Process Research & Development, 4, 427-435 (2000).	
	**M	Bates, "Tobacco Additives: Cigarette Engineering and Nicotine Addiction," ASH UK Report, 1999.	
	**N	Bertholon, J. F., et al. "Comparison of the aerosol produced by electronic cigarettes with conventional cigarettes and the shisha." Revue des maladies respiratoires 30.9 (2013): 752-757.	
	**O	Bertholon, J. F., et al. "Electronic cigarettes: a short review." Respiration 86.5 (2013): 433-438.	
	**P	BOMBICK et al.; Chemcal and biological studies of a new cigarette that primarily heats tobacco; Part	
	**Q	BOMBICK et al.; Chemical and biological studies of a new cigarette that primarily heats tobacco; Part 2: In vitro toxicology of mainstream smoke condesnsate; Food and Chemical Toxicology; 36(3); pp. 183-190; March 1998	
	**R	BORGERDING et al.; Chemcal and biological studies of a new cigarette that primarily heats tobacco; Part 1: Chemical composition of mainstream smoke; Food and Chemical Toxicology; 36(3); pp. 169-182; March 1998	
	**S	BOWEN et al.; U.S. Pat Appl. # 15/101,303 entitled "Nicotine liquid formulations for aerosol	

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		devices and methods thereof," filed 6/2/2016	
	**T	BOWEN et al.; U.S. Pat. App. # 14/960,259 entitled "Calibrated Dose Control", filed 12/4/2015	
	**U	BRADLEY et al.; Electronic cigarette aerosol particle size distribution measurements; Inhal. Toxicol.; 24(14); pp. 976-984; Dec. 2012	
	**V	Brown, Christopher J., et al., "Electronic cigarettes: product characterisation and design considerations." Tobacco control 23.suppl 2 (2014): ii4-ii10.	
	**W	Brown, Christopher, et al.," Caffeine and Cigarette Smoking: Behavioral, Cardiovascular, and Metabolic Interactions," Pharmacology Biochemistry and Behavior, Vol. 34, pp565-570, 1989.	
	**X	BULLEN et al.; Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: randomised cross-over trial; Tobacco Control; 19(2); pp. 98-103; Apr. 2010	
	**Y	Bullen, Chris, et al. "Study protocol for a randomised controlled trial of electronic cigarettes versus nicotine patch for smoking cessation." BMC public health 13.1 (2013): 210.	
	**Z	Bullen, Christopher, et al. "Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: randomised cross-over trial." Tobacco control 19.2 (2010): 98-103.	
	**AA	BURCH et al.; Effect of pH on nicotine absorption and side effects produced by aerosolized nicotine; Journal of Aerosol Medicine: Deposition, Clearance, and Effects in the Lung; 6(1); pp. 45-52; 1993	
	**AB	Burch, et al., "Effect of pH on nicotine absorption and side effects produced by areosolized nicotine," Journal of Aerosol Medicine: Deposition, Clearance, and Effects in the Lung, 6(1), pp. 45-52. 1993.	
	**AC	BURN et al., "ACTION OF NICOTINE ON THE HEART", Excretion of Piperazine Salts, British Medical Journal, Jan. 18, 1958, pp. 137-139.	
	**AD	Cahn, Zachary, et al., "Electronic cigarettes as a harm reduction strategy for tobacco control: a step forward or a repeat of past mistakes?." Journal of public health policy 32.1 (2011): 16-31.	
	**AE	Caldwell, B., et al., "A Systematic Review of Nicotine by Inhalation: Is There a Role for the Inhaled Route?," Nicotine & Tobacco Research, pp.1-13 (2012).	
	**AF	Callicutt, C.H., "The role of ammonia in the transfer of nicotine from tobacco to mainstream smoke," Regulatory Toxicology and Pharmacology, 46, 2006.	
	**AG	Caponnetto, Pasquale, et al. "EffiCiency and Safety of an eLectronic cigAreTte (ECLAT) as tobacco cigarettes substitute: a prospective 12-month randomized control design study." PloS one 8.6 (2013): e66317.	
	**AH	Caponnetto, Pasquale, et al. "The emerging phenomenon of electronic cigarettes." Expert review of respiratory medicine 6.1 (2012): 63-74.	
	**AI	CAPPONNETTO et al.; Successful smoking cessation with cigarettes in smokers with a documented history of recurring relapses: a case series; Journal of Medical Case Reports; 5(1); 6 pages; (year of pub. sufficiently earlier than effective US filing date and any foreign priority date); 2011	
	**AJ	Cheng, Tianrong. "Chemical evaluation of electronic cigarettes." Tobacco control 23.suppl 2 (2014): ii11-ii17.	
	**AK	Cig Buyer.com 2013 Inside E-Cigarette Liquids and Vapor	
	**AL	Cisternino, S., et al., "Coexistence of Passive and Proton Anitporter-Mediated Processes in Nicotine Transport at the Mouse Blood-Brain Barrier," The AAPS Journal, Vol. 15, No. 2, April 2013.	

Used in Lieu of PTO/SB/08A/B
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	**AM	CLAYTON, et al., "Spectroscopic investigations into the acid-base properties of nicotine at different temperatures", Analytical Methods, 2013, pp. 81-88, Vol. 5.	
	**AN	Dawkins, Lynne, et al. "The electronic-cigarette: effects on desire to smoke, withdrawal symptoms and cognition." Addictive behaviors 37.8 (2012): 970-973.	
	**AO	Dawkins, Lynne, et al., "Acute electronic cigarette use: nicotine delivery and subjective effects in regular users," Psychopharmacology, 2013.	
	**AP	Dawkins, Lynne, John Turner, and Eadaoin Crowe. "Nicotine derived from the electronic cigarette improves time-based prospective memory in abstinent smokers." Psychopharmacology 227.3 (2013): 377-384.	
	**AQ	Definition of "aerosol", Merriam-Webster Dictionary, [online], no date, retrieved from the Internet, [retrieved 6/8/2017], <URL: https://www.merriam-webster.com/dictionary/aerosol>.	
	**AR	Dezelic, M., et al., "Determination of structure of some salts of nicotine, pyridine and N-methylpyrrolidine on the basis of their infra-red spectra," Spectrochimica Acta, Vol. 23A, 1967.	
	**AS	Dixon, M., "On the Transfer of Nicotine from Tobacco to the Smoker. A Brief Review of Ammonia and "pH" Factors," Contributions to Tobacco Research, Vol. 19, No. 2, July 2000.	
	**AT	Dong, J.Z., et al., "A Simple Technique for Determining the pH of Whole Cigarette Smoke," Contributions to Tobacco Research, Vol. 19, No. 1, April 2000.	
	**AU	Drummond, M. Bradley, et al., "Electronic cigarettes. Potential harms and benefits." Annals of the American Thoracic Society 11.2 (2014): 236-242.	
	**AV	E-CIGARETTE FORUM; pg-gv-peg (discussion/posting); retrieved from the internet: <https://e-cigarette-forum.com/forum/threads/pg-vg-peg.177551;> 7 pgs.; April 8, 2011	
	**AW	ECF; Any interest in determining nicotine--by DVAP;	
	**AX	Effros, R., et al., "The In Vivo pH of the Extravascular Space of the Lung," The Journal of Clinical Investigation, Vol. 48, 1969.	
	**AY	Eissenberg, Thomas. "Electronic nicotine delivery devices: ineffective nicotine delivery and craving suppression after acute administration." Tobacco control 19.1 (2010): 87-88.	
	**AZ	Etter, Jean-Francois, et al., "Analysis of refill liquids for electronic cigarettes." Addiction 108.9 (2013): 1671-1679.	
	**BA	Etter, Jean-Francois. "Levels of saliva cotinine in electronic cigarette users." Addiction 109.5 (2014): 825-829.	
	**BB	FARSALINOS et al.; Electronic cigarettes do not damage the heart; European Society of Cardiology; 4 pages; retrieved from the internet (http://www.escardio.org/The-ESC/Press-Office/Press-releases/Electronic-cigarettes-do-not-damage-the-heart); August 25, 2012	
	**BC	Farsalinos, Konstantinos E., et al. "Characteristics, perceived side effects and benefits of electronic cigarette use: a worldwide survey of more than 19,000 consumers." International journal of environmental research and public health 11.4 (2014): 4356-4373.	
	**BD	Farsalinos, Konstantinos E., et al. "Evaluating nicotine levels selection and patterns of electronic cigarette use in a group of "vapers" who had achieved complete substitution of smoking." Substance abuse: research and treatment 7 (2013): SART-512756.	
	**BE	Farsalinos, Konstantinos E., et al. "Impact of flavour variability on electronic cigarette use experience: an internet survey." International journal of environmental research and public health 10.12 (2013): 7272-7282.	
	**BF	Farsalinos, Konstantinos E., et al. "Nicotine absorption from electronic cigarette use: comparison between first and new-generation devices." Scientific reports 4 (2014): 4133.	
	**BG	Farsalinos, Konstantinos E., et al., "Safety evaluation and risk assessment of electronic	

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		cigarettes as tobacco cigarette substitutes: a systematic review." Therapeutic advances in drug safety 5.2 (2014): 67-86.	
	**BH	FLOURIS et al.; Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function; Inhal. Toxicol.; 25(2); pp. 91-101; Feb 2013	
	**BI	FOOD & DRUG ADMINISTRATION; Warning letter to The Compounding Pharmacy; retrieved 10/10/2014 from http://www.fda.gov/ICECI/EnfocementActions/WarningLetters/2002/ucm144843.htm; 3 pgs.; April 9, 2002	
	**BJ	Fournier, J., "Thermal Pathways for the Transfer of Amines, Including Nicotine, to the Gas Phase and Aerosols," Heterocycles, Vol. 55, No. 1, 2001.	
	**BK	Gonda, I., et al. "Smoking cessation approach via deep lung delivery of 'clean'nicotine." RDD Europe (2009): 57-61.	
	**BL	GONIEWICZ et al.; Nicotine levels in electronic cigarettes; Nicotine Tobacco Research; 15(1); pp. 158-166; Jan 2013	
	**BM	Goniewicz, Maciej L., et al., "Nicotine content of electronic cigarettes, its release in vapour and its consistency across batches: regulatory implications." Addiction 109.3 (2014): 500-507.	
	**BN	Grotenhermen, et al., "Developing science-based per se limits for driving under the influence of cannabis (DUIC): findings and recommendations by an expert panel; retreived 2/9/2017 from (http://www.canorml.org/healthfacts/DUICreport.2005.pdf); September 2005.	
	**BO	Harris, Mark. "Warning cigarettes may be about to become fashionable again." Engineering & Technology 6.1 (2011): 38-31.	
	**BP	HARVEST VAPOR; American Blend Tobacco (product info.); retrieved from the internet (http://harvestvapor.com/); 2 pgs.; print/retrieval date: 10/10/2014	
	**BQ	HENNINGFIELD, et al., "Tobacco Control", 1995, pp. 57-61, Vol. 4.	
	**BR	Heyder, J., "Alveolar deposition of inhaled particles in humans," American Industrial Hygiene Association Journal, 43:11, 864-866, 2010.	
	**BS	https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/ytyg0100	
	**BT	HURT et al.; Treating tobacco dependence in a medical setting; CA: A Cancer Journal for Clinicians; 59(5); pp. 314-326; Sept. 2009	
	**BU	Hurt, R., et al., "Prying Open the Door to the Tobacco Industry's Secrets About Nicotine," The Journal of the American Medical Association, Vol. 280, 1998.	
	**BV	INCHEM; Benzoic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_184.htm; 2 pgs..; May 28, 2005	
	**BW	INCHEM; Levulinic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_1266.htm; 1 pg.; March 10, 2003	
	**BX	INCHEM; Pyruvic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_2072.htm; 1 pg.; January 29, 2003	
	**BY	INCHEM; Sorbic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_2181.htm; 1 pg.; May 29, 2005	
	**BZ	INGEBRETHSEN et al.; Electronic cigarette aerosol particle size distribution measurements; Inhalation Toxicology; 24(14); pp. 976-984; December 2012	
	**CA	Keithly, Lois., et al., "Industry research on the use and effects of levulinic acid: A case study in cigarette additives," Nicotine & Tobacco Research Volume 7, No. 5, 761-771, 2005.	
	**CB	Kosmider, L., et al. "Electronic cigarette--a safe substitute for tobacco cigarette or a new threat?." Przeglad lekarski 69.10 (2012): 1084-1089. [including English language translation	

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	24	of	28	Attorney Docket Number	

		thereof]	
	**CC	KU0 et al.; Appendix D: Particle size-U.S. sieve size and tyler screen mesh equivalents; Applications of Turbulent and Multiphase Combustion; John Wiley & Sons, Inc.; pp. 541-543; May 1, 2012	
	**CD	Lauterbach, J.H, "COMPARISON OF MAINSTREAM CIGARETTE SMOKE pH WITH MAINSTREAM E-CIGARETTE AEROSOL pH" Tob. Sci. Res. Conf., 2013, 67, abstr. 78. 2013.	
	**CE	Lauterbach, J.H., "A Critical Assessment of Recent Work on the Application of Gas/Particle Partitioning Theories to Cigarette Smoke," Contributions to Tobacco Research, Vol. 19, No.2, July 2000.	
	**CF	Lauterbach, J.H., "Comment on Gas/Particle Partitioning of Two Acid-Base Active Compounds in Mainstream Tobacco Smoke: Nicotine and Ammonia," J. Agric. Food Chem., Vol. 58, No. 16, 2010.	
	**CG	Lauterbach, J.H., "Free-base nicotine in tobacoo products. Part 1. Determination of free-base nicotine in the particulate phase of mainstream cigarette smoke and the relevance of these findings to product design parameters," Regulatory Toxicology and Pharmacology, 2010.	
	**CH	Lauterback (2013) "GC-MS analysis of e-liquids taken from e-cigarettes and e-liquids (e-juice) before use in e-cigarettes" Presentation Slides CORESTA	
	**CI	Lee, L.-Y., et al., "Airway irritation and cough evoked by inhaled cigarette smoke: Role of neuronal nicotinic acetylcholine receptors," Pulmonary Pharmacology & Therapeutics, Vol. 20, 2007.	
	**CJ	LEFFINGWELL, et al., "Basic chemical constituents of tobacco: production, chemistry and Technology", Blackwell Science, 1999.	
	**CK	Leffingwell, J., et al., "Tobacco Flavoring for Smoking Products," R.J. Reynolds Tobacco Company, 1972.	
	**CL	Lim, Heung Bin, et al., "Inhallation of e-cigarette cartridge solution aggravates allergen-induced airway inflammation and hyper-responsiveness in mice." Toxicological research 30.1 (2014): 13.	
	**CM	Lippiello, P., et al., "Enhancement of Nicotine Binding to Nicotinic Receptors by Nicotine Levulinate and Levulinic Acid," 1989.	
	**CN	Lux, J.E., et al., "Subjective Responses to Inhaled and Intravenous Injected Nicotine," American Society for Clinical Pharmacology and Therapeutics, 1988.	
	**CO	Lux, J.E., et al., :Generation of a submicrometre nicotine aerosol for inhalation," Med. & Biol. Eng. & Comput. 26, 232-234, 1988.	
	**CP	M0NSEES et al.; U.S. Pat. Appl. # 15/257,760 entitled "Vaporizer apparatus," filed 9/6/2016	
	**CQ	MacDougall, James., et al., "Selective Cardiovascular Effects of Stress and Cigarette Smoking," Journal of Human Stress, 9:3. 13-21, 1983.	
	**CR	MAIER, et al., "Polypropylene: the defintive user's guide and databook", 1998.	
	**CS	McCANN et al.; Detection of carcinogens as mutagens in the salmonella/microsome test: Assay of 300 chemicals: Discussion; Proc. Nat. Acad. Sci.; 73(3); pp. 950-954; March 1976	
	**CT	McQueen, Amy, et al., "Interviews with "vapers": implications for future research with electronic cigarettes." Nicotine & Tobacco Research 13.9 (2011): 860-867.	
	**CU	McRobbie, Hayden, et al. "Electronic cigarettes for smoking cessation and reduction." Cochrane Database Syst. Rev 12 (2012).	
	**CV	MIRRIAM-WEBSTER Online Dictionary; Lighter; retrieved 1/4/2013 from the internet: (http://www.merriam-webster.com/dictionary/lighter?show=0&t=1357320593); 2 pgs.; print	

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Sheet	25	of	28	Attorney Docket Number	

		date: 1/4/2013	
	**CW	MONSEES et al.; U.S. Pat. Appl, # 15/257,748 entitled "Cartridge for use with a vaporizer device," filed 9/6/2016	
	**CX	MONSEES et al.; U.S. Pat. Appl. # 15/165,954 entitled "Devices for vaporization of a substance," filed 5/26/2016	
	**CY	MONSEES et al.; U.S. Pat. Appl. # 15/165,972 entitled "Portable devices for generating an inhalable vapor," filed 5/26/2016	
	**CZ	MONSEES et al.; U.S. Pat. Appl. # 15/166,001 entitled "Electronic vaporization device," filed 5/26/2016	
	**DA	MONSEES et al.; U.S. Pat. Appl. # 15/257,768 entitled "Vaporizer apparatus," filed 9/6/2016	
	**DB	MONSEES et al.; U.S. Pat. Appl. # 15/261,823 entitled "Low temperature electronic vaporization device and methods," filed 9/9/2016	
	**DC	MONSEES, J.; U.S. Pat. App. # 12/115,400 entitled "Method And System For Vaporization Of A Substance", filed 5/5/2008	
	**DD	NICOLI et al.; Mammalian tumor xenografts induce neovascularization in Zebrafish embryos; Cancer Research; 67(7); pp. 2927-2931; April 1, 2007	
	**DE	NICOTINE SALTS. RJ Reynolds Records. November 9, 1990.	
	**DF	Oldendorf, W., et al., "Blood-brain barrier penetration abolished by N-methyl quaternization of nicotine," Proc. Natl. Acad. Sci, Vol. 90, pp. 307-311, 1993.	
	**DG	Oldendorf, W., et al., "pH Dependence of Blood-Brain Barrier Permeability to Lactate and Nicotine," Stroke, Vol. 10, No. 5, 1979.	
	**DH	Omole, Olufemi Babatunde, et al., "Review of alternative practices to cigarette smoking and nicotine replacement therapy: how safe are they?." South African Family Practice 53.2 (2011): 154-160.	
	**DI	Pachke, T., et al., "Effects of Ingredients on Cigarette Smoke Composition and Biological Activity: A Literature Overview," Contributions to Tobacco Research, Vol. 20, No. 2, Aug. 2002.	
	**DJ	Pankow, et al., "Conversion of Nicotine in Tobacco Smoke to Its Volatile and Available Free-Base form Through the Action of Gaseous Ammonia," Eniron. Sci. Technol. 31 (8), 1997.	
	**DK	Pankow, James F. "A consideration of the role of gas/particle partitioning in the deposition of nicotine and other tobacco smoke compounds in the respiratory tract." Chemical research in toxicology 14.11 (2001): 1465-1481.	
	**DL	PERFETTI, "Structural study of nicotine salts," Beitrage Zur Tabakforschung International, Contributions to Tobacco Research, 12(2), pp. 43-54. June 1983.	
	**DM	Perfetti, T., "Investigation of Nicotine Transfer to Mainstream Smoke I. Synthesis of Nicotine Salts," 1978.	
	**DN	Perfetti, Transfer of Nicotine salts to mainstream smoke (2000) https://www.industrydocumentslibrary.ucstedu/tobacco/docs/#id=rzwp0187	
	**DO	Polosa, Riccardo, et al. "A fresh look at tobacco harm reduction: the case for the electronic cigarette." Harm reduction journal 10.1 (2013): 19.	
	**DP	Polosa, Riccardo, et al. "Effect of smoking abstinence and reduction in asthmatic smokers switching to electronic cigarettes: evidence for harm reversal." International journal of environmental research and public health 11.5 (2014): 4965-4977.	
	**DQ	Polosa, Riccardo, et al. "Effectiveness and tolerability of electronic cigarette in real-life: a 24-month prospective observational study." Internal and emergency medicine 9.5 (2014): 537-	

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Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
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				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
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				Examiner Name	Not Yet Assigned
Sheet	26	of	28	Attorney Docket Number	

		546.	
	**DR	POLOSA, Riccardo, et al., "Effect of an electronic nicotine delivery device (e-Cigarette) on smoking reduction and cessation: a prospective 6-month pilot study." BMC public health 11.1 (2011): 786.	
	**DS	Prignot, J., "Electronic Nicotine Delivery Systems (Electronic Cigarettes, Cigars, Pipes)," Louvain Medical, V. 132, No. 10, December 2013. [including English language translation thereof]	
	**DT	Provisional Application 61/826,318, filed May 22, 2013.	
	**DU	Provisional Application 61/856,286, filed July 19, 2013.	
	**DV	Provisional Application 61/856,374, filed July 19, 2013.	
	**DW	Provisional Application 61/891,626, filed on October 16, 2013.	
	**DX	Provisional Application 61/969,650, filed March 24, 2014.	
	**DY	Provisional Application 61/971,340, filed March 27, 2014.	
	**DZ	Riggs, et al., "The Thermal Stability of Nicotine Salts," R.J. Reynolds Tobacco Company, 2000.	
	**EA	Robertson, C., et al., "In their own words: an epoch of deceit and deception," Chapter 5 (find out from which book)	
	**EB	Rose, J., "Nicotine and nonnicotine factors in cigarette addiction," Psychopharmacology, 184:274-285, 2006.	
	**EC	Rose, J., "Pulmonary Delivery of Nicotine Pyruvate: Sensory and Pharmacokinetic Characteristics," Expermimental and Clinical Psychopharmacology, Vol. 18, No. 5, 2010.	
	**ED	Sahu, S.K., et al., "Particle Size Distribution of Mainstream and Exhaled Cigarette Smoke and Predictive Deposition in Human Repiratory Tract," Aerosol and Air Quality Research, 13: 324-332, 2013.	
	**EE	SCENIHR, "Addictiveness and Attractiveness of Tobacco Additives," Scientific Committee on Emerging and Newly Identified Health Risks, November 12, 2010.	
	**EF	Schripp, Tobias, et al. "Does e-cigarette consumption cause passive vaping?." Indoor air 23.1 (2013): 25-31.	
	**EG	Schroeder, Megan J., et al., "Electronic cigarettes and nicotine clinical pharmacology." Tobacco control 23.suppl 2 (2014): ii30-ii35.	
	**EH	Seeman et al.; The form of nicotine in tobacco. Thermal transfer of nicotine and nicotine acid salts to nicotine in the gas phase; J Aric Food Chem.; 47(12); pp. 5133-5145; Dec. 1999.	
	**EI	SEEMAN, et al., "The form of nicotine in tobacco. Thermal transfer of nicotine and nicotine acid salts to nicotine in the gas phase," J Aric Food Chem, 47(12), pp/ 5133-5145. December 1999.	
	**EJ	Seeman, J., "Possible Role of Ammonia on the Deposition, Retention, and Absorption of Nicotine in Humans while Smoking," Chemical Research in Toxicology, 20, 2007.	
	**EK	Seeman, J., "Using 'Basic Principles' to Understand Complex Science: Nicotine Smoke Chemistry and Literature Analogies," Journal of Chemical Education, Vol. 82, No. 10, 2005.	
	**EL	Seeman, J., et al., "On the Deposition of Volatiles and Semivolatiles from Cigarette Smoke Aerosols: Relative Rates of Transfer of Nicotine and Ammonia from Particles to the Gas Phase," Chemical Research in Toxicology, 17, 2004.	
	**EM	Seeman, J., et al., "The possible role of ammonia toxicity on the exposure, deposition, retention, and the bioavailability of nicotine during smoking," Food and Chemical Toxicology,	

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Sheet	27	of	28	Attorney Docket Number	

		46, 2008.	
	**EN	Sensabaugh, A.J., et al., "A New Technique for Determining the pH of Whole Tobacco Smoke," Tobacco Science.	
	**EO	Shahab, L., et al., "Novel Delivery Systems for Nicotine Replacement Therapy as an Aid to Smoking Cessation and for Harm Reduction: Rationale, and Evidence for Advantages over Existing Systems," CNS Drugs, 27: 1007-1019, 2013.	
	**EP	Snowdon, Christopher. "Harm reduction and tobacco: a new opportunity or a step too far?." Drugs and Alcohol Today 13.2 (2013): 86-91.	
	**EQ	STEPANOV, et al., "Bringing attention to e-cigarette pH as an important element for research and regulation", Tob. Control, May 14, 2014, Vol. 24, No. 4.	
	**ER	Stevenson, T., et al., "The Secret and Soul of Marlboro," Public Health Then and Now, American Journal of Public Health, Vol 98, No 7, 2008.	
	**ES	Teague, "Implications and Activites Arising from Correlation of Smoke pH with Nicotine Impact, Other Smoke Qualities and Cigarette Sales," 1983.	
	**ET	Tomar, S., et al., "Review of the evidence that pH is a determinant of nicotine dosage from oral use of smokeless tobacco," Tobacco Control, 6:219-225, 1997.	
	**EU	TORIKAI et al.; Effects of temperature, atmosphere and pH on the generation of smoke compounds duriung tobacco pyrolysis; Food and Chemical Toxicology; 42(9); pp. 1409-1417; September 2004	
	**EV	Torrie, B., "Nicotine inhaler gives instant 'hit'," 2 pages (2013), available at http://www.stuff.co.nz/national/health/8822875/Nicotine-inhaler-gives-instant-hit.	
	**EW	Travell, J., "The Influence of the Hydrogen Ion Concentration on the Absorption of Alkaloids from the Stomach," The Journal of Pharmacology, January 1940.	
	**EX	Trehy, Michael L., et al. "Analysis of electronic cigarette cartridges, refill solutions, and smoke for nicotine and nicotine related impurities." Journal of Liquid Chromatography & Related Technologies 34.14 (2011): 1442-1458.	
	**EY	Uchiyama, Shigehisa, et al. "Determination of carbonyl compounds generated from the E-cigarette using coupled silica cartridges impregnated with hydroquinone and 2, 4-dinitrophenylhydrazine, followed by high-performance liquid chromatography." Analytical sciences 29.12 (2013): 1219-1222.	
	**EZ	VANSICKEL et al.; A clinical laboratory model for evaluating the acute effects of electronic cigarettes: Nicotine delivery profile and cardiovascular and subjective effects; Cancer Epidemiology Biomarkers Prevention; 19(8); pp. 1945-1953; (online) July 20, 2010	
	**FA	Vansickel, Andrea R., et al. "A clinical laboratory model for evaluating the acute effects of electronic “cigarettes”: nicotine delivery profile and cardiovascular and subjective effects." Cancer Epidemiology and Prevention Biomarkers 19.8 (2010): 1945-1953.	
	**FB	Vansickel, Andrea Rae, et al., "Electronic cigarettes: effective nicotine delivery after acute administration." Nicotine & Tobacco Research 15.1 (2012): 267-270.	
	**FC	VANSICKEL, et al., "Electronic cigarettes: effective nicotine delivery after acute administration," Nicotine & Tobacco Research, 15(1), pp. 267-270. January 2013.	
	**FD	WARD; Green leaf threshing and redrying tobacco; Section 10B; in TOBACCO Production, Chemistry and Technology; Davis and Nielsen (Eds.); Blackwell Science Ltd.; pp. 330-333; July 15, 1999	
	**FE	Wayne, G., et al., "Brand differences of free-base nicotine delivery in cigarette smoke: the view of the tobacco industry documents," Tobacco Control, 15:189-198, 2006.	

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	**FF	Weiss, G., "The Effect of pH on Nicotine-Induced Contracture and Ca45 Movements in Frog Sartorius Muscle," The Journal of Pharmacology and Experimental Therapeutics, Vol. 154, No.3, 1966.	
	**FG	WELLS; Glycerin as a constituent of cosmetics and toilet preparations; Journal of the Society of Cosmetic Chemists; 9(1); pp. 19-25; January 1958	
	**FH	World Health Organization, :Health Effects of Interations Between Tobacco Use and Exposure to Other Agents," Environmental Health Criteria 211, 83 pages (1999), available at http://www.inchem.org/documents/ehc/ehc/ehc211.htm.	
	**FI	Wynn III, William P., et al. "The pharmacist "toolbox" for smoking cessation: a review of methods, medicines, and novel means to help patients along the path of smoking reduction to smoking cessation." Journal of pharmacy practice 25.6 (2012): 591-599.	
	**FJ	YouTube; Firefly Vaporizor Review w/ Usage Tips by The Vape Critic; retrieved from the internet (http://www.youtube.com/watch?v=1J38N0AV7wI); 1 pg.; published 12/10/2013; download/print date: 2/18/2015	
	**FK	Zenzen, Volker, et al. "Reduced exposure evaluation of an Electrically Heated Cigarette Smoking System. Part 2: Smoke chemistry and in vitro toxicological evaluation using smoking regimens reflecting human puffing behavior." Regulatory Toxicology and Pharmacology 64.2 (2012): S11-S34.	
	**FL	ZHANG et al.; In vitro particle size distributions in electronic and conventional cigarette aerosols suggest comparable deposition patterns; Nicotine Tobacco Research; 15(2); pp. 501-508; Feb 2013	
	**FM	Zhang, Yaping, et al., "In vitro particle size distributions in electronic and conventional cigarette aerosols suggest comparable deposition patterns." Nicotine & Tobacco Research 15.2 (2012): 501-508.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

Electronic Acknowledgement Receipt

EFS ID:	42668527
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Jeffery C. Giering/Meghan Breault
Filer Authorized By:	Jeffery C. Giering
Attorney Docket Number:	62210-501C04US
Receipt Date:	07-MAY-2021
Filing Date:	09-FEB-2021
Time Stamp:	15:53:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	62210-501C04US_IDS_Transmittal.pdf	101728 fbec581de027f012b3cec4505e68e773686997d1	no	2

Warnings:

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2	Information Disclosure Statement (IDS) Form (SB08)	62210-501C04US_SB08.pdf	403792 c7be201e5103b57f978753d53d67b73bc3758b7d	no	28
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of: Adam Bowen et al.	
Application No.: 17/171,976	Confirmation No.: 1080
Filed: February 9, 2021	Art Unit: 1747
For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d) (37 C.F.R. § 1.97(b)(1)).

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith is a copy of a non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.98(d)(1) and as noted by a double-asterisk next to the Cite No. on the attached PTO/SB/08, copies of the noted references are not supplied because they were previously cited by or submitted to the Office in one or more of prior application numbers

14/271,071 (filed May 6, 2014) and 14/925,961 (filed October 28, 2015), relied upon in the above-identified application for an earlier effective filing date under 35 U.S.C. § 120.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0311, under Application No. 17/171,976 from which the undersigned is authorized to draw.

Dated: May 7, 2021

Respectfully submitted,

Electronic signature: /Jeffery C. Giering/

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Adam Bowen et al.	
Application No.: 17/171,976	Confirmation No.: 1080
Filed: February 9, 2021	Art Unit: 1747
For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	Examiner: *Not Yet Assigned*

AMENDMENT AND RESPONSE TO NOTICE TO FILE MISSING PARTS

By EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This paper is responsive to the Notice to File Missing Parts of Nonprovisional Application mailed March 15, 2021, for the above-referenced application. The initial response deadline expires May 15, 2021. Accordingly, this response is timely filed. Prior to examination of the above-referenced application, please enter the following amendments and remarks:

Amendments to the Claims begin on page **2** of this paper.

Remarks/Arguments begin on page **5** of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings in the above-referenced patent application.

Listing of Claims

1. – 104. (Canceled)

105. (New) A cartridge of an electronic cigarette, the cartridge comprising a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; and

(c) the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

106. (New) The cartridge of claim 105, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

107. (New) The cartridge of claim 106, wherein the liquid carrier comprises propylene glycol and glycerol.

108. (New) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

109. (New) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

110. (New) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

111. (New) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

112. (New) The cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises a flavorant.

113. (New) The cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

114. (New) An electronic cigarette comprising the cartridge of claim 105.

115. (New) A method of providing nicotine to a user, the method comprising: (a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and (b) inhalation of the aerosol by the user; wherein:

(i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier; and

(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

116. (New) The method of claim 115, wherein the liquid carrier comprises glycerol, propylene glycol, trimethylene glycol, water, ethanol or combinations thereof.

117. (New) The method of claim 116, wherein the liquid carrier comprises propylene glycol and glycerol.

118. (New) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

119. (New) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

120. (New) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

121. (New) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

122. (New) The method of claim 115, wherein the nicotine salt liquid formulation further comprises a flavorant.

123. (New) The method of claim 115, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

124. (New) The method of claim 115, wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

REMARKS

Claims 1-104 are canceled without prejudice or disclaimer. Claims 105-124 are new. The new claims are supported throughout the application as originally filed. Illustrative support can be found in the original claims, and the numbered embodiments beginning at paragraph [00130] of the application as filed. Accordingly, no new matter is added. Upon entry of this amendment, claims 105-124 will be pending for examination.

With respect to the claim cancelations, Applicant has not dedicated to the public or abandoned any unclaimed subject matter. Applicant expressly reserves the right to pursue prosecution of any presently unclaimed subject matter in one or more future continuation or divisional applications.

No fees are believed to be due. However, the Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including any required extension of time fees, or credit any overpayment to Deposit Account Number 50-0311.

Favorable consideration on the merits is respectfully requested in view of the amendments submitted herewith. If the Examiner believes a telephone call would expedite prosecution of this application, the Examiner is encouraged to contact the undersigned.

Dated: May 7, 2021

Respectfully submitted,

/Jeffery C. Giering/

Jeffery C. Giering, Ph.D. Reg. No. 68,221

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Attorneys for Applicant

Electronic Acknowledgement Receipt

EFS ID:	42665868
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Jeffery C. Giering/Angela Olivos
Filer Authorized By:	Jeffery C. Giering
Attorney Docket Number:	62210-501C04US
Receipt Date:	07-MAY-2021
Filing Date:	09-FEB-2021
Time Stamp:	15:19:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		062210-501C04US_Response.pdf	176382 8f5d2191fd88c4be6f53f5057b4baf7c5676689c	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Response to Pre-Exam Formalities Notice	1	1
	Claims	2	4
	Applicant Arguments/Remarks Made in an Amendment	5	5
Warnings:			
Information:			
	Total Files Size (in bytes):	176382	

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
17/171,976	02/09/2021	1747	1820	62210-501C04US	20	2

CONFIRMATION NO. 1080

148514
Mintz/JUUL
One Financial Center
Boston, MA 02111

UPDATED FILING RECEIPT

OC000000125474564

Date Mailed: 05/11/2021

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Adam Bowen, San Francisco, CA;
Chenyue XING, San Francisco, CA;

Applicant(s)

JUUL Labs, Inc., San Francisco, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 14/925,961 10/28/2015 PAT 10952468
which is a CON of 14/271,071 05/06/2014 ABN
which claims benefit of 61/912,507 12/05/2013
and claims benefit of 61/820,128 05/06/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 03/11/2021

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/171,976**

Projected Publication Date: 06/24/2021

Non-Publication Request: No

Early Publication Request: No

Title

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Preliminary Class

131

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 17/171,976

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	320
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	700
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	800
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 480 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1820

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/171,976	02/09/2021	Adam Bowen	62210-501C04US

CONFIRMATION NO. 1080

148514
Mintz/JUUL
One Financial Center
Boston, MA 02111

PUBLICATION NOTICE

OC000000126519454

Title:NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Publication No.US-2021-0186082-A1
Publication Date:06/24/2021

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	17/171,976
Filing Date	February 9, 2021
First Named Inventor	Adam Bowen
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20060243290-A1	11-02-2006	Reich, Susan, et al.	
		US-20100260688-A1	10-14-2010	Warchol, et al.	
		US-20140217092-A1	08-07-2014	Kawka, et al.	
		US-20160174603-A1	06-23-2016	Abayarathna, et al.	
		US-9648905-B2	07/24/2014	Levitz et al.	
		US-20080138423-A1	06/12/2008	Gonda	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-101742985-A	06-16-2010	Kind Consumer Ltd.		
		CN-102316850-A	01-11-2012	Heglund A. S.		
		CN-102355914-A	02-15-2012	Philip Morris Prod		
		CN-102612361-A	07-25-2012	Univ Duke		
		CN-102892413-A	01-23-2013	Mcnell PPC Inc.		
		CN-102933199-A	02-13-2013	Niconovum USA. Inc.		
		CN-105263345-A	01-20-2016	Ploom Inc		
		CN-1541577-A	11-03-2004	Han Li		
		CN-1607950-A	04-20-2005	Pharmacia Ab		
		CN-1887126-A	01-03-2007	Nanjing Cigarette Factory		
		EP-0148749-A2	07-17-1985	Advanced Tobacco Products, Inc.		
		EP-1618803-A1	01-25-2006	Hon, Lik		
		JP-2006524494-A	11-02-2006	Hon, Lik		
		JP-2010531188-A	09-24-2010	Kind Consumer Limited		
		JP-2010532672-A	10-14-2010	Fulbright & Jaworski, LLP		
		JP-2013505240-A	02-14-2013	Duke University		
		JP-2016513030-A	05-12-2016	E I Du Pont De Nemours And Company		
		JP-S61254170-A	11-11-1986	Advanced Tobacco Prod Inc		
		KR-20100034029-A	03-31-2010	Kind Consumer Limited		
		MX-2015015175-A	01-12-2016	Pax Labs, Inc.		
		RU-94815-U1	06-10-2010	Ebchokob		X
		WO-2011034723-A1	03-24-2011	Duke University		
		WO-2011109849-A1	09-15-2011	Buchberger, Helmut		
		WO-2013013808-A1	01-31-2013	Buchberger, Helmut		
		WO-2013088230-A1	06-20-2013	Dks Aromatic S.R.L.		
		WO-2014182736-A1	11-13-2014	Ploom, Inc.		
		WO-2015084544-A1	06-11-2015	Ploom, Inc.		
		WO-2015148649-A2	10-01-2015	Rigas Basil		

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	Not Yet Assigned
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	062210-501C04US

		WO-2015167629-A1	11-05-2015	Altria Client Services Inc.		
		EP-1618803-B1	12/03/2008	Best Partners Worldwide Ltd		
		EP-2022349-A1	02/11/2009	Fontem Holdings 1 B.v.		
		EP-2022350-A1	02/11/2009	Han, Li		
		EP-3214957-B1	09/13/2017	Nicoventures Trading Limited, Gb		
		JP-6877141-B2	12/22/2016	Juul Labs, Inc.		
		JP-H02145179-A	06/04/1990	Hercules Inc		
		WO-2006082571-A1	08/10/2006	Oglesby & Butler Research & Development Limited		
		WO-2009079641-A2	06/25/2009	Ploom, Inc.		
		WO-2012134380-A1	10/04/2012	Chill Of Sweden Ab		
		WO-2013116558-A1	08/08/2013	Altria Client Services Inc.		
		WO-2013116561-A1	08/08/2013	Altria Client Services Inc.		
		WO-9712639-A1	04/10/1997	Slutsky, Arthur; Zamel, Noe		

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		BURN and RAND, Action of Nicotine on the Heart, British Medical Journal, pages 137-139 (January 18, 1958).	
		E-CIGARETTE FORUM: pg-gv-peg (discussion/posting); retrived from the internet: https://e-cigarette-forum.com/forum/threads/pg-vg-peg.177551, 7 pages (April 8, 2011).	
		Notice of Opposition to European Patent No. 2 993 999 B1 by JT International S.A., 38 pages (October 26, 2021)	
		Notice of Opposition to European Patent No. 2 993 999 B1 by Nicoventures Trading Limited, 26 pages (October 26, 2021)	
		Notice of Opposition to European Patent No. 2 993 999 B1 by Philip Morris Products S.A., 22 pages (October 27, 2021)	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Electronic Acknowledgement Receipt

EFS ID:	46866667
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Edward D. Grieff./Luis Jaramillo
Filer Authorized By:	Edward D. Grieff.
Attorney Docket Number:	62210-501C04US
Receipt Date:	21-OCT-2022
Filing Date:	09-FEB-2021
Time Stamp:	14:24:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		062210-501C04US_IDS.pdf	270622 611355a6785f6afa203d90621c2413271d0666bf	yes	4

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	2
	Information Disclosure Statement (IDS) Form (SB08)	3	4

Warnings:					
Information:					
2	Foreign Reference	CN_101742985A.pdf	1190852 5ee6fba3699505c1e8f61c5404566095d4d2b503	no	17
Warnings:					
Information:					
3	Foreign Reference	CN_102316850A.pdf	826237 2136bf2412179aec0a058ea9b0038f3f7dae6622	no	12
Warnings:					
Information:					
4	Foreign Reference	CN_102355914A.pdf	1745293 cd5982c840640dcc1fc6d4fe75b5c8f26cf99215	no	28
Warnings:					
Information:					
5	Foreign Reference	CN_102612361_A.pdf	4190026 a3860a733cb7cb284f02dd59beb7d161bb55315c	no	63
Warnings:					
Information:					
6	Foreign Reference	CN_102892413_A.pdf	1821431 6f2270043c5f59334eb4e0e57a39fbc5a01db776	no	31
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7	Foreign Reference	CN_102933199_A.pdf	3370966 8aef72912d302c99c47cfa9195dae5ae23b8b727	no	18
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8	Foreign Reference	CN_105263345_A.pdf	5324622 9351a0353753aac30a41647c7a4fb8e2c70cb9d2	no	71
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9	Foreign Reference	CN_1541577_A.pdf	2606217 fc6d6a4be16468237085f4b2d81571b392e56371	no	17
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10	Foreign Reference	CN_1607950_A.pdf	2090747 f9ec4d48da69003f1cefea306416bc1ddb1f0974	no	43
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11	Foreign Reference	CN_1887126_A.pdf	373754 35b17b2449c7a2366a10be952183621793adb7a8	no	6
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12	Foreign Reference	EP_0148749_A2.pdf	711888 510b35501ad38e9973692512f5321a135f984283	no	18
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13	Foreign Reference	EP_1618803_A1.pdf	357145 6cc3f41489d11ace298f8de946d779c868db7e57	no	15
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14	Foreign Reference	JP_2006524494_A.pdf	2132838 a71e13b21ed264452cc710c7f5d2e0590215e3dc	no	28
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Information:					

15	Foreign Reference	JP2010531188A.pdf	596258 cac7e3a0f1138736d1942639692a810f145f581f	no	9
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16	Foreign Reference	JP_2010532672_A.pdf	2248426 80b1d971245986ecd21cf69c98a85d32d9f798cf	no	46
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17	Foreign Reference	JP_2013505240_A.pdf	5347870 74c590d9a6c076377b3bd7b192ddcea5fa9be97a	no	67
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18	Foreign Reference	JP_2016513030_A.pdf	537822 47821a1b54af1ad719d9023639c54427f0ca58d2	no	23
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19	Foreign Reference	JP_S61254170_A.pdf	658313 2a3df6707345b5121956a0efcc12f6ede6f624db	no	8
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20	Foreign Reference	KR_20100034029_A.pdf	368062 bb67fbf38de0433ca0fbfa0f3dc9a9f43918041f	no	17
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21	Foreign Reference	MX_2015015175_A.pdf	5819474 0980ffd42cb0bfd39f329c7cb14b26990b654358	no	211
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22	Foreign Reference	RU_94815_U1.pdf	116971 2de09f253fb78de4d72813433d0325109bee7f4f	no	2
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23	Foreign Reference	RU94815U1-machine_translation.PDF	2165827 975dbd69b35789f8ba9e27c7947f555950e328a6	no	19
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24	Foreign Reference	WO_2011034723_A1.pdf	7815604 207bcf3dcddea9f7a64e7560978ee9757102bc68	no	92
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25	Foreign Reference	WO_2011109849_A1.pdf	2233733 52d48806180305d3a7bc2c64641d90bcb3081748	no	40
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26	Foreign Reference	WO_2013013808_A1.pdf	2231266 c301c8e2245ae56e84a75c453c7b3d7bab2b5b35	no	43
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27	Foreign Reference	WO_2013088230_A1.pdf	539138 29553231245a83e83b92e43e1c2498b402653247	no	17
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29	Foreign Reference	WO_2015084544_A1.pdf	7378620 1f79c82f3a346aaf63da288bbce35671ee47e356	no	96
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30	Foreign Reference	WO_2015148649_A2.pdf	4553171 d8e054324e5630f1268ec1dbd2f6f7a51d8336e5	no	125
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31	Foreign Reference	WO_2015167629_A1.pdf	4616769 2b8bae613590ae8308df34bfc62cc4e72ec92530	no	85
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32	Foreign Reference	EP_1618803B1.pdf	219491 ea2d400dad5182f91c26b99feb15114fbedc2ac6	no	22
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33	Foreign Reference	EP_2022349A1.pdf	308103 45f419d9871242f94e845bbeb2e28d1efd901c09	no	20
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34	Foreign Reference	EP_2022350A1.pdf	299312 cc16d63797541995a9e35799eadeb3ce47c6ca01	no	21
Warnings:					
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35	Foreign Reference	EP_3214957B1.pdf	191589 f6fd9e273048f98652061cfbe0f3a6a9a8d55e1e	no	16
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Information:					

36	Foreign Reference	JP_6877141_B2.pdf	4365105 f78cda1b40f94a58644325db2f5f2fcdf8c9c38c	no	62
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42	Foreign Reference	WO_2013116561_A1.pdf	1035452 e28075e70afb1e33b04b75af4830befabbe7a8c3	no	44
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43	Foreign Reference	WO_1997012639_A1.pdf	1393787 7cf87c73f82f168082409fd837c06b3fef302ba4	no	57
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44	Non Patent Literature	Burn_1958_Nicotine-on-the-heart.PDF	402061 9a162e5d55591eb55bfc7da90a7d42d8a396385f	no	3
Warnings:					
Information:					
45	Non Patent Literature	ECF-7_PAGES.PDF	888261 23e741538e884c77d99fd76125b588173ab3dd82	no	7
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46	Non Patent Literature	JT_International-Notice_of_Opposition_to_EP2993999.pdf	1507598 a15e225694a1a4271b31b0037c9994b20af8a10b	no	38
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Information:					
47	Non Patent Literature	Nicoventures_Trading_Limited-Notice_of_Opposition_to_EP2993999.pdf	1314507 95e0dc501c73480da1fbf23819f120c3a73d51c5	no	26
Warnings:					
Information:					
48	Non Patent Literature	Philip_Morris_Products-Notice_of_Opposition_to_EP2993999.pdf	852096 d408be98b381be973f9073b0aa53b873c090c96a	no	22
Warnings:					
Information:					
			Total Files Size (in bytes):	99602938	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on October 21, 2022.

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

PATENT
Attorney Docket No.: 062210-501C04US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: Not Yet Assigned

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Pursuant to 37 C.F.R. § 1.97(b)(4), this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. Accordingly, no fee or separate statement is required.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith is a copy of foreign patent documents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0311, under Application No. 17/171,976 from which the undersigned is authorized to draw.

Respectfully submitted,

Electronic signature: /Kenneth E. Jenkins/

Dated: October 21, 2022

Kenneth E. Jenkins
Registration No.: 51,846
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C.
3580 Carmel Mountain Road
Suite 300
San Diego, California 92130-6768
(858) 314-1500
(858) 314-1501 (Fax)
Attorney for Applicant

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	17/171,976
Filing Date	February 9, 2021
First Named Inventor	Adam Bowen
Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned
Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20090023819-A1	01-22-2009	Axelsson	
		US-20110005535-A1	01-13-2011	Xiu	
		US-20120291791-A1	11-22-2012	Pradeep	
		US-10463069-B2	11-05-2019	Bowen et al	
		US-11510433-B2	11-29-2022	Bowen et al	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-101756352-A	06-30-2010	Technical Institute of Physics and Chemistry of CAS		X
		JP-2009108082-A	05-21-2009	Targacept, Inc.		
		WO-2004002446-A1	01-08-2004	Soderlund et al		
		WO-2006053082-A2	05-18-2006	Targacept, Inc.		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Preliminary Opinion of the Opposition Division to the Oppositions in European Patent No. 2 993 999 B1, 17 pages (August 30, 2022)	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Electronic Acknowledgement Receipt

EFS ID:	47504125
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Edward D. Grieff./Luis Jaramillo
Filer Authorized By:	Edward D. Grieff.
Attorney Docket Number:	62210-501C04US
Receipt Date:	08-FEB-2023
Filing Date:	09-FEB-2021
Time Stamp:	19:22:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		062210-501C04US_IDS.pdf	312970 3cfd8b6cdfb0a4340aacf7e2661249a1eaacc761	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	2
	Information Disclosure Statement (IDS) Form (SB08)	3	3

Warnings:					
Information:					
2	Foreign Reference	CN101756352A_with_Machine_Translation.pdf	6005595 f0a72ef9b0401a75cab7c3aac6eab04e4277662a	no	22
Warnings:					
Information:					
3	Foreign Reference	JP2009108082A.pdf	338820 e9f453b3c8551597ea5fb5d0654227dc6df293ce	no	34
Warnings:					
Information:					
4	Non Patent Literature	Preliminary_Opinion_of_Opposition_Division_30August2022.pdf	823458 933c84fd23f79b70ac4059891dc86cfbc3e86463	no	17
Warnings:					
Information:					
5	Foreign Reference	WO2004-002446.pdf	698351 e3e121a8a4544666784d6918ce914a80d420f723	no	21
Warnings:					
Information:					
6	Foreign Reference	WO2006-053082A2.pdf	2471470 b3acabcc88f5608b9029a800ed0026bd18105d2a	no	43
Warnings:					
Information:					
		Total Files Size (in bytes):	10650664		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on February 8, 2023.

PATENT
Attorney Docket No.: 062210-501C04US

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: Not Yet Assigned

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA EFS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Pursuant to 37 C.F.R. § 1.97(b)(4), this Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. Accordingly, no fee or separate statement is required.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith is a copy of foreign patent documents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

Applicant brings to the Examiner's attention the following co-pending Application:

- US Application No. 17/993,459 filed November 23, 2022

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-0311, under Application No. 17/171,976 from which the undersigned is authorized to draw.

Respectfully submitted,

/Kenneth E. Jenkins/

Dated: February 8, 2023

Kenneth E. Jenkins
Registration No.: 51,846
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C.
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Attorney for Applicant

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	62210-501C04US	1080

148514 7590 03/28/2023

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER	
MAYES, DIONNE WALLS	
ART UNIT	**PAPER NUMBER**
1747	
NOTIFICATION DATE	**DELIVERY MODE**
03/28/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDocketingBOS@mintz.com
IPFileroombos@mintz.com
mintzdocketing@cpaglobal.com

PTOL-90A (Rev. 04/07)

Office Action Summary	**Application No.** 17/171,976	**Applicant(s)** Bowen et al.	
	Examiner DIONNE W MAYES	**Art Unit** 1747	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 05/07/2021.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 105-124 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 105-124 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

3. Claims 115-124 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 10-11, 15 of Bowen ‘069 (U.S. Pat. No. 10,463,069). Although the claims at issue are not identical, they are not patentably distinct from each other because:

Regarding independent claim 115, and dependent claims 118-121, claim 1 of Bowen ‘069 generally encompasses that of the instant claims because its steps for generating an inhalable aerosol for nicotine delivery to a user, using an electronic cigarette, directly correspond to the steps of the instantly claimed method of providing nicotine to a user, as benzoic acid is provided as an acid that is included in the nicotine liquid formulation, in a molar ratio of 0.7:1 to 1.5:1, such that a nicotine salt must presumably be formed, and such that nicotine is provided at a concentration of from 1-6%(w/w), which overlaps with what is instantly claimed.

Regarding claims 116-117, claims 10-11 of Bowen ‘069 recite that the liquid carrier includes propylene glycol and glycerin, as is instantly claimed.

Regarding claim 123, claim 15 of Bowen ‘069 recites that the liquid nicotine formulation includes further organic acids, such as citric acid, hence serving as a “flavorant”, as is instantly claimed.

Regarding claim 123, claim 15 of Bowen ‘069 recite that the liquid nicotine formulation includes further “organic acids”, as is instantly claimed.

Regarding claim 124, while not specifically claimed in Bowen '069, it would have been obvious to one of ordinary skill in the art to have provided the nicotine liquid formulation of the electronic cigarette in a reservoir of a mouthpiece section of the electronic cigarette, as claimed, so that it could be effectively and efficiently administered to the user upon aerosolization.

4. Claims 105-124 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 4, 8, 11-12 and 14, of Bowen '468 (U.S. Pat. No. 10,952,468). Although the claims at issue are not identical, they are not patentably distinct from each other because:

Regarding independent claims 105, 114, and dependent claims 108-111, independent claims 1 and 14 of Bowen '468 generally encompass that of the instant claims because its electronic cigarette features directly corresponds to those of the instantly claimed cartridge/electronic cigarette, as benzoic acid is provided as an acid that is included in a nicotine formulation, in a molar ratio of about 1:1, such that a nicotine salt is formed and nicotine is provided at a concentration of from about 3-15% (w/w), which overlaps with what is instantly claimed.

Regarding claims 106-107, independent claims 1 and 14 of Bowen '468 recite that the liquid carrier comprises glycerol and propylene glycol, as is instantly claimed.

Regarding claim 112, claim 4 of Bowen ‘468, recites that the nicotine salt liquid formulation further comprises a flavorant, as is instantly claimed.

Regarding claim 113, while Bowen ‘468 does not states that its liquid nicotine formulation further comprises additional organic acids, it would have been obvious to one of ordinary skill in the art to have included such and acid, like “citric acid”, since this is a conventionally-used flavoring in the tobacco art.

Regarding independent claim 115, and dependent claims 118-121, independent claim 8 of Bowen ‘468 generally encompasses that of the instant claims because its steps for providing nicotine to a user, using an electronic cigarette, directly correspond to the steps of the instantly claimed method of providing nicotine to a user, as benzoic acid is provided as an acid that is included in a nicotine liquid formulation, in a molar ratio of 1:1, such that a nicotine salt is formed, and such that nicotine is provided at a concentration of from 3-15% (w/w), which overlaps that which is instantly claimed.

Regarding claims 116-117, independent claim 8 of Bowen ‘468 recites that the liquid carrier includes propylene glycol and glycerin, as is instantly claimed.

Regarding claim 122, claim 11 of Bowen ‘468 recites that the liquid nicotine formulation includes a “flavorant”, as is instantly claimed.

Regarding claim 123, while Bowen ‘468 does not states that its liquid nicotine formulation further comprises additional organic acids, it would have been obvious to one of ordinary skill in the art to have included such and acid, like “citric acid”, since this is a conventionally-used flavoring in the tobacco art.

Regarding claim 124, claim 12 of Bowen ‘468 recites that its electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation, as is instantly claimed.

5. Claims 105-113 and 115-124 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 6, 10 and 16, of Bowen ‘895 (U.S. Pat. No. 9,215,895). Although the claims at issue are not identical, they are not patentably distinct from each other because:

Regarding independent claims 105, and dependent claims 108-111, claim 16 of Bowen ‘895 generally encompass that of the instant claims because its cartridge features directly correspond to those of the instantly claimed cartridge, as benzoic acid is provided as an acid that is included in a nicotine formulation, in an amount such that nicotine salt is formed and

nicotine is provided at a concentration of from about 2-6% (w/w), which overlaps with what is instantly claimed.

Regarding claims 106-107 and 112-113, while Bowen ‘895 does not states that its liquid nicotine formulation further comprises, glycerol, propylene glycol, flavorant or further organic acids, it would have been obvious to one of ordinary skill in the art to have included such substances and these are conventionally-used in the liquid formulations of electronic cigarettes.

Regarding independent claim 115, and dependent claims 118-121, independent claims 6,10 of Bowen ‘895 generally encompasses that of the instant claims because its steps for providing nicotine to a user, using an electronic cigarette, directly correspond to the steps of the instantly claimed method of providing nicotine to a user, as benzoic acid is provided as an acid that is included in a nicotine liquid formulation, in an amount such that a nicotine salt is formed, and such that nicotine is provided at a concentration of from 2-6% (w/w), which overlaps that which is instantly claimed.

Regarding claims 116-117 and 122-123, while Bowen ‘895 does not states that its liquid nicotine formulation further comprises, glycerol, propylene glycol, flavorant or further organic acids, it would have been

obvious to one of ordinary skill in the art to have included such substances and these are conventionally-used in the liquid formulations of electronic cigarettes.

Regarding claim 124, while not specifically claimed in Bowen '895, it would have been obvious to one of ordinary skill in the art to have provided a "cartridge" from which aerosolized liquid, held in a reservoir, could be heated and inhaled by a user through a mouthpiece so that effective and efficient delivery of said aerosol could occur.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

9. Claims 105-124 are rejected under 35 U.S.C. 103 as being unpatentable over Sebastian et al (US. Pat. App. Pub. 2014/0000638) in view of Lechuga-Ballesteros et al (US. Pat App. Pub. 2006/0196518).

Regarding independent claim 105, and dependent claims 108-111, Sebastian et al discloses an electronic smoking article (i.e., electronic cigarette) that provides for delivery of aerosolized components of a liquid aerosol precursor composition to at least one heating element from which said aerosolized components are inhaled into the mouth of a user. The electronic cigarette comprises a control body (80) detachably connected to a cartridge (90), the cartridge (90) being that which houses the liquid composition, a distal end of which is inserted into the mouth of user (see

abstract and paras. [0051],[0085] and Fig. 3) (corresponding to the claimed "[a] cartridge of an electronic cigarette, the cartridge comprising a…liquid formulation, wherein…the…formulation generates an inhalable aerosol upon heating in the electronic cigarette").

The aerosol precursor composition may include glycerol and/or propylene glycol (read: liquid carrier) in addition to a medicament, such as nicotine, which may comprise up to 10% of the weight of the aerosol precursor. When nicotine is chosen, organic acids can be combined with the nicotine in order to favorably affect the flavor, sensation, or organoleptic properties. Sebastian discloses that any number of organic acids may be used, and while benzoic acid is not specifically articulated, it does not appear that any particular acid is required for this purpose (see paras. [0015],[0059]-[0061]). Also, while Sebastian et al clearly discloses a nicotine-based liquid precursor composition, it is not clear whether it teaches a nicotine salt liquid formulation; however, the Lechuga-Ballesteros et al reference teaches a liquid formulation, the aerosolized components of which can be administered by inhalation through the mouth. It further teaches a more palatable delivery of nicotine in a liquid formulation, as it discloses the use of numerous suitable acids, including benzoic acid, to react with nicotine to form a nicotine salt (see paras. [0040]-[0042]). Given

the above teachings of Lechuga-Ballesteros et al, it would have been obvious to one of ordinary skill in the art to have selected benzoic acid from the list of suitable acids to react with the nicotine of Sebastian et al after determining, through routine experimentation, that the use of this particular acid resulted in the most organoleptically-pleasing properties to the user when the nicotine salt composition was heated and the aerosol therefrom was inhaled. Hence, the “nicotine salt” of Lechuga-Ballesteros et al would have replaced the “nicotine” of Sebastian et al in order that the user experience a more palatable delivery of nicotine, as taught by Lechuga-Ballesteros et al (corresponding to the claimed “the cartridge comprising a nicotine salt liquid formulation wherein: (a) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier”).

Lastly, Sebastian et al discloses that the nicotine content in its liquid precursor composition can be provided in a range (from 0.1 up to about 5.0% by weight) of the liquid precursor composition (see para. [0061]). Hence, one of ordinary skill in the art would have undergone routine experimentation to determine the optimal ratio of nicotine and benzoic acid to yield an optimal amount of nicotine concentration in the resulting nicotine benzoate salt liquid composition of the modified Sebastian et al invention

and would have arrived at a point which overlaps/coincides with the claimed range after determining that this provided superior sensory characteristics in the resulting aerosol (corresponding to the claimed "(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation"; the "wherein the salt is present in an amount that forms a nicotine concentration of 1%(w/w) to 20% (w/w) in the nicotine salt liquid formulation" recitation of claim 108; the "wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation" recitation of clam 109; the "wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation" recitation of claim 110; and the "wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation" recitation of claim 111).

Regarding claims 106-107, as stated above, Sebastian et al discloses that its aerosol precursor liquid composition may include glycerol and/or propylene glycol (see para. [0015]) (corresponding to the "wherein the liquid carrier comprises glycerol, propylene glycol, tri-methylene glycol, water, ethanol or combinations thereof" recitation of claim 106; and the

"wherein the liquid carrier comprises propylene glycol and glycerol" recitation of claim 107).

Regarding claims 112-113, Sebastian et al discloses that its liquid nicotine formulation can further include flavoring agents, such as cocoa, licorice, and/or organic acids (see para. [0053],[0059) (corresponding to the "wherein the nicotine salt liquid formulation further comprises a flavorant" recitation of claim 112; and the "wherein the nicotine salt liquid formulation further comprises one or more additional organic acids" recitation of claim 113).

Regarding independent claim 114, Sebastian et al discloses an electronic smoking article (i.e., electronic cigarette) that includes a "cartridge". Further, as stated above, the modified Sebastian et al/Lechuga-Ballesteros et al invention includes the "cartridge" of claim 105. As such, it follows to reason that the "cartridge" of said invention would have been utilized in the electronic cigarette disclosed in Sebastian et al (corresponding to the claimed "[a]n electronic cigarette comprising the cartridge of claim 105").

Regarding independent claim 115, and dependent claims 118-121, Sebastian et al discloses an electronic smoking article (i.e., electronic cigarette) that provides for delivery of aerosolized components of a liquid

aerosol precursor composition to a/at least one heating element from which said aerosolized components are inhaled into the mouth of a user (see abstract and para. [0051]).

The aerosol precursor composition may include glycerol and/or propylene glycol (read: liquid carrier), in addition to a medicament, such as nicotine, which may comprise up to 10% of the weight of the aerosol precursor. When nicotine is chosen, organic acids can be combined with the nicotine in order to favorably affect the flavor, sensation, or organoleptic properties. Sebastian discloses that any number of organic acids may be used, and while benzoic acid is not specifically articulated, it does not appear that any particular acid is required for this purpose (see paras. [0015],[0059]-[0061]). Also, while Sebastian et al clearly discloses a nicotine-based liquid precursor composition, it is not clear whether it teaches a nicotine salt liquid formulation. However, the Lechuga-Ballesteros et al reference teaches a liquid formulation, the aerosolized components of which can be administered by inhalation through the mouth. It further teaches a more palatable delivery of nicotine in a liquid formulation, as it discloses the use of numerous suitable acids, including benzoic acid, to react with nicotine to form a nicotine salt (see paras. [0040]-[0042]). Therefore, it would have been obvious to one of ordinary

skill in the art to have selected benzoic acid from the list of suitable acids to react with the nicotine of Sebastian et al after determining, through routine experimentation, that the use of this particular acid resulted in the most organoleptically-pleasing properties to the user when the nicotine salt composition was heated and the aerosol therefrom was inhaled. Hence, the "nicotine salt" of Lechuga-Ballesteros et al would have replaced the "nicotine" of Sebastian et al in order that the user experience a more palatable delivery of nicotine, as taught by Lechuga-Ballesteros et al (corresponding to the claimed "[a] method of providing nicotine to a user, the method comprising: (a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and (b) inhalation of the aerosol by the user; wherein: (i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier").

Lastly, Sebastian et al discloses that the nicotine content in its liquid precursor composition can be provided in a range (from 0.1 up to about 5.0% by weight) of the liquid precursor composition (see para. [0061]). Hence, one of ordinary skill in the art would have undergone routine experimentation to determine the optimal ratio of nicotine and benzoic acid to yield an optimal amount of nicotine concentration in the resulting nicotine benzoate salt liquid composition of the modified Sebastian et al invention

and would have arrived at a point which overlaps/coincides with the claimed range after determining that this provided superior sensory characteristics in the resulting aerosol (corresponding to the claimed "(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation"; the "wherein the salt is present in an amount that forms a nicotine concentration of 1%(w/w) to 20% (w/w) in the nicotine salt liquid formulation" recitation of claim 118; the "wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation" recitation of clam 119; the "wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation" recitation of claim 120; and the "wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation" recitation of claim 121).

Regarding claims 116-117, as stated above, Sebastian et al discloses that its aerosol precursor liquid composition may include glycerol and/or propylene glycol (see para. [0015]) (corresponding to the "wherein the liquid carrier comprises glycerol, propylene glycol, tri-methylene glycol, water, ethanol or combinations thereof" recitation of claim 116; and the

"wherein the liquid carrier comprises propylene glycol and glycerol" recitation of claim 117).

Regarding claims 122-123, Sebastian et al discloses that its liquid nicotine formulation can further include flavoring agents, such as cocoa, licorice, and/or organic acids (see para. [0053],[0059) (corresponding to the "wherein the nicotine salt liquid formulation further comprises a flavorant" recitation of claim 122; and the "wherein the nicotine salt liquid formulation further comprises one or more additional organic acids" recitation of claim 123).

Regarding claim 124, as stated above, the electronic cigarette of Sebastian et al comprises a control body (80) detachably connected to a cartridge (90), a distal end of which is inserted into the mouth of user, and the cartridge (90) being that which houses/stores the liquid composition in a reservoir (see abstract and paras. [0009],[0051], [0085] and Fig. 3). It follows to reason that the electronic cigarette of the modified Sebastian et al/Lechuga-Ballesteros et al invention would include the same cartridge features (corresponding to the claimed "wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation").

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE WALLS MAYES whose telephone number is (571)272-5836. The examiner can normally be reached Mondays and Thursdays, 8:00AM - 4:00PM (E.S.T.).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael H Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/DIONNE W. MAYES/
Examiner, Art Unit 1747

Notice of References Cited	Application/Control No. 17/171,976	Applicant(s)/Patent Under Reexamination Bowen et al.	
	Examiner DIONNE W MAYES	Art Unit 1747	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-9215895-B2	12-2015	Bowen '895	A61K47/10	1/1
*	B	US-10952468-B2	03-2021	Bowen '468	A24B15/16	1/1
*	C	US-10463069-B2	11-2019	Bowen '069	A24B15/16	1/1
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

CPC - Searched*		
Symbol	Date	Examiner
A24B15/16; A61K9/12; A24B15/167; A61P43/00; A61K31/60; A61P25/26; A61K31/465; A61K9/007; A61K47/10; A24F40/10; A61M15/06- cursory overview	03/22/2023	DWM

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
PE2E Search conducted (see attached search strategy)	03/22/2023	DWM
Inventor search conducted	03/22/2023	DWM

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	28	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (*if known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	A	US-374584	12-13-1887	Cook	
	B	US-576653	02-09-1897	Bowlby	
	C	US-595070	12-07-1897	Oldenbusch	
	D	US-720,007	02-10-1903	Dexter	
	E	US-799844	09-19-1905	Fuller	
	F	US-968160	08-23-1910	Johnson	
	G	US-969076	08-30-1910	Pender	
	H	US-1,067,531	07-15-1913	MacGregor	
	I	US-1,163,183	12-07-1915	Stoll	
	J	US-1,299,162	04-01-1919	Fisher	
	K	US-1,505,748	08-19-1924	Louis	
	L	US-1,552,877	09-08-1925	Phillipps et al.	
	M	US-1,632,335	06-14-1927	Hiering	
	N	US-1,706,244	03-19-1929	Louis	
	O	US-1,845,340	02-16-1932	Ritz	
	P	US-1,972,118	09-04-1934	McDill	
	Q	US-1,998,683	04-23-1935	Montgomery	
	R	US-2,031,363	02-18-1936	Elof	
	S	US-2,039,559	05-05-1936	Segal	
	T	US-2,104,266	01-04-1938	McCormick	
	U	US-2,159,698	05-23-1939	Harris, et al.	
	V	US-2,177,636	10-31-1939	Coffelt, et al.	
	W	US-2,195,260	03-26-1940	Rasener	
	X	US-2,231,909	02-18-1941	Hempal	
	Y	US-2,327,120	08-17-1943	McCoon	
	Z	US-2,460,427	02-01-1949	Musselman et al.	
	AA	US-2,483,304	09-27-1949	Rudolf	
	AB	US-2,502,561	04-04-1950	Ludwig	
	AC	US-2,765,949	10-09-1956	Swan	
	AD	US-2,830,597	04-15-1958	Kummli	
	AE	US-2,860,638	11-18-1958	Bartolomeo	
	AF	US-2,897,958	08-04-1959	Tarleton et al.	
	AG	US-2,935,987	05-10-1960	Ackerbauer	
	AH	US-3,146,937	09-01-1964	Joseph	
	AI	US-3,258,015	06-28-1966	Ellis et al.	
	AJ	US-3,271,719	09-06-1966	Ovshinsky	
	AK	US-3,292,634	12-20-1966	Beucler	
	AL	US-3,373,915	03-19-1968	Anderson et al.	
	AM	US-3,420,360	01-07-1969	Young	
	AN	US-3,443,827	05-13-1969	Acker et al.	
	AO	US-3,456,645	07-22-1969	Brock	
	AP	US-3,479,561	11-18-1969	Janning	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	28	Attorney Docket Number	

	AQ	US-3,567,014	03-02-1971	Feigelman	
	AR	US-3,675,661	07-11-1972	Weaver	
	AS	US-3,707,017	12-26-1972	Paquette	
	AT	US-3,792,704	02-19-1974	Parker	
	AU	US-3,815,597	06-11-1974	Goettelman	
	AV	US-3,861,523	01-21-1975	Fountain et al.	
	AW	US-3,941,300	03-02-1976	Troth	
	AX	US-4,020,853	05-03-1977	Nuttall	
	AY	US-4,049,005	09-20-1977	Hernandez et al.	
	AZ	US-4,066,088	01-03-1978	Ensor	
	BA	US-4,207,976	06-17-1980	Herman	
	BB	US-4,215,708	08-05-1980	Bron	
	BC	US-4,219,032	08-26-1980	Tabatznik et al.	
	BD	US-4,303,083	12-01-1981	Burruss, Jr.	
	BE	US-4,312,367	01-26-1982	Seeman	
	BF	US-4,506,683	03-26-1985	Cantrell et al.	
	BG	US-4,519,319	05-28-1985	Howlett	
	BH	US-4,520,938	06-04-1985	Finke	
	BI	US-4,579,858	04-01-1986	Ferno et al.	
	BJ	US-4,595,024	06-17-1986	Greene et al.	
	BK	US-4,597,961	07-01-1986	Etscorn	
	BL	US-4,648,393	03-10-1987	Landis et al.	
	BM	US-4,708,151	11-24-1987	Shelar	
	BN	US-4,735,217	04-05-1988	Gerth et al.	
	BO	US-4,771,796	09-20-1988	Myer	
	BP	US-4,793,365	12-27-1988	Sensabaugh, Jr. et al.	
	BQ	US-4,794,323	12-27-1988	Zhou et al.	
	BR	US-4,798,310	01-17-1989	Kasai et al.	
	BS	US-4,813,536	03-21-1989	Willis	
	BT	US-4,819,665	04-11-1989	Roberts et al.	
	BU	US-4,830,028	05-16-1989	Lawson et al.	
	BV	US-4,836,224	06-06-1989	Lawson et al.	
	BW	US-4,846,199	07-11-1989	Rose	
	BX	US-4,848,374	07-18-1989	Chard et al.	
	BY	US-4,848,563	07-18-1989	Robbins	
	BZ	US-4,893,639	01-16-1990	White	
	CA	US-4,907,606	03-13-1990	Lilja et al.	
	CB	US-4,941,483	07-17-1990	Ridings et al.	
	CC	US-4,944,317	07-31-1990	Thal	
	CD	US-4,947,874	08-14-1990	Brooks et al.	
	CE	US-4,947,875	08-14-1990	Brooks et al.	
	CF	US-5,005,759	04-09-1991	Bouche	
	CG	US-5,020,548	06-04-1991	Farrier et al.	
	CH	US-5,027,836	07-02-1991	Shannon et al.	
	CI	US-5,031,646	07-16-1991	Lippiello et al.	
	CJ	US-5,042,509	08-27-1991	Banerjee et al.	

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	CK	US-5,050,621	09-24-1991	Creighton et al.	
	CL	US-5,060,671	10-29-1991	Counts et al.	
	CM	US-5,065,776	11-19-1991	Lawson et al.	
	CN	US-5,076,297	12-31-1991	Farrier et al.	
	CO	US-5,105,831	04-21-1992	Banerjee et al.	
	CP	US-5,105,838	04-21-1992	White et al.	
	CQ	US-5,123,530	06-23-1992	Lee	
	CR	US-5,133,368	07-28-1992	Neumann et al.	
	CS	US-5,141,004	08-25-1992	Porenski	
	CT	US-5,144,962	09-08-1992	Counts et al.	
	CU	US-5,152,456	10-06-1992	Ross et al.	
	CV	US-5,183,062	02-02-1993	Clearman et al.	
	CW	US-5,224,498	07-06-1993	Deevi et al.	
	CX	US-5,240,012	08-31-1993	Ehrman et al.	
	CY	US-5,249,586	10-05-1993	Morgan et al.	
	CZ	US-5,261,424	11-16-1993	Sprinkel, Jr.	
	DA	US-5,269,237	12-14-1993	Baker et al.	
	DB	US-5,269,327	12-14-1993	Counts et al.	
	DC	US-5,303,720	04-19-1994	Banerjee et al.	
	DD	US-5,322,075	06-21-1994	Deevi et al.	
	DE	US-5,324,498	06-28-1994	Streusand et al.	
	DF	US-5,372,148	12-13-1994	McCafferty et al.	
	DG	US-5,388,574	02-14-1995	Ingebrethsen	
	DH	US-5,449,078	09-12-1995	Akers	
	DI	US-5,456,269	10-10-1995	Kollasch	
	DJ	US-5,497,791	03-12-1996	Bowen et al.	
	DK	US-5,529,078	06-25-1996	Rehder et al.	
	DL	US-5,579,934	12-03-1996	Buono	
	DM	US-5,591,368	01-07-1997	Fleischhauer et al.	
	DN	US-5,605,226	02-25-1997	Hernlein	
	DO	US-5,626,866	05-06-1997	Ebert et al.	
	DP	US-5,641,064	06-24-1997	Goserud	
	DQ	US-5,649,552	07-22-1997	Cho et al.	
	DR	US-5,666,977	09-16-1997	Higgins et al.	
	DS	US-5,666,978	09-16-1997	Counts et al.	
	DT	US-5,708,258	01-13-1998	Counts et al.	
	DU	US-5,730,118	03-24-1998	Hermanson	
	DV	US-5,730,158	03-24-1998	Collins et al.	
	DW	US-5,746,587	05-05-1998	Racine, deceased et al.	
	DX	US-5,810,164	09-22-1998	Rennecamp	
	DY	US-5,819,756	10-13-1998	Mielordt	
	DZ	US-5,845,649	12-08-1998	Saito et al.	
	EA	US-5,865,185	02-02-1999	Collins et al.	
	EB	US-5,878,752	03-09-1999	Adams et al.	
	EC	US-5,881,884	03-16-1999	Podosek	
	ED	US-5,894,841	04-20-1999	Voges	

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	EE	US-5,931,828	08-03-1999	Durkee	
	EF	US-5,934,289	08-10-1999	Watkins et al.	
	EG	US-5,938,018	08-17-1999	Keaveney et al.	
	EH	US-5,944,025	08-31-1999	Cook et al.	
	EI	US-5,954,979	09-21-1999	Counts et al.	
	EJ	US-5,967,310	10-19-1999	Hill	
	EK	US-5,975,415	11-02-1999	Zehnal	
	EL	US-5,979,460	11-09-1999	Matsumura	
	EM	US-5,994,025	11-30-1999	Iwasa et al.	
	EN	US-5,996,589	12-07-1999	St. Charles	
	EO	US-6,053,176	04-25-2000	Adams et al.	
	EP	US-6,089,857	07-18-2000	Matsuura et al.	
	EQ	US-6,095,153	08-01-2000	Kessler et al.	
	ER	US-6,102,036	08-15-2000	Slutsky et al.	
	ES	US-6,125,853	10-03-2000	Susa et al.	
	ET	US-6,155,268	12-05-2000	Takeuchi	
	EU	US-6,164,287	12-26-2000	White	
	EV	US-6,196,232	03-06-2001	Chkadua	
	EW	US-6,211,194	04-03-2001	Westman et al.	
	EX	US-6,234,169	05-22-2001	Bulbrook et al.	
	EY	US-6,269,966	08-07-2001	Pallo et al.	
	EZ	US-6,324,261	11-27-2001	Merte	
	FA	US-6,344,222	02-05-2002	Cherukuri et al.	
	FB	US-6,349,728	02-26-2002	Pham	
	FC	US-6,381,739	04-30-2002	Breternitz, Jr. et al.	
	FD	US-6,386,371	05-14-2002	Parsons	
	FE	US-6,431,363	08-13-2002	Hacker	
	FF	US-6,446,793	09-10-2002	Layshock	
	FG	US-6,510,982	01-28-2003	White et al.	
	FH	US-6,532,965	03-18-2003	Abhulimen et al.	
	FI	US-6,536,442	03-25-2003	St. Charles et al.	
	FJ	US-6,557,708	05-06-2003	Polacco	
	FK	US-6,598,607	07-29-2003	Adiga et al.	
	FL	US-6,603,924	08-05-2003	Brown et al.	
	FM	US-6,606,998	08-19-2003	Gold	
	FN	US-6,612,404	09-02-2003	Sweet et al.	
	FO	US-6,615,840	09-09-2003	Fournier et al.	
	FP	US-6,622,867	09-23-2003	Menceles	
	FQ	US-6,655,379	12-02-2003	Clark et al.	
	FR	US-6,672,762	01-06-2004	Faircloth et al.	
	FS	US-6,688,313	02-10-2004	Wrenn et al.	
	FT	US-6,726,006	04-27-2004	Funderburk et al.	
	FU	US-6,772,756	08-10-2004	Shayan	
	FV	US-6,799,576	10-05-2004	Farr	
	FW	US-6,803,545	10-12-2004	Blake et al.	
	FX	US-6,805,545	10-19-2004	Slaboden	

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	FY	US-6,810,883	11-02-2004	Felter et al.	
	FZ	US-6,827,573	12-07-2004	St. Charles et al.	
	GA	US-6,874,507	04-05-2005	Farr	
	GB	US-6,909,840	06-21-2005	Harwig et al.	
	GC	US-6,954,979	10-18-2005	Logan	
	GD	US-7,000,775	02-21-2006	Gelardi et al.	
	GE	US-7,015,796	03-21-2006	Snyder	
	GF	US-7,025,066	04-11-2006	Lawson et al.	
	GG	US-7,374,048	05-20-2008	Mazurek	
	GH	US-7,428,905	09-30-2008	Mua	
	GI	US-7,488,171	02-10-2009	St. Charles et al.	
	GJ	US-7,546,703	06-16-2009	Johnske et al.	
	GK	US-7,621,403	11-24-2009	Althoff et al.	
	GL	US-7,644,823	01-12-2010	Gelardi et al.	
	GM	US-7,726,320	06-01-2010	Robinson et al.	
	GN	US-7,766,013	08-03-2010	Wensley et al.	
	GO	US-7,767,698	08-03-2010	Warchol et al.	
	GP	US-7,801,573	09-21-2010	Yazdi et al.	
	GQ	US-7,815,332	10-19-2010	Smith	
	GR	US-7,832,410	11-16-2010	Hon	
	GS	US-7,886,507	02-15-2011	McGuinness, Jr.	
	GT	US-7,988,034	08-02-2011	Pezzoli	
	GU	US-8,003,080	08-23-2011	Rabinowitz et al.	
	GV	US-8,079,371	12-20-2011	Robinson et al.	
	GW	US-8,141,701	03-27-2012	Hodges	
	GX	US-8,156,944	04-17-2012	Han	
	GY	US-8,251,060	08-28-2012	White et al.	
	GZ	US-8,308,624	11-13-2012	Travers et al.	
	HA	US-8,314,235	11-20-2012	Dixit et al.	
	HB	US-8,322,350	12-04-2012	Lipowicz	
	HC	US-8,371,310	02-12-2013	Brenneise	
	HD	US-8,375,957	02-19-2013	Hon	
	HE	US-8,381,739	02-26-2013	Gonda	
	HF	US-8,387,612	03-05-2013	Damani et al.	
	HG	US-8,443,534	05-21-2013	Goodfellow et al.	
	HH	US-8,464,867	06-18-2013	Holloway et al.	
	HI	US-8,479,747-B2	07-09-2013	O'Connell	
	HJ	US-8,490,629	07-23-2013	Shenassa et al.	
	HK	US-8,511,318	08-20-2013	Hon	
	HL	US-8,539,959	09-24-2013	Scatterday	
	HM	US-8,541,401	09-24-2013	Mishra et al.	
	HN	US-8,550,069	10-08-2013	Alelov	
	HO	US-8,596,460	12-03-2013	Scatterday	
	HP	US-8,671,952	03-18-2014	Winterson et al.	
	HQ	US-8,707,965	04-29-2014	Newton	
	HR	US-8,714,150-B2	05-06-2014	Alelov	

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	HS	US-8,741,348	06-03-2014	Hansson et al.	
	HT	US-8,794,245	08-05-2014	Scatterday	
	HU	US-8,794,434	08-05-2014	Scatterday et al.	
	HV	US-8,809,261	08-19-2014	Elsohly et al.	
	HW	US-8,820,330	09-02-2014	Bellinger et al.	
	HX	US-8,851,081	10-07-2014	Fernando et al.	
	HY	US-8,851,083	10-07-2014	Oglesby et al.	
	HZ	US-8,881,737	11-11-2014	Collett et al.	
	IA	US-8,899,238-B2	12-02-2014	Robinson et al.	
	IB	US-8,905,040	12-09-2014	Scatterday et al.	
	IC	US-8,910,641-B2	12-16-2014	Hon	
	ID	US-8,915,254	12-23-2014	Monsees et al.	
	IE	US-8,919,561	12-30-2014	Boisseau	
	IF	US-8,925,555	01-06-2015	Monsees et al.	
	IG	US-8,931,492	01-13-2015	Scatterday	
	IH	US-8,991,402	03-31-2015	Bowen et al.	
	II	US-9,004,073	04-14-2015	Tucker et al.	
	IJ	US-9,072,321	07-07-2015	Liu	
	IK	US-9,095,175	08-04-2015	Terry et al.	
	IL	US-9,215,895	12-22-2015	Bowen et al.	
	IM	US-9,220,302	12-29-2015	DePiano et al.	
	IN	US-9,226,526	01-05-2016	Liu	
	IO	US-9,254,002	02-09-2016	Chong et al.	
	IP	US-9,255,277	02-09-2016	Bakker et al.	
	IQ	US-9,271,525	03-01-2016	Liu	
	IR	US-9,271,529	03-01-2016	Alima	
	IS	US-9,272,103	03-01-2016	Storz	
	IT	US-9,277,768	03-08-2016	Xiu	
	IU	US-9,277,769	03-08-2016	Liu	
	IV	US-9,282,772	03-15-2016	Tucker et al.	
	IW	US-9,282,773	03-15-2016	Greim et al.	
	IX	US-9,289,014	03-22-2016	Tucker et al.	
	IY	US-9,308,336	04-12-2016	Newton	
	IZ	US-9,315,890	04-19-2016	Frick et al.	
	JA	US-9,319,865	04-19-2016	Van Phan et al.	
	JB	US-9,326,547	05-03-2016	Tucker et al.	
	JC	US-9,345,269	05-24-2016	Liu	
	JD	US-9,351,522	05-31-2016	Safari	
	JE	US-9,380,810	07-05-2016	Rose et al.	
	JF	US-9,420,829	08-23-2016	Thorens et al.	
	JG	US-9,427,022	08-30-2016	Levin et al.	
	JH	US-9,456,632	10-04-2016	Hon	
	JI	US-9,462,832	10-11-2016	Lord	
	JJ	US-9,497,995	11-22-2016	Liu	
	JK	US-9,510,624	12-06-2016	Li et al.	
	JL	US-9,538,781	01-10-2017	Zheng	

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	JM	US-9,554,597	01-31-2017	Liu	
	JN	US-9,596,881	03-21-2017	Chiolini et al.	
	JO	US-9,629,391	04-25-2017	Dube et al.	
	JP	US-9,635,886	05-02-2017	Tu	
	JQ	US-9,642,397	05-09-2017	Dai et al.	
	JR	US-9,648,905	05-16-2017	Levitz et al.	
	JS	US-9,675,108	06-13-2017	Liu	
	JT	US-9,682,203	06-20-2017	Dahne et al.	
	JU	US-9,682,204	06-20-2017	Matsumoto et al.	
	JV	US-9,687,025	06-27-2017	Cyphert et al.	
	JW	US-9,687,027	06-27-2017	Poston et al.	
	JX	US-9,693,584	07-04-2017	Hearn et al.	
	JY	US-9,717,274	08-01-2017	Daehne et al.	
	JZ	US-9,717,279	08-01-2017	Hon	
	KA	US-20010015209-A1	08-23-2001	Zielke	
	KB	US-20010032643-A1	10-25-2001	Hochrainer et al.	
	KC	US-20010032795-A1	10-25-2001	Weinstein et al.	
	KD	US-20010052480-A1	12-20-2001	Kawaguchi et al.	
	KE	US-20020043554-A1	04-18-2002	White et al.	
	KF	US-20020059939-A1	05-23-2002	Fox	
	KG	US-20020078951-A1	06-27-2002	Nichols et al.	
	KH	US-20020175164-A1	11-28-2002	Dees et al.	
	KI	US-20030005926-A1	01-09-2003	Jones et al.	
	KJ	US-20030089377-A1	05-15-2003	Hajaligol et al.	
	KK	US-20040002520-A1	01-01-2004	Soderlund et al.	
	KL	US-20040031495-A1	02-19-2004	Steinberg	
	KM	US-20040050382-A1	03-18-2004	Goodchild	
	KN	US-20040099266-A1	05-27-2004	Cross et al.	
	KO	US-20040149296-A1	08-05-2004	Rostami et al.	
	KP	US-20040149624-A1	08-05-2004	Wischusen et al.	
	KQ	US-20040173229-A1	09-09-2004	Crooks et al.	
	KR	US-20040182403-A1	09-23-2004	Andersson et al.	
	KS	US-20040191322-A1	09-30-2004	Hansson	
	KT	US-20040221857-A1	11-11-2004	Dominguez	
	KU	US-20040237974-A1	12-02-2004	Min	
	KV	US-20050016549-A1	01-27-2005	Banerjee et al.	
	KW	US-20050016550-A1	01-27-2005	Katase	
	KX	US-20050034723-A1	02-17-2005	Bennett et al.	
	KY	US-20050061759-A1	03-24-2005	Doucette	
	KZ	US-20050118545-A1	06-02-2005	Wong	
	LA	US-20050145533-A1	07-07-2005	Seligson	
	LB	US-20050169849-A1	08-04-2005	Farr	
	LC	US-20050172976-A1	08-11-2005	Newman et al.	
	LD	US-20050244521-A1	11-03-2005	Strickland et al.	
	LE	US-20050268911-A1	12-08-2005	Cross et al.	
	LF	US-20060018840-A1	01-26-2006	Lechuga-Ballesteros et al.	

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	LG	US-20060054676-A1	03-16-2006	Wischusen	
	LH	US-20060102175-A1	05-18-2006	Nelson	
	LI	US-20060150991-A1	07-13-2006	Lee	
	LJ	US-20060157072-A1	07-20-2006	Albino et al.	
	LK	US-2006/0191546-A1	08-31-2006	Takano et al.	
	LL	US-20060191548-A1	08-31-2006	Strickland et al.	
	LM	US-20060196518	09-2006	Hon	
	LN	US-20060254948-A1	11-16-2006	Herbert et al.	
	LO	US-20060255105-A1	11-16-2006	Sweet	
	LP	US-20070006889-A1	01-11-2007	Kobal et al.	
	LQ	US-20070045288-A1	03-01-2007	Nelson	
	LR	US-20070062548-A1	03-22-2007	Horstmann et al.	
	LS	US-20070074734-A1	04-05-2007	Braunshteyn et al.	
	LT	US-20070098148-A1	05-03-2007	Sherman	
	LU	US-20070102013-A1	05-10-2007	Adams et al.	
	LV	US-20070144514-A1	06-28-2007	Yeates et al.	
	LW	US-20070163610-A1	07-19-2007	Lindell et al.	
	LX	US-20070215164-A1	09-20-2007	Mehio	
	LY	US-20070235046-A1	10-11-2007	Gedevanishvili	
	LZ	US-20070267031-A1	11-22-2007	Hon	
	MA	US-20070267033-A1	11-22-2007	Mishra et al.	
	MB	US-20070277816-A1	12-06-2007	Morrison et al.	
	MC	US-20070280652-A1	12-06-2007	Williams	
	MD	US-2007/0283972-A1	12-13-2007	Monsees et al.	
	ME	US-20080000763-A1	01-03-2008	Cove	
	MF	US-20080023003-A1	01-31-2008	Rosenthal	
	MG	US-20080029095-A1	02-07-2008	Esser	
	MH	US-20080092912-A1	04-24-2008	Robinson et al.	
	MI	US-20080149118-A1	06-26-2008	Oglesby et al.	
	MJ	US-20080216828-A1	09-11-2008	Wensley et al.	
	MK	US-20080228214-A1	09-18-2008	Hoan et al.	
	ML	US-20080241255-A1	10-02-2008	ROSE et al.	
	MM	US-20080257367-A1	10-23-2008	Paterno et al.	
	MN	US-20080276947-A1	11-13-2008	Martzel	
	MO	US-20080286340-A1	11-20-2008	Andersson et al.	
	MP	US-20080302375-A1	12-11-2008	Andersson et al.	
	MQ	US-20090004249-A1	01-01-2009	Gonda	
	MR	US-20090095287-A1	04-16-2009	Emarlou	
	MS	US-2009/0095311-A1	04-16-2009	Han	
	MT	US-20090111287-A1	04-30-2009	Lindberg et al.	
	MU	US-20090126745-A1	05-21-2009	Hon	
	MV	US-20090133691-A1	05-28-2009	Yamada et al.	
	MW	US-20090151717-A1	06-18-2009	Bowen et al.	
	MX	US-20090230117-A1	09-17-2009	Fernando et al.	
	MY	US-20090255534-A1	10-15-2009	Paterno	
	MZ	US-20090267252-A1	10-29-2009	Ikeyama	

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	NA	US-20090272379-A1	11-05-2009	THORENS et al.	
	NB	US-20090283103-A1	11-19-2009	Nielsen et al.	
	NC	US-20090288668-A1	11-26-2009	Inagaki	
	ND	US-20090288669-A1	11-26-2009	Hutchens	
	NE	US-2009/0293892-A1	12-03-2009	Williams et al.	
	NF	US-20090293895-A1	12-03-2009	Axelsson et al.	
	NG	US-20100000672-A1	01-07-2010	Fogle	
	NH	US-20100006092-A1	01-14-2010	Hale et al.	
	NI	US-20100024834-A1	02-04-2010	Oglesby et al.	
	NJ	US-20100031968-A1	02-11-2010	SHEIKH et al.	
	NK	US-20100156193-A1	06-24-2010	Rhodes et al.	
	NL	US-2010/0163063-A1	07-01-2010	FERNANDO et al.	
	NM	US-20100186757-A1	07-29-2010	Crooks et al.	
	NN	US-20100200006-A1	08-12-2010	Robinson et al.	
	NO	US-20100200008-A1	08-12-2010	Taieb	
	NP	US-20100236562-A1	09-23-2010	Hearn et al.	
	NQ	US-20100242974-A1	09-30-2010	Pan	
	NR	US-20100242976-A1	09-30-2010	KATAYAMA et al.	
	NS	US-20100275938-A1	11-04-2010	Roth et al.	
	NT	US-20100276333-A1	11-04-2010	Couture	
	NU	US-20100307116-A1	12-09-2010	FISHER	
	NV	US-20110030706-A1	02-10-2011	Gibson et al.	
	NW	US-20110036346-A1	02-17-2011	Cohen et al.	
	NX	US-20110041861-A1	02-24-2011	Sebastian et al.	
	NY	US-20110049226-A1	03-03-2011	Moreau et al.	
	NZ	US-20110094523-A1	04-28-2011	Thorens et al.	
	OA	US-20110108023-A1	05-12-2011	McKinney et al.	
	OB	US-20110155153-A1	06-30-2011	Thorens et al.	
	OC	US-20110162667-A1	07-07-2011	Burke et al.	
	OD	US-20110168194-A1	07-14-2011	Hon	
	OE	US-20110180433-A1	07-28-2011	Rennecamp	
	OF	US-20110192397-A1	08-11-2011	Saskar et al.	
	OG	US-20110226236-A1	09-22-2011	Buchberger	
	OH	US-20110226266-A1	09-22-2011	Tao	
	OI	US-20110232654-A1	09-29-2011	Mass	
	OJ	US-20110236002-A1	09-29-2011	OGLESBY et al.	
	OK	US-20110240047-A1	10-06-2011	Adamic	
	OL	US-20110265806-A1	11-03-2011	ALARCON et al.	
	OM	US-20110268809-A1	11-03-2011	Brinkley et al.	
	ON	US-20110274628-A1	11-10-2011	Borschke	
	OO	US-20110277780-A1	11-17-2011	Terry et al.	
	OP	US-20110278189-A1	11-17-2011	Terry et al.	
	OQ	US-20110293535-A1	12-01-2011	Kosik et al.	
	OR	US-20110315701-A1	12-29-2011	Everson	
	OS	US-20120006342-A1	01-12-2012	Rose et al.	
	OT	US-20120039981-A1	02-16-2012	PEDERSEN et al.	

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	OU	US-20120060853-A1	03-15-2012	Robinson et al.	
	OV	US-20120111347-A1	05-10-2012	Hon	
	OW	US-20120152265-A1	06-21-2012	Dube et al.	
	OX	US-20120192880-A1	08-02-2012	Dube et al.	
	OY	US-20120199146-A1	08-09-2012	Marangos	
	OZ	US-20120204889-A1	08-16-2012	Xiu	
	PA	US-20120227753-A1	09-13-2012	Newton	
	PB	US-20120255567-A1	10-11-2012	Rose et al.	
	PC	US-20120260927-A1	10-18-2012	Liu	
	PD	US-20120261286-A1	10-18-2012	Holloway et al.	
	PE	US-20120267383-A1	10-25-2012	VAN ROOYEN	
	PF	US-20120273589-A1	11-01-2012	Hon	
	PG	US-20120285475-A1	11-15-2012	Liu	
	PH	US-20120325227-A1	12-27-2012	Robinson et al.	
	PI	US-2013/0042865-A1	02-21-2013	MONSEES et al.	
	PJ	US-20130068239-A1	03-21-2013	YOUN	
	PK	US-20130081642-A1	04-04-2013	Safari	
	PL	US-20130098377-A1	04-25-2013	Borschke et al.	
	PM	US-20130140200-A1	06-06-2013	Scatterday	
	PN	US-20130152922-A1	06-20-2013	Benassayag et al.	
	PO	US-20130186416-A1	07-25-2013	Gao et al.	
	PP	US-20130199528-A1	08-08-2013	Goodman et al.	
	PQ	US-20130228191-A1	09-05-2013	Newton	
	PR	US-20130247924-A1	09-26-2013	Scatterday et al.	
	PS	US-20130248385-A1	09-26-2013	Scatterday et al.	
	PT	US-20130255702-A1	10-03-2013	Griffith, JR. et al.	
	PU	US-20130276802-A1	10-24-2013	Scatterday	
	PV	US-20130284190-A1	10-31-2013	Scatterday et al.	
	PW	US-20130284191-A1	10-31-2013	Scatterday et al.	
	PX	US-20130298905-A1	11-14-2013	Levin et al.	
	PY	US-20130312742-A1	11-28-2013	MONSEES et al.	
	PZ	US-20130313139-A1	11-28-2013	Scatterday et al.	
	QA	US-20130319435-A1	12-05-2013	Flick	
	QB	US-20130319440-A1	12-05-2013	Capuano	
	QC	US-20130333700-A1	12-19-2013	Buchberger	
	QD	US-20130333712-A1	12-19-2013	Scatterday	
	QE	US-20130340775-A1	12-26-2013	Juster et al.	
	QF	US-20140000638-A1	01-02-2014	Sebastian et al.	
	QG	US-20140007891-A1	01-09-2014	Liu	
	QH	US-2014/0014124-A1	01-16-2014	Glasberg et al.	
	QI	US-20140014126-A1	01-16-2014	Peleg et al.	
	QJ	US-20140041655-A1	02-13-2014	Barron et al.	
	QK	US-2014/0041658-A1	02-13-2014	Goodman et al.	
	QL	US-20140053856-A1	02-27-2014	Liu	
	QM	US-20140053858-A1	02-27-2014	Liu	
	QN	US-20140060552-A1	03-06-2014	Cohen	

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	QO	US-20140060556-A1	03-06-2014	Liu	
	QP	US-20140096781-A1	04-10-2014	Sears et al.	
	QQ	US-20140096782-A1	04-10-2014	Ampolini et al.	
	QR	US-20140109921-A1	04-24-2014	Chen	
	QS	US-20140116455-A1	05-01-2014	Youn	
	QT	US-20140123990-A1	05-08-2014	Timmermans	
	QU	US-20140144429-A1	05-29-2014	Wensley et al.	
	QV	US-20140150810-A1	06-05-2014	Hon	
	QW	US-20140166028-A1	06-19-2014	FUISZ et al.	
	QX	US-20140174459-A1	06-26-2014	Burstyn	
	QY	US-2014/0190501-A1	07-10-2014	Liu	
	QZ	US-20140190503-A1	07-10-2014	LI et al.	
	RA	US-20140196731-A1	07-17-2014	Scatterday	
	RB	US-20140196735-A1	07-17-2014	Liu	
	RC	US-20140202474-A1	07-24-2014	Peleg et al.	
	RD	US-20140209105-A1	07-31-2014	Sears et al.	
	RE	US-20140216450-A1	08-07-2014	Liu	
	RF	US-20140230835-A1	08-21-2014	SALIMAN	
	RG	US-20140261474-A1	09-18-2014	GONDA	
	RH	US-20140261486-A1	09-18-2014	Potter et al.	
	RI	US-20140261487-A1	09-18-2014	Chapman et al.	
	RJ	US-20140270727-A1	09-18-2014	Ampolini et al.	
	RK	US-20140271946-A1	09-18-2014	Kobal et al.	
	RL	US-20140301721-A1	10-09-2014	Ruscio et al.	
	RM	US-20140305450-A1	10-16-2014	Xiang	
	RN	US-20140345631-A1	11-27-2014	Bowen et al.	
	RO	US-20140345633-A1	11-27-2014	Talon et al.	
	RP	US-20140345635-A1	11-27-2014	RABINOWITZ et al.	
	RQ	US-20140355969-A1	12-04-2014	Stern	
	RR	US-20140366898-A1	12-18-2014	MONSEES et al.	
	RS	US-20140378790-A1	12-25-2014	COHEN	
	RT	US-20150020823-A1	01-22-2015	Lipowicz et al.	
	RU	US-20150020824-A1	01-22-2015	Bowen et al.	
	RV	US-20150020825-A1	01-22-2015	Galloway et al.	
	RW	US-20150020830-A1	01-22-2015	Koller	
	RX	US-20150020831-A1	01-22-2015	Weigensberg et al.	
	RY	US-20150027457-A1	01-29-2015	Janardhan et al.	
	RZ	US-20150027468-A1	01-29-2015	Li et al.	
	SA	US-20150027472-A1	01-29-2015	Amir	
	SB	US-20150034103-A1	02-05-2015	Hon	
	SC	US-20150034104-A1	02-05-2015	Zhou	
	SD	US-20150038567-A1	02-05-2015	Herkenroth et al.	
	SE	US-20150040929-A1	02-12-2015	Hon	
	SF	US-20150101625-A1	04-16-2015	Newton et al.	
	SG	US-20150122252-A1	05-07-2015	Frija	
	SH	US-20150122274-A1	05-07-2015	Cohen et al.	

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	SI	US-20150128965-A1	05-14-2015	Lord	
	SJ	US-20150128966-A1	05-14-2015	Lord	
	SK	US-20150128967-A1	05-14-2015	Robinson et al.	
	SL	US-20150128976-A1	05-14-2015	Verleur et al.	
	SM	US-20150136153-A1	05-21-2015	Lord	
	SN	US-20150136158-A1	05-21-2015	Stevens et al.	
	SO	US-2015/0142387-A1	05-21-2015	Alarcon et al.	
	SP	US-20150144147-A1	05-28-2015	LI et al.	
	SQ	US-20150150308-A1	06-04-2015	Monsees et al.	
	SR	US-2015/0157054-A1	06-11-2015	Liu	
	SS	US-20150157056-A1	06-11-2015	Bowen et al.	
	ST	US-20150164141-A1	06-18-2015	Newton	
	SU	US-20150164144-A1	06-18-2015	Liu	
	SV	US-20150164147-A1	06-18-2015	Verleur et al.	
	SW	US-20150181928-A1	07-02-2015	Liu	
	SX	US-20150189695-A1	07-02-2015	Xiang	
	SY	US-20150196059-A1	07-16-2015	LIU	
	SZ	US-20150196060-A1	07-16-2015	Wensley et al.	
	TA	US-20150208729	07-2015	Monsees et al.	
	TB	US-20150208731-A1	07-30-2015	MALAMUD et al.	
	TC	US-20150216237-A1	08-06-2015	Wensley et al.	
	TD	US-20150223521-A1	08-13-2015	Menting et al.	
	TE	US-20150224268-A1	08-13-2015	Henry et al.	
	TF	US-20150237917-A1	08-27-2015	Lord	
	TG	US-20150237918-A1	08-27-2015	Liu	
	TH	US-2015/0245654-A1	09-03-2015	MEMARI et al.	
	TI	US-20150245660-A1	09-03-2015	Lord	
	TJ	US-20150257445-A1	09-17-2015	Henry, Jr. et al.	
	TK	US-20150258289-A1	09-17-2015	Henry, JR. et al.	
	TL	US-20150272220-A1	10-01-2015	SPINKA et al.	
	TM	US-20150272222-A1	10-01-2015	Spinka et al.	
	TN	US-20150282525-A1	10-08-2015	Plojoux et al.	
	TO	US-20150282527-A1	10-08-2015	Henry, Jr.	
	TP	US-2015/0305409-A1	10-29-2015	Verleur et al.	
	TQ	US-20150313275-A1	11-05-2015	ANDERSON et al.	
	TR	US-20150313285-A1	11-05-2015	WALLER et al.	
	TS	US-20150320114-A1	11-12-2015	WU	
	TT	US-20150335074-A1	11-26-2015	Leung	
	TU	US-20150351456-A1	12-10-2015	Johnson et al.	
	TV	US-20150359264-A1	12-17-2015	Fernando et al.	
	TW	US-20150366265-A1	12-24-2015	Lansing	
	TX	US-20150366266-A1	12-24-2015	Chen	
	TY	US-20160021931-A1	01-28-2016	HAWES et al.	
	TZ	US-20160021932-A1	01-28-2016	SILVESTRINI et al.	
	UA	US-20160021933-A1	01-28-2016	THORENS et al.	
	UB	US-20160021934-A1	01-28-2016	CADIEUX et al.	

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	UC	US-20160029694-A1	02-04-2016	CLEMENTS et al.	
	UD	US-20160029697-A1	02-04-2016	SHAFER	
	UE	US-20160029698-A1	02-04-2016	XIANG	
	UF	US-20160044967-A1	02-18-2016	Bowen et al.	
	UG	US-20160044968-A1	02-18-2016	Bowen et al.	
	UH	US-20160053988-A1	02-25-2016	Quintana	
	UI	US-20160057811-A1	02-25-2016	Alarcon et al.	
	UJ	US-20160058071-A1	03-03-2016	HEARN	
	UK	US-20160058072-A1	03-03-2016	LIU	
	UL	US-20160073692-A1	03-17-2016	Alarcon et al.	
	UM	US-20160081393-A1	03-24-2016	Black	
	UN	US-20160081395-A1	03-24-2016	THORENS et al.	
	UO	US-20160095355-A1	04-07-2016	HEARN	
	UP	US-20160106154-A1	04-21-2016	Lord	
	UQ	US-20160106155-A1	04-21-2016	REEVELL	
	UR	US-20160106936-A1	04-21-2016	Kimmel	
	US	US-20160109115-A1	04-21-2016	LIPOWICZ	
	UT	US-20160120218-A1	05-05-2016	SCHENNUM et al.	
	UU	US-20160120220-A1	05-05-2016	MALGAT et al.	
	UV	US-20160120227-A1	05-05-2016	LEVITZ et al.	
	UW	US-20160120228-A1	05-05-2016	ROSTAMI et al.	
	UX	US-20160135503-A1	05-19-2016	LIU	
	UY	US-20160143359-A1	05-26-2016	Xiang	
	UZ	US-20160143365-A1	05-26-2016	LIU	
	VA	US-20160157524-A1	06-09-2016	BOWEN et al.	
	VB	US-20160166564-A1	06-16-2016	MYERS et al.	
	VC	US-20160174611-A1	06-23-2016	MONSEES et al.	
	VD	US-20160200463-A1	07-14-2016	Hodges et al.	
	VE	US-20160227839-A1	08-11-2016	ZUBER et al.	
	VF	US-20160227840-A1	08-11-2016	XIANG	
	VG	US-20160242466-A1	08-25-2016	Lord et al.	
	VH	US-20160249680-A1	09-01-2016	LIU	
	VI	US-20160250201-A1	09-01-2016	Rose et al.	
	VJ	US-20160270451-A1	09-22-2016	HON	
	VK	US-20160278435-A1	09-29-2016	CHOUKROUN et al.	
	VL	US-20160295924-A1	10-13-2016	Liu	
	VM	US-20160295926-A1	10-13-2016	ZUBER	
	VN	US-20160302471-A1	10-20-2016	BOWEN et al.	
	VO	US-20160302483-A1	10-20-2016	LIU	
	VP	US-20160302484-A1	10-20-2016	GUPTA et al.	
	VQ	US-20160302486-A1	10-20-2016	Eroch	
	VR	US-20160309784-A1	10-27-2016	SILVESTRINI et al.	
	VS	US-20160324215-A1	11-10-2016	MIRONOV et al.	
	VT	US-20160331033-A1	11-17-2016	HOPPS et al.	
	VU	US-20160331038-A1	11-17-2016	FARINE et al.	
	VV	US-20160331040-A1	11-17-2016	NAKANO et al.	

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	VW	US-20160338402-A1	11-24-2016	BUEHLER et al.	
	VX	US-20160338410-A1	11-24-2016	Batista et al.	
	VY	US-20160338411-A1	11-24-2016	Liu	
	VZ	US-20160345627-A1	12-01-2016	Liu	
	WA	US-20160345630-A1	12-01-2016	MIRONOV et al.	
	WB	US-20160366939-A1	12-22-2016	Alarcon et al.	
	WC	US-20160368670-A1	12-22-2016	Beardsall	
	WD	US-20160371464-A1	12-22-2016	Bricker	
	WE	US-20160374390-A1	12-29-2016	LIU	
	WF	US-20160374398-A1	12-29-2016	AMIR	
	WG	US-20170019951-A1	01-19-2017	LOUVEAU et al.	
	WH	US-20170049155-A1	02-23-2017	LIU	
	WI	US-20170064999-A1	03-09-2017	PEREZ et al.	
	WJ	US-20170071257-A1	03-16-2017	Lin	
	WK	US-20170079329-A1	03-23-2017	ZITZKE	
	WL	US-D590990	04-21-2009	Hon	
	WM	US-D590991	04-21-2009	Hon	
	WN	US-D624238	09-21-2010	Turner	
	WO	US-D642330	07-26-2011	Turner	
	WP	US-D644375	08-30-2011	Zhou	
	WQ	US-D653803	02-07-2012	Timmermans	
	WR	US-D691324	10-08-2013	Saliman	
	WS	US-D695450	12-10-2013	Benassayag et al.	
	WT	US-D707389	06-17-2014	Liu	
	WU	US-D725310	03-24-2015	Eksouzian	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
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Substitute for form 1449/PTO				Complete if Known	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	**A	CA-2641869-A1	05-06-2010	Xia, Hao Ran		
	**B	CN-101869356-A	10-27-2010	Zheqi, Liu		
	**C	CN-102754924-A	10-31-2012	Gongyun, Long		
	**D	CN-105263345-A	01-20-2016	Ploom Inc		
	**E	CN-1122213-A	05-15-1996	Philip Morris Prod		
	**F	CN-85106876-A	09-03-1986	RJ Reynolds Tobacco Company		
	**G	DE-19854005-A1	05-18-2000	Reemtsma H F & Ph		
	**H	DE-19854012-A1	05-18-2000	Reemtsma H F & Ph		
	**I	DE-4200639-A1	07-23-1992	Brown & Williamson Tobacco Corp., Louisville		
	**J	EP-0283672-A2	09-28-1988	Reynolds Tobacco Co R		
	**K	EP-0532194-A1	03-17-1993	Philip Morris		
	**L	EP-0535695-A2	04-07-1993	Phillips Petroleum Co		
	**M	EP-1458388-A1	09-22-2004	Pfizer Health Ab		
	**N	EP-1618803-A1	01-25-2006	Hon, Lik		
	**O	EP-2022349-A1	02-11-2009	Han, Li		
	**P	EP-2022350-A1	02-11-2009	Hon, Lik		
	**Q	EP-2110033-A1	10-21-2009	Philip, Morris Products S.a		
	**R	EP-2152313-A1	02-17-2010	Mcneil Ab		
	**S	EP-2319934-A2	05-11-2011	Stichting Dienst Landbouwkundi		
	**T	EP-2325093-A1	05-25-2011	Imp Tobacco Ltd		
	**U	EP-2609821-A1	07-03-2013	Philip Morris Prod		
	**V	EP-2856893-A1	04-08-2015	Fontem Ventures B V		
	**W	EP-2908675-A1	08-26-2015	Nicoventures Holdings Ltd		
	**X	EP-2915443-B1	08-14-2019	Fontem Holdings 1 BV		
	**Y	EP-3024343-A2	06-01-2016	Altria Client Services LLC		
	**Z	EP-3062646-A1	09-07-2016	Rai Strategic Holdings, Inc		
	**AA	EP-3065581-A2	09-14-2016	Sis Resources, Ltd		
	**AB	EP-3068244-A1	09-21-2016	Vmr Products, LLC		
	**AC	ES-2118034-A1	09-01-1998	Nugar Bobinajes Sl		
	**AD	GB-1025630-A	04-14-1966	British American Tobacco Co		
	**AE	GB-1065678-A	04-19-1967	Super Temp Corp		
	**AF	IE-20050615	09-2005	Oglesby & Butler Research & Development Ltd.		
	**AG	IE-S20050051	02-2005	Oglesby & Butler Research & Development Ltd.		

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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Substitute for form 1449/PTO				Complete if Known	
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	**AH	IE-S20050563	08-24-2005	Oglesby & Butler Research & Development Ltd.		
	**AI	JP-02-145179	06-04-1990	Hercules Inc		
	**AJ	JP-03049671	04-1991	Brown & Williamson Tobacco Corp.		
	**AK	JP-03180166	06-1991	RJ Reynolds Tobacco Company		
	**AL	JP-09-075058	03-25-1997	Nagai		
	**AM	JP-10-501999	02-24-1998	Boehringer		
	**AN	JP-11178563	06-1999	Japan Tobacco Inc.		
	**AO	JP-2000203639-A	07-25-2000	S & B Foods Inc		
	**AP	JP-2000236865-A	09-05-2000	Seiko Kogyo Kk		
	**AQ	JP-2001165437-A	06-22-2001	Tsubota Pearl Co Ltd		
	**AR	JP-2005034021-A	02-10-2005	Seiko Epson Corp		
	**AS	JP-2006-524494-A	11-02-2006			
	**AT	JP-2006504430-A	02-09-2006	RJ Reynolds Tobacco Company		
	**AU	JP-62278975	12-1987	Watabe Isamu		
	**AV	JP-6437276	02-1989	Hansgen et al.		
	**AW	JP-S61254170-A	11-11-1986	Advanced Tobacco Prod Inc		
	**AX	KR-0193885	06-1999	Philip Morris, Inc.		
	**AY	UA-67598-U	02-27-2012	Rohov, Dmytro Yuriiovych		
	**AZ	WO-0028842-A1	05-25-2000	Reemtsma H F & Ph		
	**BA	WO-03056948-A1	07-17-2003	Japan Tobacco Inc		
	**BB	WO-03082031-A1	10-09-2003	Steinberg, Dan		
	**BC	WO-03094900-A1	11-20-2003	Alexza Molecular Delivery Corp		
	**BD	WO-2003103387-A2	12-18-2003	S.c. Johnson & Son, Inc		
	**BE	WO-2004064548-A1	08-05-2004	Netzer, Omry		
	**BF	WO-2004076289-A2	09-10-2004	Pharmacia AB		
	**BG	WO-2004080216-A1	09-23-2004	Best Partners Worldwide Ltd		√
	**BH	WO-2005020726-A1	03-10-2005	Lee, Seunghyun		
	**BI	WO-2006004646-A1	01-12-2006	Nektar Therapeutics		
	**BJ	WO-2006015070-A1	02-09-2006	Brown & Williamson Holdings, Inc		
	**BK	WO-2007026131-A1	03-08-2007	Acetate Products Ltd		
	**BL	WO-2007078273-A1	07-12-2007	Augite Inc		
	**BM	WO-2008077271-A1	07-03-2008	Maas, Bernard		√
	**BN	WO-2008121610-A1	10-09-2008	Univ Duke		
	**BO	WO-2009001085-A2	12-31-2008	Kind Consumer Ltd		
	**BP	WO-2009079641-A2	06-25-2009	Ploom, Inc		
	**BQ	WO-2010023561-A1	03-04-2010	Actavis Group Ptc Ehf		

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
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Substitute for form 1449/PTO				Complete if Known	
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	**BR	WO-2011/117580-A2	09-29-2011	Kind Consumer Ltd		
	**BS	WO-2011033396-A2	03-24-2011	Minilogic Device Corp Ltd		
	**BT	WO-2011034723-A1	03-24-2011	Univ Duke		
	**BU	WO-2011038104-A2	03-31-2011	Mcnell-ppc, Inc		
	**BV	WO-2011109849-A1	09-15-2011	Buchberger, Helmut		
	**BW	WO-2012/085207-A1	06-28-2012	Philip Morris Products SA		
	**BX	WO-2012021972-A1	02-23-2012	Cogestor Inc		
	**BY	WO-2012027350-A2	03-01-2012	Alelov, Eli		
	**BZ	WO-2012120487-A2	09-13-2012	Chong Corp		
	**CA	WO-2013/098398-A2	07-04-2013	Philip Morris Prod		
	**CB	WO-2013044537-A1	04-04-2013	Joyetech (changzhou) Electronics Co., Ltd		
	**CC	WO-2013050934-A1	04-11-2013	Sis Resources Ltd		
	**CD	WO-2013083631-A1	06-13-2013	Philip Morris Prod		
	**CE	WO-2013083635-A1	06-13-2013	Philip Morris Prod		
	**CF	WO-2013088230-A1	06-20-2013	Dks Aromatic S R L		
	**CG	WO-2013089551-A1	06-20-2013	Foo, Kit Seng		
	**CH	WO-2013116558-A1	08-08-2013	Altria Client Services Inc		
	**CI	WO-2013116561-A1	08-08-2013	Altria Client Services Inc		
	**CJ	WO-2013142678-A1	09-26-2013	Njoy, Inc		
	**CK	WO-2014004648-A1	01-03-2014	Reynolds Tobacco Co R		
	**CL	WO-2014040915-A1	03-20-2014	Snoke Gmbh & Co Kg		
	**CM	WO-2014093127-A2	06-19-2014	Fuisz, Richard C		
	**CN	WO-2014101734-A1	07-03-2014	Shenzhen Smoore Technology Ltd		
	**CO	WO-2014118286-A2	08-07-2014	Philip Morris Prod		
	**CP	WO-2014139611-A1	09-18-2014	Philip Morris Products SA		
	**CQ	WO-2014140087-A1	09-18-2014	Philip Morris Products SA		
	**CR	WO-2014150245-A1	09-25-2014	Aradigm Corp		
	**CS	WO-2014150704-A2	09-25-2014	Altria Client Services Inc		
	**CT	WO-2014151434-A2	09-25-2014	Altria Client Services Inc		
	**CU	WO-2014159250-A1	10-02-2014	Reynolds Tobacco Co R		
	**CV	WO-2014159982-A1	10-02-2014	Reynolds Tobacco Co R		
	**CW	WO-2014177859-A1	11-06-2014	Nicoventures Holdings Ltd		
	**CX	WO-2014182736-A1	11-13-2014	Ploom, Inc		
	**CY	WO-2014187763-A1	11-27-2014	Philip Morris Products SA		
	**CZ	WO-2014187770-A2	11-27-2014	Philip Morris Products SA		
	**DA	WO-2014190079-A2	11-27-2014	Njoy, Inc		
	**DB	WO-2014205263-A1	12-24-2014	Loec, Inc		
	**DC	WO-2015/006652-A1	01-15-2015	Alexza Pharmaceuticals, Inc		
	**DD	WO-2015/009862-A2	01-22-2015	Altria Client Services Inc		
	**DE	WO-2015/063126-A1	05-07-2015	Choukroun, Benjamin		

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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	**DF	WO-2015/082652-A1	06-11-2015	Philip Morris Products SA		
	**DG	WO-2015/124878-A1	08-27-2015	Smokio		
	**DH	WO-2015/148547-A1	10-01-2015	Nicotech , LLC		
	**DI	WO-2015/149647-A1	10-08-2015	Kimree Hi Tech Inc		
	**DJ	WO-2015028815-A1	03-05-2015	British American Tobacco Co		
	**DK	WO-2015040180-A2	03-26-2015	Philip Morris Products SA		
	**DL	WO-2015042412-A1	03-26-2015	Nicotine Technology Inc E		
	**DM	WO-2015058387-A1	04-30-2015	Kimree Hi Tech Inc		
	**DN	WO-2015066136-A1	05-07-2015	Reynolds Tobacco Co R		
	**DO	WO-2015073975-A1	05-21-2015	Vmr Products, LLC		
	**DP	WO-2015084544-A1	06-11-2015	Ploom, Inc		
	**DQ	WO-2015089711-A1	06-25-2015	Kimree Hi Tech Inc		
	**DR	WO-2015091258-A1	06-25-2015	Philip Morris Products SA		
	**DS	WO-2015101651-A1	07-09-2015	Philip Morris Products SA		
	**DT	WO-2015109616-A1	07-30-2015	Kimree Hi Tech Inc		
	**DU	WO-2015157893-A1	10-22-2015	Kimree Hi Tech Inc		
	**DV	WO-2015157901-A1	10-22-2015	Kimree Hi Tech Inc		
	**DW	WO-2015165067-A1	11-05-2015	Kimree Hi Tech Inc		
	**DX	WO-2015168828-A1	11-12-2015	Kimree Hi Tech Inc		
	**DY	WO-2015175979-A1	11-19-2015	Pax Labs, Inc		
	**DZ	WO-2015179292-A1	11-26-2015	Reynolds Tobacco Co R		
	**EA	WO-2015193456-A1	12-23-2015	Oglesby, Ciaran		√
	**EB	WO-2016/062777-A1	04-28-2016	British American Tobacco Co		
	**EC	WO-2016012769-A1	01-28-2016	Nicoventures Holdings Ltd		
	**ED	WO-2016020675-A1	02-11-2016	Nicoventures Holdings Ltd		
	**EE	WO-2016030661-A1	03-03-2016	Nicoventures Holdings Ltd		
	**EF	WO-2016040575-A1	03-17-2016	Fontem Holdings 1 Bv		
	**EG	WO-2016041114-A1	03-24-2016	Huizhou Kimree Technology Co Ltd		
	**EH	WO-2016041140-A1	03-24-2016	Huizhou Kimree Technology Co Ltd		
	**EI	WO-2016050247-A1	04-07-2016	Fertin Pharma As		
	**EJ	WO-2016058189-A1	04-21-2016	Huizhou Kimree Technology Co., Ltd		
	**EK	WO-2016063775-A1	04-28-2016	Japan Tobacco Inc		
	**EL	WO-2016065606-A1	05-06-2016	Huizhou Kimree Technology Co.,ltd		
	**EM	WO-2016071705-A1	05-12-2016	Nicoventures Holdings Ltd		
	**EN	WO-2016071706-A1	05-12-2016	Nicoventures Holdings Ltd		
	**EO	WO-9501137-A1	01-12-1995	Voges Innovation Pty Ltd		
	**EP	WO-9712639-A1	04-10-1997	Slutsky, Arthur		

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NON PATENT LITERATURE DOCUMENTS			
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	**A	"A Randomised Placebo-Controlled Trial of a Nicotine Inhaler and Nicotine Patches for Smoking cessation," 5 pages, available at http://www.otago.ac.nz/wellington/otago047634.pdf.	
	**B	"How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attibutable Disease," U.S. Department of Health and Human Services, 2010.	
	C	"substantially" entry from dictionary.com, printed from internet on 12/21/2020	
	**D	'Goniewicz, et al., "Nicotine levels in electronic cigarettes," Nicotine Tobacco Research, 15(1), pp. 158-166, January 2013.	
	**E	(https://www.e-cigarette-forum.com/forum/threads/any-interest-in-determining-nicotine-by-dvap.35922/); blog posts dated: 2009; 8 pgs.; print/retrieval date: July 31, 2014	
	**F	3: In vitro toxicity of whole smoke; Food and Chemical Toxicology; 36(3); pp. 191-197; March 1998	
	**G	Adam, Thomas, Stefan Mitschke, and Richard R. Baker. "Investigation of tobacco pyrolysis gases and puff-by-puff resolved cigarette smoke by single photon ionisation (SPI)-time-of-flight mass spectrometry (TOFMS)." Beitrage zur Tabakforschung International/Contributions to Tobacco Research 23.4 (2009): 203-226.	
	**H	BAKER et al.; The pyrolysis of tobacco ingredients; J. Anal. Appl. Pyrolysis; 71(1); pp. 223-311; March 2004	
	**I	Baker, R., et al., "An overview of the effects of tobacco ingredients on smoke chemistry and toxicity," Food and Chemical Toxicology, 42S, 2004.	
	**J	Baker, R., et al., "The effect of tobacco ingredients on smoke chemisty. Part II: Casing ingredients," Food and Chemical Toxicology, 42S, 2004.	
	**K	Bao, M., et al., "An improved headspace solid-phase microextraction method for the analysis of free-base nicotine in particulate phase of mainstream cigarette smoke," Analytica Chimic Acta, 49-54, 2010.	
	**L	Bastin, R., et al., "Salt Selection and Optimisation Procedures for Pharmaceutical New Checmical Entities," Organic Process Research & Development, 4, 427-435 (2000).	
	**M	Bates, "Tobacco Additives: Cigarette Engineering and Nicotine Addiction," ASH UK Report, 1999.	
	**N	Bertholon, J. F., et al. "Comparison of the aerosol produced by electronic cigarettes with conventional cigarettes and the shisha." Revue des maladies respiratoires 30.9 (2013): 752-757.	
	**O	Bertholon, J. F., et al. "Electronic cigarettes: a short review." Respiration 86.5 (2013): 433-438.	
	**P	BOMBICK et al.; Chemcal and biological studies of a new cigarette that primarily heats tobacco; Part	
	**Q	BOMBICK et al.; Chemical and biological studies of a new cigarette that primarily heats tobacco; Part 2: In vitro toxicology of mainstream smoke condesnsate; Food and Chemical Toxicology; 36(3); pp. 183-190; March 1998	
	**R	BORGERDING et al.; Chemcal and biological studies of a new cigarette that primarily heats tobacco; Part 1: Chemical composition of mainstream smoke; Food and Chemical Toxicology; 36(3); pp. 169-182; March 1998	
	**S	BOWEN et al.; U.S. Pat Appl. # 15/101,303 entitled "Nicotine liquid formulations for aerosol	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
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(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
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		devices and methods thereof," filed 6/2/2016	
	**T	BOWEN et al.; U.S. Pat. App. # 14/960,259 entitled "Calibrated Dose Control", filed 12/4/2015	
	**U	BRADLEY et al.; Electronic cigarette aerosol particle size distribution measurements; Inhal. Toxicol.; 24(14); pp. 976-984; Dec. 2012	
	**V	Brown, Christopher J., et al., "Electronic cigarettes: product characterisation and design considerations." Tobacco control 23.suppl 2 (2014): ii4-ii10.	
	**W	Brown, Christopher, et al.," Caffeine and Cigarette Smoking: Behavioral, Cardiovascular, and Metabolic Interactions," Pharmacology Biochemistry and Behavior, Vol. 34, pp565-570, 1989.	
	**X	BULLEN et al.; Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: randomised cross-over trial; Tobacco Control; 19(2); pp. 98-103; Apr. 2010	
	**Y	Bullen, Chris, et al. "Study protocol for a randomised controlled trial of electronic cigarettes versus nicotine patch for smoking cessation." BMC public health 13.1 (2013): 210.	
	**Z	Bullen, Christopher, et al. "Effect of an electronic nicotine delivery device (e cigarette) on desire to smoke and withdrawal, user preferences and nicotine delivery: randomised cross-over trial." Tobacco control 19.2 (2010): 98-103.	
	**AA	BURCH et al.; Effect of pH on nicotine absorption and side effects produced by aerosolized nicotine; Journal of Aerosol Medicine: Deposition, Clearance, and Effects in the Lung; 6(1); pp. 45-52; 1993	
	**AB	Burch, et al., "Effect of pH on nicotine absorption and side effects produced by areosolized nicotine," Journal of Aerosol Medicine: Deposition, Clearance, and Effects in the Lung, 6(1), pp. 45-52. 1993.	
	**AC	BURN et al., "ACTION OF NICOTINE ON THE HEART", Excretion of Piperazine Salts, British Medical Journal, Jan. 18, 1958, pp. 137-139.	
	**AD	Cahn, Zachary, et al., "Electronic cigarettes as a harm reduction strategy for tobacco control: a step forward or a repeat of past mistakes?." Journal of public health policy 32.1 (2011): 16-31.	
	**AE	Caldwell, B., et al., "A Systematic Review of Nicotine by Inhalation: Is There a Role for the Inhaled Route?," Nicotine & Tobacco Research, pp.1-13 (2012).	
	**AF	Callicutt, C.H., "The role of ammonia in the transfer of nicotine from tobacco to mainstream smoke," Regulatory Toxicology and Pharmacology, 46, 2006.	
	**AG	Caponnetto, Pasquale, et al. "EffiCiency and Safety of an eLectronic cigAreTte (ECLAT) as tobacco cigarettes substitute: a prospective 12-month randomized control design study." PloS one 8.6 (2013): e66317.	
	**AH	Caponnetto, Pasquale, et al. "The emerging phenomenon of electronic cigarettes." Expert review of respiratory medicine 6.1 (2012): 63-74.	
	**AI	CAPPONNETTO et al.; Successful smoking cessation with cigarettes in smokers with a documented history of recurring relapses: a case series; Journal of Medical Case Reports; 5(1); 6 pages; (year of pub. sufficiently earlier than effective US filing date and any foreign priority date); 2011	
	**AJ	Cheng, Tianrong. "Chemical evaluation of electronic cigarettes." Tobacco control 23.suppl 2 (2014): ii11-ii17.	
	**AK	Cig Buyer.com 2013 Inside E-Cigarette Liquids and Vapor	
	**AL	Cisternino, S., et al., "Coexistence of Passive and Proton Anitporter-Mediated Processes in Nicotine Transport at the Mouse Blood-Brain Barrier," The AAPS Journal, Vol. 15, No. 2, April 2013.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	22	of	28	Attorney Docket Number	

	**AM	CLAYTON, et al., "Spectroscopic investigations into the acid-base properties of nicotine at different temperatures", Analytical Methods, 2013, pp. 81-88, Vol. 5.	
	**AN	Dawkins, Lynne, et al. "The electronic-cigarette: effects on desire to smoke, withdrawal symptoms and cognition." Addictive behaviors 37.8 (2012): 970-973.	
	**AO	Dawkins, Lynne, et al., "Acute electronic cigarette use: nicotine delivery and subjective effects in regular users," Psychopharmacology, 2013.	
	**AP	Dawkins, Lynne, John Turner, and Eadaoin Crowe. "Nicotine derived from the electronic cigarette improves time-based prospective memory in abstinent smokers." Psychopharmacology 227.3 (2013): 377-384.	
	**AQ	Definition of "aerosol", Merriam-Webster Dictionary, [online], no date, retrieved from the Internet, [retrieved 6/8/2017], <URL: https://www.merriam-webster.com/dictionary/aerosol>.	
	**AR	Dezelic, M., et al., "Determination of structure of some salts of nicotine, pyridine and N-methylpyrrolidine on the basis of their infra-red spectra," Spectrochimica Acta, Vol. 23A, 1967.	
	**AS	Dixon, M., "On the Transfer of Nicotine from Tobacco to the Smoker. A Brief Review of Ammonia and "pH" Factors," Contributions to Tobacco Research, Vol. 19, No. 2, July 2000.	
	**AT	Dong, J.Z., et al., "A Simple Technique for Determining the pH of Whole Cigarette Smoke," Contributions to Tobacco Research, Vol. 19, No. 1, April 2000.	
	**AU	Drummond, M. Bradley, et al., "Electronic cigarettes. Potential harms and benefits." Annals of the American Thoracic Society 11.2 (2014): 236-242.	
	**AV	E-CIGARETTE FORUM; pg-gv-peg (discussion/posting); retrieved from the internet: <https://e-cigarette-forum.com/forum/threads/pg-vg-peg.177551;> 7 pgs.; April 8, 2011	
	**AW	ECF; Any interest in determining nicotine--by DVAP;	
	**AX	Effros, R., et al., "The In Vivo pH of the Extravascular Space of the Lung," The Journal of Clinical Investigation, Vol. 48, 1969.	
	**AY	Eissenberg, Thomas. "Electronic nicotine delivery devices: ineffective nicotine delivery and craving suppression after acute administration." Tobacco control 19.1 (2010): 87-88.	
	**AZ	Etter, Jean-Francois, et al., "Analysis of refill liquids for electronic cigarettes." Addiction 108.9 (2013): 1671-1679.	
	**BA	Etter, Jean-Francois. "Levels of saliva cotinine in electronic cigarette users." Addiction 109.5 (2014): 825-829.	
	**BB	FARSALINOS et al.; Electronic cigarettes do not damage the heart; European Society of Cardiology; 4 pages; retrieved from the internet (http://www.escardio.org/The-ESC/Press-Office/Press-releases/Electronic-cigarettes-do-not-damage-the-heart); August 25, 2012	
	**BC	Farsalinos, Konstantinos E., et al. "Characteristics, perceived side effects and benefits of electronic cigarette use: a worldwide survey of more than 19,000 consumers." International journal of environmental research and public health 11.4 (2014): 4356-4373.	
	**BD	Farsalinos, Konstantinos E., et al. "Evaluating nicotine levels selection and patterns of electronic cigarette use in a group of "vapers" who had achieved complete substitution of smoking." Substance abuse: research and treatment 7 (2013): SART-512756.	
	**BE	Farsalinos, Konstantinos E., et al. "Impact of flavour variability on electronic cigarette use experience: an internet survey." International journal of environmental research and public health 10.12 (2013): 7272-7282.	
	**BF	Farsalinos, Konstantinos E., et al. "Nicotine absorption from electronic cigarette use: comparison between first and new-generation devices." Scientific reports 4 (2014): 4133.	
	**BG	Farsalinos, Konstantinos E., et al., "Safety evaluation and risk assessment of electronic	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

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(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	23	of	28	Attorney Docket Number	

		cigarettes as tobacco cigarette substitutes: a systematic review." Therapeutic advances in drug safety 5.2 (2014): 67-86.	
	**BH	FLOURIS et al.; Acute impact of active and passive electronic cigarette smoking on serum cotinine and lung function; Inhal. Toxicol.; 25(2); pp. 91-101; Feb 2013	
	**BI	FOOD & DRUG ADMINISTRATION; Warning letter to The Compounding Pharmacy; retrieved 10/10/2014 from http://www.fda.gov/ICECI/EnfocementActions/WarningLetters/2002/ucm144843.htm; 3 pgs.; April 9, 2002	
	**BJ	Fournier, J., "Thermal Pathways for the Transfer of Amines, Including Nicotine, to the Gas Phase and Aerosols," Heterocycles, Vol. 55, No. 1, 2001.	
	**BK	Gonda, I., et al. "Smoking cessation approach via deep lung delivery of 'clean'nicotine." RDD Europe (2009): 57-61.	
	**BL	GONIEWICZ et al.; Nicotine levels in electronic cigarettes; Nicotine Tobacco Research; 15(1); pp. 158-166; Jan 2013	
	**BM	Goniewicz, Maciej L., et al., "Nicotine content of electronic cigarettes, its release in vapour and its consistency across batches: regulatory implications." Addiction 109.3 (2014): 500-507.	
	**BN	Grotenhermen, et al., "Developing science-based per se limits for driving under the influence of cannabis (DUIC): findings and recommendations by an expert panel; retreived 2/9/2017 from (http://www.canorml.org/healthfacts/DUICreport.2005.pdf); September 2005.	
	**BO	Harris, Mark. "Warning cigarettes may be about to become fashionable again." Engineering & Technology 6.1 (2011): 38-31.	
	**BP	HARVEST VAPOR; American Blend Tobacco (product info.); retrieved from the internet (http://harvestvapor.com/); 2 pgs.; print/retrieval date: 10/10/2014	
	**BQ	HENNINGFIELD, et al., "Tobacco Control", 1995, pp. 57-61, Vol. 4.	
	**BR	Heyder, J., "Alveolar deposition of inhaled particles in humans," American Industrial Hygiene Association Journal, 43:11, 864-866, 2010.	
	**BS	https://www.industrydocumentslibrary.ucsf.edu/tobacco/docs/ytyg0100	
	**BT	HURT et al.; Treating tobacco dependence in a medical setting; CA: A Cancer Journal for Clinicians; 59(5); pp. 314-326; Sept. 2009	
	**BU	Hurt, R., et al., "Prying Open the Door to the Tobacco Industry's Secrets About Nicotine," The Journal of the American Medical Association, Vol. 280, 1998.	
	**BV	INCHEM; Benzoic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_184.htm; 2 pgs..; May 28, 2005	
	**BW	INCHEM; Levulinic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_1266.htm; 1 pg.; March 10, 2003	
	**BX	INCHEM; Pyruvic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_2072.htm; 1 pg.; January 29, 2003	
	**BY	INCHEM; Sorbic Acid; JECFA Evaluation Summary; retrieved 10/10/2014 from http://www.inchem.org/documents/jecfa/feceval/jec_2181.htm; 1 pg.; May 29, 2005	
	**BZ	INGEBRETHSEN et al.; Electronic cigarette aerosol particle size distribution measurements; Inhalation Toxicology; 24(14); pp. 976-984; December 2012	
	**CA	Keithly, Lois., et al., "Industry research on the use and effects of levulinic acid: A case study in cigarette additives," Nicotine & Tobacco Research Volume 7, No. 5, 761-771, 2005.	
	**CB	Kosmider, L., et al. "Electronic cigarette--a safe substitute for tobacco cigarette or a new threat?." Przeglad lekarski 69.10 (2012): 1084-1089. [including English language translation	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	24	of	28	Attorney Docket Number	

		thereof]	
	**CC	KU0 et al.; Appendix D: Particle size-U.S. sieve size and tyler screen mesh equivalents; Applications of Turbulent and Multiphase Combustion; John Wiley & Sons, Inc.; pp. 541-543; May 1, 2012	
	**CD	Lauterbach, J.H, "COMPARISON OF MAINSTREAM CIGARETTE SMOKE pH WITH MAINSTREAM E-CIGARETTE AEROSOL pH" Tob. Sci. Res. Conf., 2013, 67, abstr. 78. 2013.	
	**CE	Lauterbach, J.H., "A Critical Assessment of Recent Work on the Application of Gas/Particle Partitioning Theories to Cigarette Smoke," Contributions to Tobacco Research, Vol. 19, No.2, July 2000.	
	**CF	Lauterbach, J.H., "Comment on Gas/Particle Partitioning of Two Acid-Base Active Compounds in Mainstream Tobacco Smoke: Nicotine and Ammonia," J. Agric. Food Chem., Vol. 58, No. 16, 2010.	
	**CG	Lauterbach, J.H., "Free-base nicotine in tobacoo products. Part 1. Determination of free-base nicotine in the particulate phase of mainstream cigarette smoke and the relevance of these findings to product design parameters," Regulatory Toxicology and Pharmacology, 2010.	
	**CH	Lauterback (2013) "GC-MS analysis of e-liquids taken from e-cigarettes and e-liquids (e-juice) before use in e-cigarettes" Presentation Slides CORESTA	
	**CI	Lee, L.-Y., et al., "Airway irritation and cough evoked by inhaled cigarette smoke: Role of neuronal nicotinic acetylcholine receptors," Pulmonary Pharmacology & Therapeutics, Vol. 20, 2007.	
	**CJ	LEFFINGWELL, et al., "Basic chemical constituents of tobacco: production, chemistry and Technology", Blackwell Science, 1999.	
	**CK	Leffingwell, J., et al., "Tobacco Flavoring for Smoking Products," R.J. Reynolds Tobacco Company, 1972.	
	**CL	Lim, Heung Bin, et al., "Inhallation of e-cigarette cartridge solution aggravates allergen-induced airway inflammation and hyper-responsiveness in mice." Toxicological research 30.1 (2014): 13.	
	**CM	Lippiello, P., et al., "Enhancement of Nicotine Binding to Nicotinic Receptors by Nicotine Levulinate and Levulinic Acid," 1989.	
	**CN	Lux, J.E., et al., "Subjective Responses to Inhaled and Intravenous Injected Nicotine," American Society for Clinical Pharmacology and Therapeutics, 1988.	
	**CO	Lux, J.E., et al., :Generation of a submicrometre nicotine aerosol for inhalation," Med. & Biol. Eng. & Comput. 26, 232-234, 1988.	
	**CP	M0NSEES et al.; U.S. Pat. Appl. # 15/257,760 entitled "Vaporizer apparatus," filed 9/6/2016	
	**CQ	MacDougall, James., et al., "Selective Cardiovascular Effects of Stress and Cigarette Smoking," Journal of Human Stress, 9:3. 13-21, 1983.	
	**CR	MAIER, et al., "Polypropylene: the defintive user's guide and databook", 1998.	
	**CS	McCANN et al.; Detection of carcinogens as mutagens in the salmonella/microsome test: Assay of 300 chemicals: Discussion; Proc. Nat. Acad. Sci.; 73(3); pp. 950-954; March 1976	
	**CT	McQueen, Amy, et al., "Interviews with "vapers": implications for future research with electronic cigarettes." Nicotine & Tobacco Research 13.9 (2011): 860-867.	
	**CU	McRobbie, Hayden, et al. "Electronic cigarettes for smoking cessation and reduction." Cochrane Database Syst. Rev 12 (2012).	
	**CV	MIRRIAM-WEBSTER Online Dictionary; Lighter; retrieved 1/4/2013 from the internet: (http://www.merriam-webster.com/dictionary/lighter?show=0&t=1357320593); 2 pgs.; print	

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Sheet	25	of	28	Attorney Docket Number	

		date: 1/4/2013	
	**CW	MONSEES et al.; U.S. Pat. Appl, # 15/257,748 entitled "Cartridge for use with a vaporizer device," filed 9/6/2016	
	**CX	MONSEES et al.; U.S. Pat. Appl. # 15/165,954 entitled "Devices for vaporization of a substance," filed 5/26/2016	
	**CY	MONSEES et al.; U.S. Pat. Appl. # 15/165,972 entitled "Portable devices for generating an inhalable vapor," filed 5/26/2016	
	**CZ	MONSEES et al.; U.S. Pat. Appl. # 15/166,001 entitled "Electronic vaporization device," filed 5/26/2016	
	**DA	MONSEES et al.; U.S. Pat. Appl. # 15/257,768 entitled "Vaporizer apparatus," filed 9/6/2016	
	**DB	MONSEES et al.; U.S. Pat. Appl. # 15/261,823 entitled "Low temperature electronic vaporization device and methods," filed 9/9/2016	
	**DC	MONSEES, J.; U.S. Pat. App. # 12/115,400 entitled "Method And System For Vaporization Of A Substance", filed 5/5/2008	
	**DD	NICOLI et al.; Mammalian tumor xenografts induce neovascularization in Zebrafish embryos; Cancer Research; 67(7); pp. 2927-2931; April 1, 2007	
	**DE	NICOTINE SALTS. RJ Reynolds Records. November 9, 1990.	
	**DF	Oldendorf, W., et al., "Blood-brain barrier penetration abolished by N-methyl quaternization of nicotine," Proc. Natl. Acad. Sci, Vol. 90, pp. 307-311, 1993.	
	**DG	Oldendorf, W., et al., "pH Dependence of Blood-Brain Barrier Permeability to Lactate and Nicotine," Stroke, Vol. 10, No. 5, 1979.	
	**DH	Omole, Olufemi Babatunde, et al., "Review of alternative practices to cigarette smoking and nicotine replacement therapy: how safe are they?." South African Family Practice 53.2 (2011): 154-160.	
	**DI	Pachke, T., et al., "Effects of Ingredients on Cigarette Smoke Composition and Biological Activity: A Literature Overview," Contributions to Tobacco Research, Vol. 20, No. 2, Aug. 2002.	
	**DJ	Pankow, et al., "Conversion of Nicotine in Tobacco Smoke to Its Volatile and Available Free-Base form Through the Action of Gaseous Ammonia," Eniron. Sci. Technol. 31 (8), 1997.	
	**DK	Pankow, James F. "A consideration of the role of gas/particle partitioning in the deposition of nicotine and other tobacco smoke compounds in the respiratory tract." Chemical research in toxicology 14.11 (2001): 1465-1481.	
	**DL	PERFETTI, "Structural study of nicotine salts," Beitrage Zur Tabakforschung International, Contributions to Tobacco Research, 12(2), pp. 43-54. June 1983.	
	**DM	Perfetti, T., "Investigation of Nicotine Transfer to Mainstream Smoke I. Synthesis of Nicotine Salts," 1978.	
	**DN	Perfetti, Transfer of Nicotine salts to mainstream smoke (2000) https://www.industrydocumentslibrary.ucstedu/tobacco/docs/#id=rzwp0187	
	**DO	Polosa, Riccardo, et al. "A fresh look at tobacco harm reduction: the case for the electronic cigarette." Harm reduction journal 10.1 (2013): 19.	
	**DP	Polosa, Riccardo, et al. "Effect of smoking abstinence and reduction in asthmatic smokers switching to electronic cigarettes: evidence for harm reversal." International journal of environmental research and public health 11.5 (2014): 4965-4977.	
	**DQ	Polosa, Riccardo, et al. "Effectiveness and tolerability of electronic cigarette in real-life: a 24-month prospective observational study." Internal and emergency medicine 9.5 (2014): 537-	

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(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	26	of	28	Attorney Docket Number	

		546.	
	**DR	POLOSA, Riccardo, et al., "Effect of an electronic nicotine delivery device (e-Cigarette) on smoking reduction and cessation: a prospective 6-month pilot study." BMC public health 11.1 (2011): 786.	
	**DS	Prignot, J., "Electronic Nicotine Delivery Systems (Electronic Cigarettes, Cigars, Pipes)," Louvain Medical, V. 132, No. 10, December 2013. [including English language translation thereof]	
	**DT	Provisional Application 61/826,318, filed May 22, 2013.	
	**DU	Provisional Application 61/856,286, filed July 19, 2013.	
	**DV	Provisional Application 61/856,374, filed July 19, 2013.	
	**DW	Provisional Application 61/891,626, filed on October 16, 2013.	
	**DX	Provisional Application 61/969,650, filed March 24, 2014.	
	**DY	Provisional Application 61/971,340, filed March 27, 2014.	
	**DZ	Riggs, et al., "The Thermal Stability of Nicotine Salts," R.J. Reynolds Tobacco Company, 2000.	
	**EA	Robertson, C., et al., "In their own words: an epoch of deceit and deception," Chapter 5 (find out from which book)	
	**EB	Rose, J., "Nicotine and nonnicotine factors in cigarette addiction," Psychopharmacology, 184:274-285, 2006.	
	**EC	Rose, J., "Pulmonary Delivery of Nicotine Pyruvate: Sensory and Pharmacokinetic Characteristics," Expermimental and Clinical Psychopharmacology, Vol. 18, No. 5, 2010.	
	**ED	Sahu, S.K., et al., "Particle Size Distribution of Mainstream and Exhaled Cigarette Smoke and Predictive Deposition in Human Repiratory Tract," Aerosol and Air Quality Research, 13: 324-332, 2013.	
	**EE	SCENIHR, "Addictiveness and Attractiveness of Tobacco Additives," Scientific Committee on Emerging and Newly Identified Health Risks, November 12, 2010.	
	**EF	Schripp, Tobias, et al. "Does e-cigarette consumption cause passive vaping?." Indoor air 23.1 (2013): 25-31.	
	**EG	Schroeder, Megan J., et al., "Electronic cigarettes and nicotine clinical pharmacology." Tobacco control 23.suppl 2 (2014): ii30-ii35.	
	**EH	Seeman et al.; The form of nicotine in tobacco. Thermal transfer of nicotine and nicotine acid salts to nicotine in the gas phase; J Aric Food Chem.; 47(12); pp. 5133-5145; Dec. 1999.	
	**EI	SEEMAN, et al., "The form of nicotine in tobacco. Thermal transfer of nicotine and nicotine acid salts to nicotine in the gas phase," J Aric Food Chem, 47(12), pp/ 5133-5145. December 1999.	
	**EJ	Seeman, J., "Possible Role of Ammonia on the Deposition, Retention, and Absorption of Nicotine in Humans while Smoking," Chemical Research in Toxicology, 20, 2007.	
	**EK	Seeman, J., "Using 'Basic Principles' to Understand Complex Science: Nicotine Smoke Chemistry and Literature Analogies," Journal of Chemical Education, Vol. 82, No. 10, 2005.	
	**EL	Seeman, J., et al., "On the Deposition of Volatiles and Semivolatiles from Cigarette Smoke Aerosols: Relative Rates of Transfer of Nicotine and Ammonia from Particles to the Gas Phase," Chemical Research in Toxicology, 17, 2004.	
	**EM	Seeman, J., et al., "The possible role of ammonia toxicity on the exposure, deposition, retention, and the bioavailability of nicotine during smoking," Food and Chemical Toxicology,	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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Sheet	27	of	28	Attorney Docket Number	

		46, 2008.	
	**EN	Sensabaugh, A.J., et al., "A New Technique for Determining the pH of Whole Tobacco Smoke," Tobacco Science.	
	**EO	Shahab, L., et al., "Novel Delivery Systems for Nicotine Replacement Therapy as an Aid to Smoking Cessation and for Harm Reduction: Rationale, and Evidence for Advantages over Existing Systems," CNS Drugs, 27: 1007-1019, 2013.	
	**EP	Snowdon, Christopher. "Harm reduction and tobacco: a new opportunity or a step too far?." Drugs and Alcohol Today 13.2 (2013): 86-91.	
	**EQ	STEPANOV, et al., "Bringing attention to e-cigarette pH as an important element for research and regulation", Tob. Control, May 14, 2014, Vol. 24, No. 4.	
	**ER	Stevenson, T., et al., "The Secret and Soul of Marlboro," Public Health Then and Now, American Journal of Public Health, Vol 98, No 7, 2008.	
	**ES	Teague, "Implications and Activites Arising from Correlation of Smoke pH with Nicotine Impact, Other Smoke Qualities and Cigarette Sales," 1983.	
	**ET	Tomar, S., et al., "Review of the evidence that pH is a determinant of nicotine dosage from oral use of smokeless tobacco," Tobacco Control, 6:219-225, 1997.	
	**EU	TORIKAI et al.; Effects of temperature, atmosphere and pH on the generation of smoke compounds duriung tobacco pyrolysis; Food and Chemical Toxicology; 42(9); pp. 1409-1417; September 2004	
	**EV	Torrie, B., "Nicotine inhaler gives instant 'hit'," 2 pages (2013), available at http://www.stuff.co.nz/national/health/8822875/Nicotine-inhaler-gives-instant-hit.	
	**EW	Travell, J., "The Influence of the Hydrogen Ion Concentration on the Absorption of Alkaloids from the Stomach," The Journal of Pharmacology, January 1940.	
	**EX	Trehy, Michael L., et al. "Analysis of electronic cigarette cartridges, refill solutions, and smoke for nicotine and nicotine related impurities." Journal of Liquid Chromatography & Related Technologies 34.14 (2011): 1442-1458.	
	**EY	Uchiyama, Shigehisa, et al. "Determination of carbonyl compounds generated from the E-cigarette using coupled silica cartridges impregnated with hydroquinone and 2, 4-dinitrophenylhydrazine, followed by high-performance liquid chromatography." Analytical sciences 29.12 (2013): 1219-1222.	
	**EZ	VANSICKEL et al.; A clinical laboratory model for evaluating the acute effects of electronic cigarettes: Nicotine delivery profile and cardiovascular and subjective effects; Cancer Epidemiology Biomarkers Prevention; 19(8); pp. 1945-1953; (online) July 20, 2010	
	**FA	Vansickel, Andrea R., et al. "A clinical laboratory model for evaluating the acute effects of electronic “cigarettes”: nicotine delivery profile and cardiovascular and subjective effects." Cancer Epidemiology and Prevention Biomarkers 19.8 (2010): 1945-1953.	
	**FB	Vansickel, Andrea Rae, et al., "Electronic cigarettes: effective nicotine delivery after acute administration." Nicotine & Tobacco Research 15.1 (2012): 267-270.	
	**FC	VANSICKEL, et al., "Electronic cigarettes: effective nicotine delivery after acute administration," Nicotine & Tobacco Research, 15(1), pp. 267-270. January 2013.	
	**FD	WARD; Green leaf threshing and redrying tobacco; Section 10B; in TOBACCO Production, Chemistry and Technology; Davis and Nielsen (Eds.); Blackwell Science Ltd.; pp. 330-333; July 15, 1999	
	**FE	Wayne, G., et al., "Brand differences of free-base nicotine delivery in cigarette smoke: the view of the tobacco industry documents," Tobacco Control, 15:189-198, 2006.	

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	**FF	Weiss, G., "The Effect of pH on Nicotine-Induced Contracture and Ca45 Movements in Frog Sartorius Muscle," The Journal of Pharmacology and Experimental Therapeutics, Vol. 154, No.3, 1966.	
	**FG	WELLS; Glycerin as a constituent of cosmetics and toilet preparations; Journal of the Society of Cosmetic Chemists; 9(1); pp. 19-25; January 1958	
	**FH	World Health Organization, :Health Effects of Interations Between Tobacco Use and Exposure to Other Agents," Environmental Health Criteria 211, 83 pages (1999), available at http://www.inchem.org/documents/ehc/ehc/ehc211.htm.	
	**FI	Wynn III, William P., et al. "The pharmacist "toolbox" for smoking cessation: a review of methods, medicines, and novel means to help patients along the path of smoking reduction to smoking cessation." Journal of pharmacy practice 25.6 (2012): 591-599.	
	**FJ	YouTube; Firefly Vaporizor Review w/ Usage Tips by The Vape Critic; retrieved from the internet (http://www.youtube.com/watch?v=1J38N0AV7wI); 1 pg.; published 12/10/2013; download/print date: 2/18/2015	
	**FK	Zenzen, Volker, et al. "Reduced exposure evaluation of an Electrically Heated Cigarette Smoking System. Part 2: Smoke chemistry and in vitro toxicological evaluation using smoking regimens reflecting human puffing behavior." Regulatory Toxicology and Pharmacology 64.2 (2012): S11-S34.	
	**FL	ZHANG et al.; In vitro particle size distributions in electronic and conventional cigarette aerosols suggest comparable deposition patterns; Nicotine Tobacco Research; 15(2); pp. 501-508; Feb 2013	
	**FM	Zhang, Yaping, et al., "In vitro particle size distributions in electronic and conventional cigarette aerosols suggest comparable deposition patterns." Nicotine & Tobacco Research 15.2 (2012): 501-508.	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/22/2023

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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L6	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L7	3248	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:18 AM
L8	2770	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:29 AM
L9	2382	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2023/03/22

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				08:30 AM
L10	1251	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L11	1249	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L12	157	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:33 AM
L13	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:34 AM

L14	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 09:16 AM
L15	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:52 PM
L16	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:55 PM
L17	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

		"20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR					

		"20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR					

		"20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L18	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR					

		"20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR					

		"4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR					

		"5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L19	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR					

		"9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L20	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR					

		"20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR					

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		"20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
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		"20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR					

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		"6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
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		"8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR					

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PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	Not Yet Assigned
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	2	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20060243290-A1	11-02-2006	Reich, Susan, et al.	
		US-20100260688-A1	10-14-2010	Warchol, et al.	
		US-20140217092-A1	08-07-2014	Kawka, et al.	
		US-20160174603-A1	06-23-2016	Abayarathna, et al.	
		US-9648905-B2	07/24/2014	Levitz et al.	
		US-20080138423-A1	06/12/2008	Gonda	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-101742985-A	06-16-2010	Kind Consumer Ltd.		
		CN-102316850-A	01-11-2012	Heglund A. S.		
		CN-102355914-A	02-15-2012	Philip Morris Prod		
		CN-102612361-A	07-25-2012	Univ Duke		
		CN-102892413-A	01-23-2013	Mcnell PPC Inc.		
		CN-102933199-A	02-13-2013	Niconovum USA. Inc.		
		CN-105263345-A	01-20-2016	Ploom Inc		
		CN-1541577-A	11-03-2004	Han Li		
		CN-1607950-A	04-20-2005	Pharmacia Ab		
		CN-1887126-A	01-03-2007	Nanjing Cigarette Factory		
		EP-0148749-A2	07-17-1985	Advanced Tobacco Products, Inc.		
		EP-1618803-A1	01-25-2006	Hon, Lik		
		JP-2006524494-A	11-02-2006	Hon, Lik		
		JP-2010531188-A	09-24-2010	Kind Consumer Limited		
		JP-2010532672-A	10-14-2010	Fulbright & Jaworski, LLP		
		JP-2013505240-A	02-14-2013	Duke University		
		JP-2016513030-A	05-12-2016	E I Du Pont De Nemours And Company		
		JP-S61254170-A	11-11-1986	Advanced Tobacco Prod Inc		
		KR-20100034029-A	03-31-2010	Kind Consumer Limited		
		MX-2015015175-A	01-12-2016	Pax Labs, Inc.		
		RU-94815-U1	06-10-2010	Ebchokob		X
		WO-2011034723-A1	03-24-2011	Duke University		
		WO-2011109849-A1	09-15-2011	Buchberger, Helmut		
		WO-2013013808-A1	01-31-2013	Buchberger, Helmut		
		WO-2013088230-A1	06-20-2013	Dks Aromatic S.R.L.		
		WO-2014182736-A1	11-13-2014	Ploom, Inc.		
		WO-2015084544-A1	06-11-2015	Ploom, Inc.		
		WO-2015148649-A2	10-01-2015	Rigas Basil		

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	Not Yet Assigned
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	2	of	2	Attorney Docket Number	062210-501C04US

		WO-2015167629-A1	11-05-2015	Altria Client Services Inc.		
		EP-1618803-B1	12/03/2008	Best Partners Worldwide Ltd		
		EP-2022349-A1	02/11/2009	Fontem Holdings 1 B.v.		
		EP-2022350-A1	02/11/2009	Han, Li		
		EP-3214957-B1	09/13/2017	Nicoventures Trading Limited, Gb		
		JP-6877141-B2	12/22/2016	Juul Labs, Inc.		
		JP-H02145179-A	06/04/1990	Hercules Inc		
		WO-2006082571-A1	08/10/2006	Oglesby & Butler Research & Development Limited		
		WO-2009079641-A2	06/25/2009	Ploom, Inc.		
		WO-2012134380-A1	10/04/2012	Chill Of Sweden Ab		
		WO-2013116558-A1	08/08/2013	Altria Client Services Inc.		
		WO-2013116561-A1	08/08/2013	Altria Client Services Inc.		
		WO-9712639-A1	04/10/1997	Slutsky, Arthur; Zamel, Noe		

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		BURN and RAND, Action of Nicotine on the Heart, British Medical Journal, pages 137-139 (January 18, 1958).	
		E-CIGARETTE FORUM: pg-gv-peg (discussion/posting); retrived from the internet: https://e-cigarette-forum.com/forum/threads/pg-vg-peg.177551, 7 pages (April 8, 2011).	
		Notice of Opposition to European Patent No. 2 993 999 B1 by JT International S.A., 38 pages (October 26, 2021)	
		Notice of Opposition to European Patent No. 2 993 999 B1 by Nicoventures Trading Limited, 26 pages (October 26, 2021)	
		Notice of Opposition to European Patent No. 2 993 999 B1 by Philip Morris Products S.A., 22 pages (October 27, 2021)	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/22/2023

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Bibliographic Data

Application No: 17/171,976

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /DIONNE W. MAYES/ Examiner's Signature | Initials

Title: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/09/2021	131	1747	62210-501C04US
RULE			

APPLICANTS

JUUL Labs, Inc., San Francisco, CA,

INVENTORS

Adam Bowen, San Francisco, CA, UNITED STATES

Chenyue XING, San Francisco, CA, UNITED STATES

CONTINUING DATA

This application is a CON of 14925961 10/28/2015 PAT 10952468

14925961 is a CON of 14271071 05/06/2014ABN

14271071 has PRO of 61912507 12/05/2013

14271071 has PRO of 61820128 05/06/2013

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

03/11/2021

STATE OR COUNTRY

UNITED STATES

ADDRESS

Mintz/JUUL

One Financial Center

Boston, MA 02111

UNITED STATES

FILING FEE RECEIVED

$1,820

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	Not Yet Assigned
(Use as many sheets as necessary)				Examiner Name	Not Yet Assigned
Sheet	1	of	1	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20090023819-A1	01-22-2009	Axelsson	
		US-20110005535-A1	01-13-2011	Xiu	
		US-20120291791-A1	11-22-2012	Pradeep	
		US-10463069-B2	11-05-2019	Bowen et al	
		US-11510433-B2	11-29-2022	Bowen et al	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-101756352-A	06-30-2010	Technical Institute of Physics and Chemistry of CAS		X
		JP-2009108082-A	05-21-2009	Targacept, Inc.		
		WO-2004002446-A1	01-08-2004	Soderlund et al		
		WO-2006053082-A2	05-18-2006	Targacept, Inc.		

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Preliminary Opinion of the Opposition Division to the Oppositions in European Patent No. 2 993 999 B1, 17 pages (August 30, 2022)	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/22/2023

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on July 26, 2023.

PATENT
Attorney Docket No.:062210-501C04US

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: 1747

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Dionne Walls MAYES

By EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This Response and Amendment is submitted in reply to the Non-Final Office Action dated March 28, 2023, for which a response is due July 28, 2023, with a one-month extension of time.

Amendments to the Specification begin on page 2

Amendments to the Drawings begin on page 3.

Amendments to the Claims begin on page 4.

Remarks begin on page 7.

Amendments to the Specification:

Replace paragraph [0001] with the following:

[0001] This application **is a continuation of US Application No. 14/925,961 filed October 28, 2015, issued as US Patent No. 10,952,468, which is a continuation of US Application No. 14/271,071 filed May 6, 2014, abandoned, which claims the benefit of priority to US Application No. 61/912,507 filed December 5, 2013, and US Application No. 61/820,128 filed May 6, 2013,** ~~**U.S. Provisional Patent Application Serial No. 61/820,128, filed May 6, 2013, and U.S. Provisional Patent Application Serial No. 61/912,507, filed December 5, 2013,**~~ which are incorporated herein by reference in their entireties. **This application is related to US Application No. 14/512,311, issued as US Patent No. 9,215,895, and to US Application No. 14/925,968, abandoned.**

Amendments to the Drawings

Submitted herewith are three (3) Replacement Sheets of FIGS. 1-3.

Amendments to the Claims

The following Listing of Claims replaces all prior versions and listings of the claims.

Listing of Claims

1-104. (Canceled)

105. (Currently Amended) A cartridge of an electronic cigarette, the cartridge comprising a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; ~~and~~

(c) the liquid carrier comprises glycerol and propylene glycol; and

(d)~~**(c)**~~ the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

106. (Currently Amended) The cartridge of claim 105, wherein the liquid carrier **further** comprises ~~**glycerol, propylene glycol, trimethylene glycol,**~~ water~~**, ethanol or combinations thereof**~~.

107. (Canceled) ~~The cartridge of claim 106, wherein the liquid carrier comprises propylene glycol and glycerol.~~

108. (Previously Presented) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

109. (Previously Presented) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

110. (Previously Presented) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

111. (Previously Presented) The cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

112. (Previously Presented) The cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises a flavorant.

113. (Previously Presented) The cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

114. (Previously Presented) An electronic cigarette comprising the cartridge of claim 105.

115. (Currently Amended) A method of providing nicotine to a user, the method comprising:

(a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and

(b) inhalation of the aerosol by the user; ~~**wherein:**~~

wherein:

(i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier; ~~**and**~~

(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation**; and**

(iii) the liquid carrier comprises glycerol and propylene glycol.

116. (Currently Amended) The method of claim 115, wherein the liquid carrier **further** comprises ~~**glycerol, propylene glycol, trimethylene glycol,**~~ water~~**, ethanol or combinations thereof**~~.

117. (Canceled) ~~The method of claim 116, wherein the liquid carrier comprises propylene glycol and glycerol.~~

118. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

119. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

120. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

121. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

122. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises a flavorant.

123. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

124. (Previously Presented) The method of claim 115, wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

Remarks

After entry of the amendment, claims 105, 106, 108-116, and 118-124 are pending.

Claim 105 has been amended to include the subject matter of claim 107.

Claim 106 has been amended and remains supported by the specification.

Claim 107 is canceled.

Claim 115 has been reformatted and amended to include the subject matter of claim 117.

Claim 116 has been amended and remains supported by the specification.

Claim 117 is canceled.

No issues of new matter arise.

Nonstatutory Double Patenting

Claims 115-124 re rejected on the ground of nonstatutory double patenting over claims 1, 10, 11, and 15 of US Patent No. 10,463,069.

Claims 105-124 re rejected on the ground of nonstatutory double patenting over claims 1, 4, 8, 11, 12, and 14 of US Patent No. 10,952,468.

Claims 105-113 and 115-124 re rejected on the ground of nonstatutory double patenting over claims 6, 10, and 16 of US Patent No. 9,215,895.

Applicant traverses. Applicant respectfully requests that the rejections be held in abeyance pending a finding of allowable subject matter.

Rejection under 35 USC § 103

Claims 105-124 are rejected under 35 USC § 103 as obvious over Sebastian (US 2014/0000638) and Lechuga-Ballesteros (US 2006/0018840)[1].

Applicant respectfully traverses the rejection and respectfully submits that the skilled artisan would not arrive at the present claims based on the teachings in Sebastian and Lechuga-Ballesteros. For example, the skilled artisan would not reasonably be motivated to replace the "nicotine" of Sebastian with the "nicotine salt" of Lechuga-Ballesteros as alleged by the Office.[2] Moreover, Sebastian and Lechuga-Ballesteros do not reasonably motivate the skilled artisan to select benzoic

[1] In a telephone call with the undersigned on June 27, 2023, the Examiner informed the undersigned that the correct publication number for the Lechuga-Ballesteros reference was US 2006/0018840, and not the publication number set forth in the Office Action.
[2] Office Action at pages 12 and 16.

acid as required in the pending claims.

State of the Art: Nicotine Free Base Used in Electronic Cigarettes

At the time the present application was filed, the conventional wisdom in the art was that optimum nicotine absorption for pulmonary delivery in an electronic cigarette occurred in nicotine formulations having a basic pH, i.e., having nicotine predominantly in the free base form. Thus, electronic cigarettes should be formulated with a basic pH in order to increase the nicotine free base in the formulations. El-Hellani et al, Chem Res Toxicol, 28(8):1532-1537 (2015) (nicotine free-base is thought to be the only form that diffuses through epithelial tissues in the human body. Thus, all else being equal, electronic cigarettes with a higher proportion of nicotine free base will increase the rate of uptake of nicotine by the user's body (at first page, paragraph bridging left and right columns)).

The present application discloses the surprising benefits of formulating nicotine as a nicotine salt liquid formulation for delivery in an electronic cigarette. Applicant discovered, *inter alia*, that a nicotine salt of benzoic acid and nicotine in an electronic cigarette produced a rapid onset peak increase in heart rate relative to the absence of benzoic acid. *See, e.g.,* FIG. 1 of the present application. The link between benzoic acid and its ability to increase a physiological effect of nicotine (such as an increase in heart rate) was unknown before Applicant's invention.

The present application describes results showing "a difference in rate of nicotine uptake in the blood that is higher for some nicotine salt formulations aerosolized by an electronic cigarette than for other nicotine salt formulations, and likewise higher than nicotine freebase formulations." (para. [0051]). Nicotine salts formed from "nicotine and benzoic acid … are salts that produce a satisfaction in an individual user consistent with efficient transfer of nicotine and a rapid rise in nicotine plasma levels." (paragraph [0068]; see also [0093], [0102], FIGS. 1, 2, 4).

Nicotine salts of nicotine and benzoic acid are identified as among these "certain nicotine salt formulations" providing superior technical effects (see, e.g., para. [0055], [0068], [0093], FIG. 1). The experimental data in the present application show "a difference in rate of nicotine uptake in the blood that is higher for some nicotine salt formulations aerosolized by an electronic cigarette than for other nicotine salt formulations, and likewise higher than nicotine freebase formulations." (application at [0051]). The unexpected superiority of a nicotine salt of nicotine and benzoic acid formulations over comparable freebase formulations in an electronic cigarette is demonstrated in,

e.g., FIGS. 1, 2, and 4. In addition, Table 3 provides comparative data for the rate of nicotine uptake in an electronic cigarette containing 2% nicotine and benzoic acid, 4% nicotine and benzoic acid, 2% nicotine freebase, and a Pall Mall conventional cigarette as a reference, as reproduced (in part) below.

Sample	Rate of Nicotine Uptake (ng/mL/min)
4% nicotine benzoate in electronic cigarette	4.01
2% nicotine benzoate in electronic cigarette	3.78
2% nicotine freebase in electronic cigarette	0.05
Pall Mall conventional cigarette (reference)	1.03

With the common knowledge in the art that electronic cigarettes should be formulated with a basic pH in order to increase the nicotine free base in the formulations, the present application discloses the surprising benefits of formulating nicotine as a salt for delivery in an electronic cigarette. Applicant discovered, *inter alia*, that a salt of nicotine and benzoic acid in an electronic cigarette produced a rapid onset peak increase in heart rate relative to the absence of benzoic acid. *See, e.g.,* Table 3 and FIG. 1 of the present application. The link between a salt of nicotine and benzoic acid and its ability to increase a physiological effect of nicotine (such as an increase in heart rate) was unknown before Applicant's invention.

Thus, Applicant surprisingly discovered that nicotine salt liquid formulations containing a salt of nicotine and an organic acid, such as benzoic acid, in electronic cigarettes provided comparable pharmacokinetic results to traditional cigarettes. This discovery was contrary to the common knowledge in the art at the time that free base nicotine was preferred for use in electronic cigarettes.

Sebastian and Lechuga-Ballesteros

Applicant respectfully submits that Sebastian and Lechuga-Ballesteros do not appreciate Applicant's discovery described above.

Sebastian describes formulations that contain nicotine in the form of nicotine free base, which is consistent with the knowledge in the art at the time that nicotine free base was the preferred form for delivery of nicotine in an electronic cigarette. Sebastian does not provide any

motivation or suggestion contrary to this conventional wisdom. Indeed, Sebastian equates flavoring agents such as mint, nutmeg, clove, and lavender with organic acids as compounds that can affect the flavor and organoleptic properties of nicotine. Sebastian at [0059]. In view thereof, the skilled artisan would not have been motivated to modify Sebastian to use the presently claimed nicotine salt liquid formulation.

When considering the teachings in Sebastian, the skilled artisan would have no motivation to look to Lechuga-Ballesteros to modify the formulation in Sebastian because the devices and the formulations are not interchangeable. Sebastian describes an electronic smoking article, while Lechuga-Ballesteros describes a pressurized metered dose inhaler. At [0031], Lechuga-Ballesteros teaches that a metered dose inhaler is:

> "an inhalation delivery system typically comprising … a canister containing *an active agent dissolved or suspended in a propellant* optionally with one or more excipients, a metered dose valve and actuator, and a mouthpiece. … The canister, which is often metal, keeps the *medication under pressure*. When the actuator is depressed a metered dose of the compound is aerosolized for inhalation. Particles comprising the compound of interest are propelled toward the mouthpiece where they may be inhaled by a user. MDI's are sometimes referred to as *pressurized* Metered Dose Inhalers, pMDI."

The pressurized metered dose inhaler described in Lechuga-Ballesteros is a significantly different device that operates by different principles than the electronic smoking article described in Sebastian. The devices are so different that the skilled artisan would not reasonably believe that a formulation developed for the pressurized metered dose inhaler of Lechuga-Ballesteros could be used in the electronic smoking article of Sebastian. In other words, a nicotine formulation that is heated for use in an electronic smoking article, such as Sebastian, is not interchangeable with a nicotine formulation that is pressurized for use in a metered dose inhaler, such as Lechuga-Ballesteros. In particular, Lechuga-Ballesteros:

- Uses a propellant as the primary component of the formulation,
- Optimizes the components (e.g., nicotine, co-solvent) for their use with a propellant, and
- Uses a co-solvent for the purpose of solubilizing the nicotine in the propellant and not as a carrier for the nicotine.

Lechuga-Ballesteros uses a propellant as the primary component of the formulation.

The nicotine formulation in Lechuga-Ballesteros contains 75 wt% or more of a propellant

(Lechuga-Ballesteros at [0041]). The examples in Table 1 of Lechuga-Ballesteros use 97.6 wt% to 99.7 wt% of the propellant HFA 134a. Because a propellant is the primary and critical component of the pressurized metered dose inhaler described in Lechuga-Ballesteros, the skilled artisan would appreciate that a formulation containing a propellant could not be used in the electronic smoking article of Sebastian. Indeed, if the propellant was heated in an electronic smoking article, it would likely explode. The fact that the primary component of the formulation in Lechuga-Ballesteros would explode if used in an electronic smoking article is clear evidence that the skilled artisan would not be motivated to look to the components of the formulation described in Lechuga-Ballesteros to develop or modify a formulation used in the electronic smoking article of Sebastian.

Lechuga-Ballesteros optimizes the components for their use with a propellant.

The devices in Lechuga-Ballesteros and Sebastian operate by different principles (e.g., pressurized propellant to deliver nicotine vs. heating a liquid nicotine formulation), thus requiring different formulations for use. The components of the formulation in Lechuga-Ballesteros, including nicotine, organic acid, and co-solvent, were optimized for use in conjunction with a propellant as the primary component of the formulation and were optimized for use in a pressurized metered dose inhaler. Lechuga-Ballesteros provides no optimization of the components for use in an electronic cigarette and the skilled artisan could not reasonably predict how a formulation designed for use in a pressurized metered dose inhaler could be modified for use in an electronic cigarette. If the propellant was removed from the formulation in Lechuga-Ballesteros, the skilled artisan could not reasonably predict how the nicotine, organic acid, and co-solvent would behave in the absence of the propellant. Indeed, the skilled artisan could not reasonably predict whether the nicotine, organic acid, and co-solvent would provide for a "more palatable delivery of nicotine in a liquid formulation" used in an electronic cigarette[3] because there is no evidence how the nicotine, organic acid, and co-solvent would behave in the presence of other compounds that would be needed to replace the propellant; how the nicotine, organic acid, and co-solvent would behave if they were heated; or how the nicotine, organic acid, and co-solvent would behave if they were used in the electronic smoking article of Sebastian. Indeed, the skilled artisan could not merely remove the primary component (propellant) from the formulation described in Lechuga-Ballesteros and have

[3] Office Action at pages 11 and 12.

any reasonable understanding how the remaining components would have to be optimized for use in the electronic smoking article of Sebastian.

Lechuga-Ballesteros uses a co-solvent to solubilize nicotine in the propellant

The co-solvent in Lechuga-Ballesteros is used for a completely different purpose than the liquid carrier used in an electronic cigarette (such as the presently claimed liquid carrier comprising glycerol and propylene glycol). Lechuga-Ballesteros contains the co-solvent to dissolve compounds in the propellant, to lower the vapor pressure of the propellant, and to promote miscibility between the propellant and immiscible solvents. Lechuga-Ballesteros at [0034]. Thus, Lechuga-Ballesteros implicitly teaches that the co-solvent is a necessary component of the formulation because the formulation contains the propellant, which is not applicable to an electronic cigarette. As such, the co-solvent is used to optimize the interactions between the propellant and the other components in the formulation, including the nicotine and organic acid. In contrast, a formulation for use in an electronic cigarette contains glycerol and propylene glycol as a liquid carrier for the salt of nicotine and benzoic acid. Thus, the co-solvent in Lechuga-Ballesteros is used for different purpose than the liquid carrier in the electronic smoking article of Sebastian. Because they are used for different purposes, the reason for optimizing the co-solvent for the formulation in Lechuga-Ballesteros is different than the reason for optimizing a co-solvent as a liquid carrier. Lechuga-Ballesteros does not provide any teaching how to modify the compounds therein for use in an electronic cigarette.

At [0034], Lechuga-Ballesteros teaches that exemplary co-solvents include alcohols, e.g., ethanol and isopropyl alcohol, and propylene glycol. At [0045], Lechuga-Ballesteros teaches that the co-solvent is typically propanol, isopropanol, or ethanol. All the examples in Lechuga-Ballesteros use ethanol as the co-solvent. Lechuga-Ballesteros at [0045], [0050], [0075], [0092]. To the extent the formulation in Lechuga-Ballesteros has any relevance to a formulation used in an electronic cigarette, the skilled artisan would be motivated to use an alcohol, such as propanol, isopropanol, or ethanol, as the co-solvent. The skilled artisan would not be motivated to use propylene glycol and glycerol as a liquid carrier, as required in the pending claims.

Assuming, *arguendo*, that the skilled artisan was motivated to use propylene glycol as the co-solvent, Lechuga-Ballesteros teaches that only a small amount of co-solvent should be used in the formulation. Indeed, Lechuga-Ballesteros provides experimental data showing that the formulations preferably contain the co-solvent ethanol at concentrations less than 4 wt%. Lechuga-

Ballesteros at [0095], [0100]. Lechuga-Ballesteros provides experimental data showing that when concentrations up to 9 wt% of the co-solvent ethanol are used, it causes a decrease in the percent fine particles dose (%FPD), increased throat deposition, and increased particle size. Based on this experimental data, Lechuga-Ballesteros concludes that formulations having the co-solvent ethanol at levels less than 4 wt% have more desirable therapeutic delivery properties. Lechuga-Ballesteros at [0095]. This data demonstrates that the components of the formulation in Lechuga-Ballesteros are optimized for use with a propellant in the pressurized metered dose inhaler of Lechuga-Ballesteros. Because Lechuga-Ballesteros teaches that lower amounts of the co-solvent provide better results, the skilled artisan would not be motivated to use a co-solvent as a liquid carrier for nicotine in the electronic smoking article of Sebastian.

For at least the reasons described above, the skilled artisan would not be motivated to modify the formulations described for the electronic smoking article in Sebastian based on the unrelated teachings of the formulation for use in pressurized metered dose inhaler described in Lechuga-Ballesteros. Indeed, the teachings in Sebastian and Lechuga-Ballesteros are so different that the skilled artisan would not reasonably believe that they could simply replace the "nicotine" of Sebastian with the "nicotine salt" of Lechuga-Ballesteros, as alleged by the Office.

To summarize, at the time the invention was made, the conventional wisdom in the art was that optimum nicotine absorption for pulmonary delivery in an electronic cigarette occurred in nicotine formulations containing free-base nicotine. Contrary to conventional wisdom, Applicant surprisingly discovered that formulations containing salts of nicotine and benzoic acid in electronic cigarettes provided pK parameters more similar to traditional cigarettes than formulations containing nicotine free base or formulations containing salts of nicotine and citric acid. The skilled artisan would not reasonably have arrived at these findings based on the teachings in Sebastian and Lechuga-Ballesteros.

Again, Sebastian is directed to an electronic smoking article, while Lechuga-Ballesteros is directed to a pressurized metered dose inhaler. The skilled artisan would recognize that the devices are not interchangeable. Because the devices are not interchangeable, the skilled artisan would appreciate that the formulations are not interchangeable. Accordingly, the skilled artisan looking to improve the formulation described in Sebastian would not look to the formulation described in Lechuga-Ballesteros which has been optimized for delivery via pressurized metered dose inhaler. Moreover, the components in the formulation of Lechuga-Ballesteros are significantly different and

the co-solvent used in Lechuga-Ballesteros is used for a different purpose than the liquid carrier used in an electronic cigarette. In particular, Lechuga-Ballesteros uses a propellant as the primary component of the formulation, optimizes the components (e.g., nicotine, co-solvent) for their use with a propellant, and provides data showing that a small amount of the co-solvent is necessary to obtain optimal results in the pressurized metered inhaler device.

For at least these reasons, the present claims are unobvious over Sebastian and Lechuga-Ballesteros, and Applicant respectfully requests withdrawal of the rejection.

Conclusion

The Commissioner is authorized to charge any necessary fees due in connection with the filing of this paper, including any required extension of time fees, or credit any overpayment to Deposit Account Number 50-0311, referencing US Application No. 17/171,976.

If the Examiner believes a telephone conference would expedite prosecution of this application, please contact the undersigned at (858) 314-1898.

Respectfully submitted,

/Edward D. Grieff/

Dated: July 26, 2023

Edward D. Grieff
Registration No. 38898

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

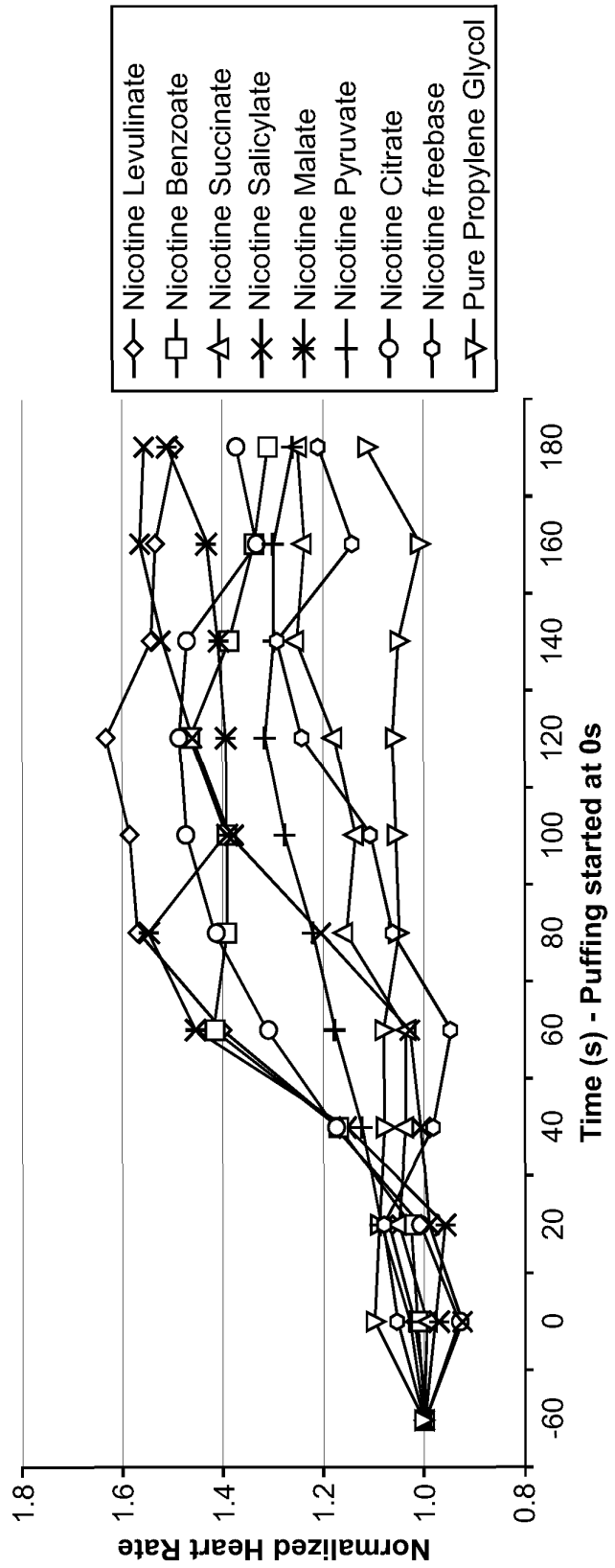

Nicotine Levulinate
Nicotine Benzoate
Nicotine Succinate
Nicotine Salicylate
Nicotine Malate
Nicotine Pyruvate
Nicotine Citrate
Nicotine freebase
Pure Propylene Glycol
Normalized Heart Rate
0.8
1.0
1.2
1.4
1.6
1.8
Time (s) - Puffing started at 0s
-60
0
20
40
60
80
100
120
140
160
180

FIG. 1

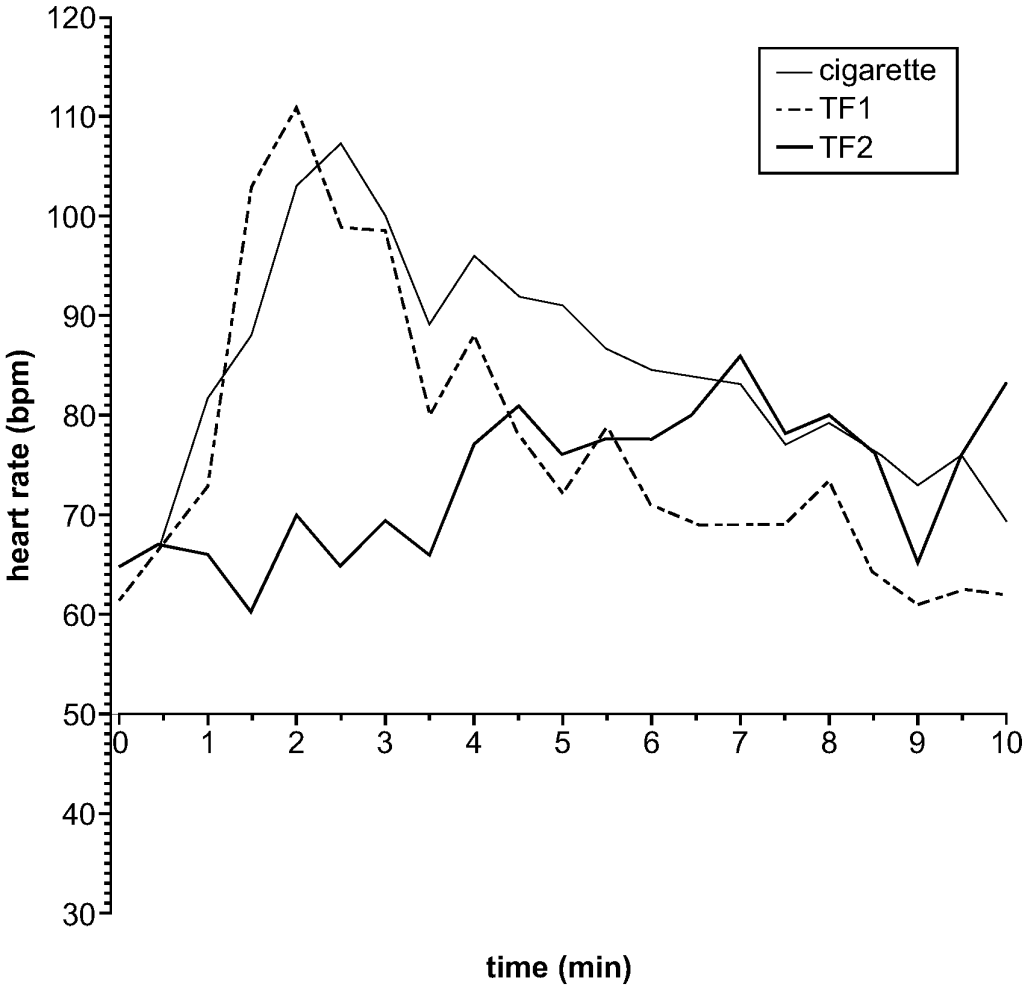

120
110
100
90
80
70
60
50
40
30
heart rate (bpm)
0
1
2
3
4
5
6
7
8
9
10
time (min)
cigarette
TF1
TF2

FIG. 2

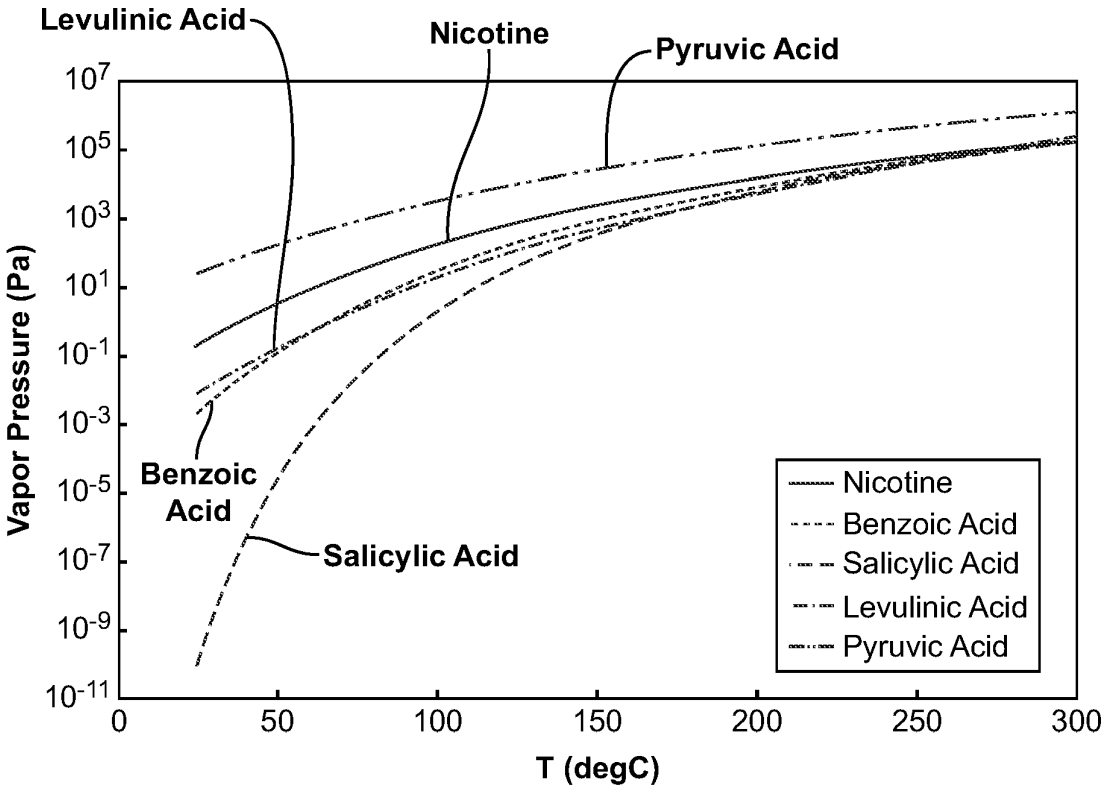

Levulinic Acid
Nicotine
Pyruvic Acid
Benzoic Acid
Salicylic Acid
Vapor Pressure (Pa)
10^7
10^5
10^3
10^1
10^-1
10^-3
10^-5
10^-7
10^-9
10^-11
0
50
100
150
200
250
300
T (degC)
Nicotine
Benzoic Acid
Salicylic Acid
Levulinic Acid
Pyruvic Acid

FIG. 3

Electronic Patent Application Fee Transmittal

Application Number:	17171976
Filing Date:	09-Feb-2021
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Filer:	Edward D. Grieff./Luis Jaramillo
Attorney Docket Number:	62210-501C04US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	220	220
Miscellaneous:				
			Total in USD ($)	**220**

Electronic Acknowledgement Receipt

EFS ID:	48352587
Application Number:	17171976
International Application Number:	
Confirmation Number:	1080
Title of Invention:	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
First Named Inventor/Applicant Name:	Adam Bowen
Customer Number:	148514
Filer:	Edward D. Grieff./Luis Jaramillo
Filer Authorized By:	Edward D. Grieff.
Attorney Docket Number:	62210-501C04US
Receipt Date:	26-JUL-2023
Filing Date:	09-FEB-2021
Time Stamp:	17:35:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$220
RAM confirmation Number	E20237PH36316911
Deposit Account	500311
Authorized User	Luis Jaramillo
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		062210-501C04US_Response_NFOA.pdf	231261 14e50cccdfbaacb7c14f4fc99e696fbb9485114b	yes	14

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Request for Reconsideration-After Non-Final Rejection	1	1
Specification	2	2
Drawings-other than black and white line drawings	3	3
Claims	4	6
Applicant Arguments/Remarks Made in an Amendment	7	14

Warnings:

Information:

2	Drawings-other than black and white line drawings	062210-501C04US_Replacement_Sheet_1-3.pdf	92544 2e993412f8a746061492e752fb0865358bbda95b	no	3

Warnings:

Information:

3	Non Patent Literature	E-Hallani_2015.pdf	6007497 43dd16a5fe9c398ab6736882132c08f0782e48d1	no	13

Warnings:

Information:

4	Fee Worksheet (SB06)	fee-info.pdf	38321 32aaea5737012975c48e54a7c760dfd332967628	no	2

Warnings:

Information:

Total Files Size (in bytes):	6369623

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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DocCode - SCORE

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Application Number: 17171976 Document Date: 07/26/2023

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/171,976	Filing Date 02/09/2021	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	07/26/2023	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/DORIS M BURNS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	62210-501C04US	1080

148514 7590 10/24/2023

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER	
MAYES, DIONNE WALLS	
ART UNIT	**PAPER NUMBER**
1747	
NOTIFICATION DATE	**DELIVERY MODE**
10/24/2023	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDocketingBOS@mintz.com
IPFileroombos@mintz.com
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PTOL-90A (Rev. 04/07)

Office Action Summary	**Application No.** 17/171,976	**Applicant(s)** Bowen et al.	
	Examiner DIONNE W MAYES	**Art Unit** 1747	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 7/26/2023.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 105-106,108-116 and 118-124 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 105-106,108-116 and 118-124 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

3. Claims 105-106, 108-116, and 118-124 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1, 4, 8, 11-12 and 14, of Bowen ‘468 (U.S. Pat. No. 10,952,468). Although the claims at issue are not identical, they are not patentably distinct from each other because:

Regarding independent claims 105, 114, and dependent claims 108-111, independent claims 1 and 14 of Bowen ‘468 generally encompass that of the instant claims because its electronic cigarette features directly corresponds to those of the instantly claimed cartridge/electronic cigarette, since a salt of nicotine and benzoic acid is included in a nicotine salt liquid formulation (containing glycerol and propylene glycol) such that nicotine is provided at a concentration of from about 3-15% (w/w) - which lies within, overlaps, or is the same as, the nicotine concentration range that is instantly claimed.

Regarding claim 106, the corresponding claims of Bowen ‘468 fail to recite that the liquid carrier further comprises water; however, water is a conventionally-known liquid carrier, so it would have been obvious to one of ordinary skill in the art to have included this substance, along with the other liquid components, in the claimed liquid formulation of Bowen ‘468.

Regarding claim 112, claim 4 of Bowen ‘468, recites that the nicotine salt liquid formulation further comprises a flavorant, as is instantly claimed.

Regarding claim 113, while Bowen ‘468 does not states that its liquid nicotine formulation further comprises additional organic acids, it would have been obvious to one of ordinary skill in the art to have included such and acid, like “citric acid”, since this is a conventionally-used flavorant in the tobacco art.

Regarding independent claim 115, and dependent claims 118-121, independent claim 8 of Bowen ‘468 generally encompasses that of the instant claims because its steps for providing nicotine to a user, using an electronic cigarette, directly correspond to the steps of the instantly claimed method of providing nicotine to a user, as a salt of nicotine and benzoic acid is provided in a nicotine liquid formulation which includes glycerol and propylene glycol, such that nicotine is provided at a concentration of from 3-15% (w/w) - which lies within, overlaps, or is the same as the nicotine concentration range that is instantly claimed.

Regarding claim 116, the corresponding claims of Bowen ‘468 fail to recite that the liquid carrier further comprises water; however, water is a conventionally-known liquid carrier, so it would have been obvious to one of

ordinary skill in the art to have included this substance, along with the other liquid components, in the claimed liquid formulation of Bowen '468.

Regarding claim 122, claim 11 of Bowen '468 recites that the liquid nicotine formulation includes a "flavorant", as is instantly claimed.

Regarding claim 123, while Bowen '468 does not states that its liquid nicotine formulation further comprises additional organic acids, it would have been obvious to one of ordinary skill in the art to have included such and acid, like "citric acid", since this is a conventionally-used flavorant in the tobacco art.

Regarding claim 124, claim 12 of Bowen '468 recites that its electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation, as is instantly claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

7. Claims 105-111 and 113 are rejected under 35 U.S.C. 103 as being unpatentable over Lechuga-Ballesteros et al (US. Pat App. Pub. 2006/0018840).

Regarding independent claim 105, Lechuga-Ballesteros et al discloses an aerosolizable formulation comprising nicotine, the aerosolized components of which can be administered by inhalation through the mouth via a metered dose inhaler (read: cartridge). It further teaches a more palatable delivery of nicotine in a liquid formulation, as it discloses the use

of numerous suitable acids, including benzoic acid, to react with nicotine to form a nicotine salt in solution (see paras. [0040]-[0042])(corresponding to the claimed "[a] cartridge…the cartridge comprising a nicotine salt liquid formulation, wherein: (a) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier").

Lechuga-Ballesteros et al further discloses that the nicotine in its liquid formulation may be from about 0.01 to about 5 weight percent of the aerosol solution formulation (see para. [0041]). While this does not directly correspond to the claimed nicotine concentrations, it *does* overlap said claimed ranges. Applicant is reminded that in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976). See MPEP 2144.05. Hence, it would have been obvious to one of ordinary skill in the art to have chosen to provide the nicotine salt (in the liquid formulation) in such an amount that the claimed nicotine ranges are provided in order to ensure a sufficient amount of nicotine is delivered to the user upon aerosolization of the liquid formulation of Lechuga-Ballesteros (corresponding to the claimed "the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation"; the "the salt is present in an amount that

forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation" recitation of claim 108; the "the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation" recitation of claim 109; the "the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation" recitation of claim 110; and the "the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation" recitation of claim 111).

Also, Lechuga-Ballesteros et al discloses that its liquid nicotine salt formulation may include a co-solvent which comprises any number of substances, including propylene glycol, glycerol and mixtures thereof (see para. [0045]) (corresponding to the claimed "the liquid carrier comprises glycerol and propylene glycol").

Lastly, it is clear that the liquid nicotine salt formulation of Lechuga-Ballesteros et al generates an inhalable aerosol when delivered for inhalation to a user (see abstract), but Lechuga-Ballesteros et al fails to indicate that is formulation is for use "in an electronic cigarette", as indicated in the preamble of the claim, and it further fails to states that its liquid nicotine salt formulation generates an inhalable aerosol "upon

heating in the electronic cigarette". However, Applicant is reminded that it has not actually *claimed* an electronic cigarette, but merely a cartridge for use in an electronic cigarette. Hence, the "cartridge *of an electronic cigarette*" recitation in the instant preamble is not deemed to differentiate the claimed invention from the invention disclosed in Lechuga-Ballesteros et al since it has been held that when the preamble states a purpose or intended use for the invention, it is not limiting; it merely indicates the environment in which the claimed invention operates (*Loctite Corp. v. Ultraseal Ltd.*, 228 USPQ 90, 94). Since Lechuga-Ballesteros et al teaches the structural limitations of independent claim 105, and since Applicant has not positively-claimed/recited "an electronic cigarette", the intended use recitation in the preamble is not limiting. Further, the recitation that "the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette" is *also* non-limiting either because it does not confer any further physical features of the claimed cartridge or its nicotine salt liquid formulation contents. (Note that while the liquid formulation of Lechuga-Ballesteros et al is designed to aerosolize without being heated (i.e., in a metered dose inhaler), it certainly would also be capable of generating aerosol upon heating, be it in an electronic cigarette or any other device).

Regarding claim 106, Lechuga-Ballesteros et al discloses that, in one version of its invention, its nicotine salt liquid formulation is *substantially* free of added water (see para. [0049]), which can be interpreted to mean that there is, at least, *some* water present (corresponding to the claimed "wherein the liquid carrier further comprises water").

Regarding claim 113, Lechuga-Ballesteros et al discloses that more than one organic acid may be combined in the liquid formulation of its invention (see para. [0042]). Hence, it would have been obvious to one of ordinary skill in the art to have added, in addition to benzoic acid, other organic acids that are envisioned by Lechuga-Ballesteros et al, including citric acid (corresponding to the claimed "wherein the nicotine salt liquid formulation further comprises one or more additional organic acids").

8. Claim 112 is rejected under 35 U.S.C. 103 as being unpatentable over Lechuga-Ballesteros et al (US. Pat App. Pub. 2006/0018840) in view of Barker (US. Pat. App. Pub. 2004/0168950).

Regarding claim 112, while Lechuga-Ballesteros et al discloses that its liquid nicotine salt formulation may include one or more excipients (see para. [0035]), a "flavorant" is not listed as one of them. However, the Barker reference shows that "flavorings" are known excipients in liquid

formulations provided in metered dose inhalers (see para. [0019]) hence it would have been obvious to one of ordinary skill in the art to have provide such a substance in the liquid formulation of Lechuga-Ballesteros et al in order to improve the organoleptic experience for the user (corresponding to the claimed “wherein the nicotine salt liquid formulation further comprises a flavorant”).

Allowable Subject Matter

9. Notwithstanding the Double Patenting Rejection presented above, claims 114-116 and 118-124 contain allowable subject matter. The following is a statement of reasons for the indication of allowable subject matter:

-The prior art neither teaches not reasonably suggests an electronic cigarette, or a method of providing nicotine to a user, wherein a nicotine salt liquid formulation comprising a salt of nicotine and benzoic acid in a liquid carrier, is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20%(w/w) in the nicotine salt liquid formulation; wherein the liquid carrier comprises glycerol and propylene glycol; and wherein the nicotine salt liquid formulation is heated in the electronic cigarette to produce an inhalable aerosol inhaled by a user.

Response to Arguments

10. Applicant's arguments, filed with the Amendment on July 26, 2023, with respect to the rejection of the instant claims under Sebastian et al and Lechuga-Ballesteros et al have been fully considered and are persuasive as it pertains to the electronic cigarette claim (114) and the "method of providing nicotine to a user" claims (115-116, 118-124). The Examiner is convinced by Applicant's arguments presented in the "Remarks" filed on July 26, 2023 that the skilled artisan looking to improve the formulation of Sebastian for use in an electronic smoking article would not look to the formulation described in Lechuga-Ballesteros et al which has been optimized for delivery via a pressurized metered dosed inhaler. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made in view of the Lechuga-Ballesteros et al reference, for the "cartridge" claims (105-106, 108-113), as presented above.

11. Note that, upon further consideration, the Double Patenting rejections made in view of Bowen '069 and Bowen '895, in the previous Office Action, have been withdrawn.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE WALLS MAYES whose telephone number is (571)272-5836. The examiner can normally be reached Mondays and Tuesdays, 8:00AM - 4:00PM (E.S.T.).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael H Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information

about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DIONNE W. MAYES/
Examiner, Art Unit 1747

Notice of References Cited	Application/Control No. 17/171,976	Applicant(s)/Patent Under Reexamination Bowen et al.	
	Examiner DIONNE W MAYES	Art Unit 1747	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20040168950-A1	09-2004	Barker	B65D75/26	206/528
	B					
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

CPC - Searched*		
Symbol	**Date**	**Examiner**
A24B15/16; A61K9/12; A24B15/167; A61P43/00; A61K31/60; A61P25/26; A61K31/465; A61K9/007; A61K47/10; A24F40/10; A61M15/06- cursory overview	03/22/2023	DWM
updated above	10/18/2023	DWM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
PE2E Search conducted (see attached search strategy)	03/22/2023	DWM
Inventor search conducted	03/22/2023	DWM
Updated Inventor Search	10/18/2023	DWM
PE2E Search conducted (see attached search strategy)	10/18/2023	DWM

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:00 PM
L2	9	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:03 PM
L3	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:41 PM
L4	209427	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:52 AM
L5	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L6	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
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L9	2382	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2023/03/22

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				08:30 AM
L10	1251	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L11	1249	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
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L14	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 09:16 AM
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		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

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		"20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR					

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		"4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR					

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		"7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR					

		"9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
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		"0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR					

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		"20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
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		"20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR					

		"2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR					

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		"6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L22	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR					

		"9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L23	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L24	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L25	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L26	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L27	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L28	62	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L29	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L30	145	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2023/10/18 09:01 AM
L31	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt	(USPAT)	ADJ	ON	ON	2023/10/18 09:02 AM

		AND liquid AND glycol AND glycerol).clm.					
L32	231	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L33	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L34	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 03:46 PM
L35	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L36	11	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L37	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L38	212966	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L39	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L40	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L41	3337	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L42	2849	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L43	2439	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L44	1280	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L45	1278	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L46	173	(A24B15/16 OR A24B15/167 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L47	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L48	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L49	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L50	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 09/30/2025. OMB 0651-0035
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	17/171,976
Filing Date	February 9, 2021
First Named Inventor	Adam BOWEN
Title	NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF
Art Unit	1747
Examiner Name	Dionne Walls Mayes
Attorney Docket Number	062210-501C04US

SIGNATURE of Applicant or Patent Practitioner

Signature	/Edward D. Grieff/	Date (Optional)	
Name	Edward D. Grieff	Registration Number	38898
Title (if Applicant is a juristic entity)	Attorney of Record		
Applicant Name (if Applicant is a juristic entity)	JUUL LABS, INC.		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with an information collection subject to the requirements of the Paperwork Reduction Act of 1995, unless the information collection has a currently valid OMB Control Number. The OMB Control Number for this information collection is 0651-0035. Public burden for this form is estimated to average 3 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collection. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden to the Chief Administrative Officer, United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 or email InformationCollection@uspto.gov. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.** If filing this completed form by mail, send to: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 01/31/2018. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

[X] I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 148514

OR

[ ] I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

[X] The address associated with the above-mentioned Customer Number

OR

[ ] The address associated with Customer Number:

OR

[ ] Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

JUUL Labs, Inc.

[ ] Inventor or Joint Inventor (title not required below)

[ ] Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

[X] Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

[ ] Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	8 August 2017
Name	Wayne Sobon		
Title	Vice President, Intellectual Property		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

[ ] Total of 1 forms are submitted.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**01/10/2024 03:54:02 PM Z ET**	**62210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	63906388	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
062210-501C04US_POA.pdf	2	Power of Attorney	128 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
062210-501C04US_POA.pdf	FFF5CBF6361E712024F4F7208BBDB39F255E1A8D3B860BB55 5871E94310323C2B5B2CBBFDBEE04BBE84A983B9DCB5A352 4AC353F74476FDB359F18D6E9A5102F

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as

described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/171,976	02/09/2021	Adam Bowen	062210-501C04US

CONFIRMATION NO. 1080

148514
Mintz/JUUL
One Financial Center
Boston, MA 02111

POA ACCEPTANCE LETTER

OC000000067214570

Date Mailed: 01/22/2024

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/10/2024.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/cnguyen/

Used in Lieu of PTO/SB/08A/B.
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D. W. Mayes
Sheet	1	of	2	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20130192615-A1	08-01-2013	Tucker, et al.	
		US-20130192617-A1	08-01-2013	Thompson, Spencer	
		US-20130213417-A1	08-22-2013	Chong, et al.	
		US-20130213419-A1	08-22-2013	Tucker, et al.	
		US-20140202472-A1	07-24-2014	Levitz, et al.	
		US-20140261507-A1	09-18-2014	Balder, Edwin	
		US-20140299137-A1	10-09-2014	Kieckbusch, et al.	
		US-20090139533-A1	06-04-2009	Park, Sung K., et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-102014995-A	04-13-2011	UNIV. DUKE		
		CN-1298294-A	06-06-2001	ART. SLUTSKY		
		JP-2012506263-A	03-15-2012	Buchberger, Helmut		
		KR-100694546-B1	03-14-2007	Chon, Chang Ho		
		KR-101074619-B1	10-17-2011	BRITISH AMERICAN TOBACCO (INVESTMENTS) LIMITED		
		KR-10-2010-0088626-B1	08-09-2010	CELANESE ACETATE,LLC		
		KR-10-2011-0094118-B1	08-19-2011	JAPAN TOBACCO INC.		
		WO-03055486-A1	07-10-2003	Pharmacia Ab		
		WO-2009069519-A1	06-04-2009	JAPAN TOBACCO INC.		
		WO-2010045671-A1	04-29-2010	Buchberger, Helmut		

Examiner Signature		Date Considered	

Submission 1 of 2

Used in Lieu of PTO/SB/08A/B.
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	D. W. Mayes
Sheet	2	of	2	Attorney Docket Number	

*EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with a single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Declaration by Dr. Bradley James Ingebrethsen,on September 4 2015, 64 pages.	
		DUELL, Nicotine in Tobacco Product Aerosols: 'it's Déjà Vu All Over Again', Tobacco Control, 7 pages. 2020.	
		Electronic Cigarette,Merriam-Webster,1 page.	
		Influence of pH on Absorption of Nicotine from Urinary Bladder and Subcutaneous Tissues.	
		Inventor Bowen to Ploom - 61-820,128, Assignment of June 3, 2013,2 pages.	
		Inventors Bowen, Xing to Ploom - 61-912,507, Assignment of May 01, 2014,4 pages.	
		IUPAC Compendium of Chemical Terminology, 2nd ed. (the "Gold Book").	
		Pax to JUUL, Recorded Change of Name of August 14, 2017,11 pages.	
		Pax to JUUL, Recorded Corrective Assignment of August 6, 2018,15 pages.	
		Ploom to Pax, Recorded Assignment of March 03, 2015,8 pages.	
		(2014) The Art of Medicine: Electronic Cigarettes and History.	
		(2016) The Efficacy and Short-Term Effects of Electronic Cigarettes as a Method For Smoking Cessation: A Systematic Review and a Meta-Analysis.	
		(2015) Web record in respect of 14/271,071, 2 pages.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

Submission 1 of 2

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of:
Adam Bowen et al.

Application No.: 17/171,976	Confirmation No.: 1080
Filed: February 09, 2021	Art Unit: 1747
For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	Examiner: D. W. Mayes

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA PATENT CENTER
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08 submission(s). It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being submitted under 37 C.F.R. §1.97(c) after the mailing of a first Office Action on the merits, but before the mailing date of a Final Office Action under §1.113, a Notice of Allowance under §1.311, or any other action that closes prosecution.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith are copies of foreign patents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.56(a)(1), Applicant hereby notes that the first of the two attached PTO/SB/08 submissions includes references cited in Office actions, search reports, and/or opposition proceedings, from or before the USPTO and/or a foreign patent office in related applications.

In accordance with 37 CFR § 1.56(a)(2) and MPEP 2004[1], Applicant hereby notes that the second of the two attached PTO/SB/08 submissions includes references which the Applicant believes may also include relevant information over which the pending claims patentably defines.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Any fees believed to be due have been paid herewith. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 50-0311, under Application No.: 17/171,976.

Dated: January 23, 2024

Respectfully submitted,

By: /Kenneth E. Jenkins/
Kenneth E. Jenkins
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Attorney for Applicant

[1] *See* Note 10: "When in doubt, it is desirable and safest to submit information." *But see also* Note 13: "It is desirable to avoid the submission of long lists of documents if it can be avoided… If a long list is submitted, highlight those documents which have been specifically brought to applicant's attention and/or are known to be of most significance."

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**01/23/2024 02:31:30 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Monika Eachpilani
PATENT CENTER #	64046152	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 36

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
FOR_EP_0354661_A2.pdf	6	Foreign Reference	482 KB
FOR_KR_100694546_B1.pdf	6	Foreign Reference	1342 KB
FOR_EP_2186507_A2.pdf	23	Foreign Reference	1664 KB
FOR_KR_101074619_B1.pdf	9	Foreign Reference	2067 KB
FOR_CN_1298294_A.pdf	15	Foreign Reference	3439 KB
FOR_KR_1020110094118_A.pdf	13	Foreign Reference	2398 KB
FOR_KR_1020100088626_A	14	Foreign Reference	3249 KB

.pdf			
FOR_WO_2011139684_A2.pdf	26	Foreign Reference	2027 KB
FOR_WO_2013141906_A1.pdf	15	Foreign Reference	972 KB
FOR_WO_2013141994_A1.pdf	19	Foreign Reference	1201 KB
FOR_WO_03055486_A1.pdf	50	Foreign Reference	2241 KB
FOR_WO_2009069519_A1.pdf	15	Foreign Reference	1026 KB
FOR_WO_2013141998_A2.pdf	15	Foreign Reference	948 KB
FOR_WO_2013142671_A1.pdf	16	Foreign Reference	1026 KB
FOR_CN_102014995_A.pdf	46	Foreign Reference	11288 KB
NPL_BERRIDGE_The_Art_of_Medicine.pdf	2	Non Patent Literature	864 KB
FOR_WO_2014113592_A1.pdf	31	Foreign Reference	1594 KB
NPL_Inventor_Bowen_to_Ploom_61820128.pdf	3	Non Patent Literature	212 KB
NPL_Inventors_Bowen_Xing_to_Ploom_61912507.pdf	4	Non Patent Literature	230 KB
NPL_IUPAC_Compendium_of_Chemical.pdf	1	Non Patent Literature	119 KB
FOR_WO_2010045671_A1.p	122	Foreign Reference	8308 KB

df			
NPL_Merriam_Webster_Electronic_Cigarette.pdf	1	Non Patent Literature	215 KB
NPL_DUELL_Nicotine_in_tobacco.pdf	7	Non Patent Literature	4028 KB
NPL_Pax_to_JUUL_14_August_2017.pdf	11	Non Patent Literature	382 KB
NPL_Pax_to_JUUL_6_August_2018.pdf	15	Non Patent Literature	514 KB
NPL_HATTON_US_Pat_APP_15396584_Dec_31_2016.pdf	81	Non Patent Literature	4666 KB
NPL_Web_record_in_respect_of_14271071.pdf	2	Non Patent Literature	80 KB
NPL_Ploom_to_Pax_3_March_2015.pdf	8	Non Patent Literature	267 KB
NPL_Declaration_by_Dr_Bradley_James_Ingebrethsen_4_September_2015.pdf	64	Non Patent Literature	5874 KB
NPL_TRAVELL_Influence_of_pH.pdf	5	Non Patent Literature	967 KB
FOR_WO_2015100361_A1.pdf	84	Foreign Reference	8018 KB
NPL_KHOUDIGIAN_The_Efficacy_and_Short.pdf	11	Non Patent Literature	4363 KB
FOR_JP_2012506263_A.pdf	69	Foreign Reference	19487 KB
17171976 - IDS	2	Transmittal Letter	133 KB

Transmittal.pdf			
17171976 - IDS SB08 2 of 2.pdf	2	Information Disclosure Statement (IDS) Form (SB08)	159 KB

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17171976 - IDS SB08 1 of 2.pdf	2	Information Disclosure Statement (IDS) Form (SB08)	161 KB

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Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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17171976 - IDS SB08 1 of 2.pdf 19BD7C691D1718DFD2D26B17D15A48B1310E4EB9F0973B2DB1EBDF05FABBB6B55B8C26BAEF95AB7BBA97EFA0136E072444673E6F227536554E7ACCAC221C23F1

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D. W. Mayes
Sheet	1	of	2	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-D557209-S	12-11-2007	Ahlgren, et al.	
		US-D611409-S	03-09-2010	Green, et al.	
		US-D624238-S1	09-21-2010	Jeffrey D. Turner	
		US-D649932-S	12-06-2011	Symons, Dominic	
		US-D674748-S	01-22-2013	Ferber, et al.	
		US-D686987-S	07-30-2013	Vanstone, et al.	
		US-D700572-S	03-04-2014	Esses, Alfred	
		US-D704629-S	05-13-2014	Liu, Qiuming	
		US-D704634-S	05-13-2014	Eidelman, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		EP-0354661-A2	02-14-1990	British-American Tobacco Company Limited		
		EP-2186507-A2	05-19-2010	McNeil AB		
		WO-2011139684-A2	11-10-2011	Niconovum USA, Inc.		
		WO-2013141906-A1	09-26-2013	Njoy, Inc.		
		WO-2013141994-A1	09-26-2013	Njoy, Inc.		
		WO-2013141998-A2	09-26-2013	Njoy, Inc.		
		WO-2013142671-A1	09-26-2013	Njoy, Inc.		
		WO-2014113592-A1	07-24-2014	Njoy, Inc.		
		WO-2015100361-A1	07-02-2015	Pax Labs, Inc.		
Examiner Signature				Date Considered		

Submission 2 of 2

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	D. W. Mayes
Sheet	2	of	2	Attorney Docket Number	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and-or country where published.	T[2]
		HATTON et al.; U.S. Pat. Appl. # 15/396,584 entitled "Leak-resistant vaporizer cartridges for use with cannabinoids," filed 12/31/2016.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

Submission 2 of 2

UNITED STATES
PATENT AND TRADEMARK OFFICE

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Alexandria, VA 22313 - 1450
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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	01/23/2024 02:31:30 PM Z ET	062210-501C04US

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Monika Eachpilani
PATENT CENTER #	64046152	AUTHORIZED BY	Edward Grieff
CUSTOMER #	148514	FILING DATE	02/09/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Adam Bowen

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 500311	E20241ME34459830	Holden Sarda
PRE-AUTHORIZED ACCOUNT	PRE-AUTHORIZED CATEGORY	
500311	37 CFR 1.21 (Miscellaneous fees and charges)	

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1806	SUBMISSION OF AN INFORMATION DISCLOSURE STATEMENT	260.00	1	260.00
			TOTAL AMOUNT:	$260.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**01/23/2024 02:20:42 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Edward Grieff
PATENT CENTER #	64052249	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 2

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
petition-request.pdf	3	Terminal Disclaimer-Filed (Electronic)	48 KB
grantLetter.pdf	1	Terminal Disclaimer-Electronic-Approved	19 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
petition-request.pdf	90628316EB76147169390E34710A2D0EDD8333B253BC2D5C0349C792A1B03751F587D3AFE29E531949C1BB040CE9E7A781D

	07FDC576DF72188E0C562B022E1C6
grantLetter.pdf	3CEB9325090184D949276FFC122DE5B4F046E16A31A5E93B6C9CBFBF5A652567D01FFF4791D60C75F1E4E1CF63833036B4264EAE3D1AF96C046EA04CB379C08F

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	01/23/2024 02:20:42 PM Z ET	062210-501C04US

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Edward Grieff
PATENT CENTER #	64052249	AUTHORIZED BY	-
CUSTOMER #	148514	FILING DATE	02/09/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Adam Bowen

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 500311	E20241ME21308313	Edward Grieff

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1614	STATUTORY DISCLAIMER, INCLUDING TERMINAL DISCLAIMER	170.00	1	170.00
			TOTAL AMOUNT:	$170.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A PRIOR PATENT

APPLICATION #	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET #
17171976	02/09/2021	Adam Bowen	062210-501C04US

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

☑ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☑ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent interest
JUUL LABS, INC.	100%
Total	100%

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending reference Application Number(s)

Application #	Filing Date

as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the reference application are commonly owned. This agreement runs with any patent granted on the

instant application and is binding upon the grantee, its successors or assigns.
In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said reference application, "as the term of any patent granted on said reference application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending reference application," in the event that any such patent granted on the pending reference application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

The owner(s) of percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

Patent #
10952468

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.
In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

 Terminal disclaimer fee under 37 CFR 1.20(d) included with Electronic Terminal Disclaimer request.

Applicant claims the following entity status:
Regular Undiscounted

I hereby declare that all statements made herein of my own knowledge are true and that all statemnts made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I certify, in accordance with 37 CFR 1.4(d)(4) that I am: An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application

Signature	Name	Registration #
/Edward D. Grieff/	Edward Grieff	38898

* Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner). Form PTO/SB/96 may be used for making this certification. See MPEP 324.

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APPROVAL LETTER

APPLICATION #	FILING DATE	APPLICANT/PATENT UNDER REEXAMINATION
17/171,976	02/09/2021	Adam Bowen

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Electronic terminal disclaimer filed on 01/23/2024

☑ Approved

This patent is subject to a Terminal Disclaimer

Approved / Disapproved by: Electronic Terminal Disclaimer automatically approved

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on January 23, 2024.

PATENT

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: 1747

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Dionne Walls MAYES

By EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This Response and Amendment is submitted in reply to the Non-Final Office Action dated October 24, 2023, for which a response is due January 24, 2024.

Amendments to the Claims begin on page 4.

Remarks begin on page 6.

Amendments to the Claims

The following Listing of Claims replaces all prior versions and listings of the claims.

Listing of Claims

1-104. (Canceled)

105. (Currently Amended) **An electronic cigarette** ~~**A**~~ cartridge ~~**of an electronic cigarette, the cartridge**~~ comprising a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation;

(c) the liquid carrier comprises **90% to 30% of** glycerol and **10% to 70% of** propylene glycol; and

(d) the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

106. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the liquid carrier further comprises water.

107. (Canceled)

108. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

109. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

110. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

111. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

112. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises a flavorant.

113. (Currently Amended) The **electronic cigarette** cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

114. (Currently Amended) An electronic cigarette comprising ~~the cartridge of claim 105~~ **a cartridge, wherein the cartridge comprises a nicotine salt liquid formulation, wherein:**

(a) **the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;**

(b) **the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation;**

(c) **the liquid carrier comprises glycerol and propylene glycol; and**

(d) **the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette**.

115. (Previously Presented) A method of providing nicotine to a user, the method comprising:

(a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and

(b) inhalation of the aerosol by the user;

wherein:

(i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; and

(iii) the liquid carrier comprises glycerol and propylene glycol.

116. (Previously Presented) The method of claim 115, wherein the liquid carrier further comprises water.

117. (Canceled)

118. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

119. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

120. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

121. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

122. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises a flavorant.

123. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

124. (Previously Presented) The method of claim 115, wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

125. (New) The electronic cigarette of claim 114, wherein the liquid carrier further comprises water.

126. (New) The electronic cigarette of claim 114, wherein the salt is present in an amount

that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

127. (New) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

128. (New) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

129. (New) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises a flavorant.

130. (New) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

131. (New) The electronic cigarette of claim 114, wherein the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

132. (New) The electronic cigarette cartridge of claim 105, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of glycerol.

133. (New) The electronic cigarette cartridge of claim 105, wherein the electronic cigarette cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

Remarks

After entry of the amendment, claims 105, 106, 108-116, and 118-133 are pending.

Claims 1-104, 107, and 117 are were previously canceled without prejudice.

Claim 105 has been amended and remains supported by the specification at, for example, paragraph [0061].

Claims 105, 106, and 108-113 have been amended to revise the language "cartridge of an electronic cigarette" to "electronic cigarette cartridge" and remain supported by the specification.

Claim 114 has been amended to include the subject matter of claim 105 and is supported throughout the specification.

New claims 125-130 are dependent upon claim 114, correspond to claims 106 and 109-113, respectively, and are supported throughout the specification.

New claim 131 is dependent upon claim 114, corresponds to claim 124, and is supported throughout the specification.

New claim 132 is dependent upon claim 105 and are supported by the specification at, for example, paragraph [0061].

New claim 133 is dependent upon claim 105 and is supported throughout the specification at, for example, paragraph [0059].

No issues of new matter arise.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 114-116 and 118-124 contain allowable subject matter (notwithstanding the double patenting rejection).

Claim 114 has been amended to include the subject matter of claim 105, upon which it had been dependent. Based on the Examiner's finding of allowable subject matter, Applicant respectfully submits that at least claims 114-116 and 118-131 are in condition for allowance in view of the Terminal Disclaimer filed herewith.

Nonstatutory Double Patenting

Claims 105, 106, 108-116, and 118-124 are rejected on the ground of nonstatutory double patenting over claims 1, 4, 8, 11, 12, and 14 of US Patent No. 10,952,468.

Applicant respectfully traverses the rejection. Nonetheless, and solely to further prosecution, Applicant is filing concurrently herewith a Terminal Disclaimer over US Patent No. 10,952,468 and respectfully requests withdrawal of the rejection.

First Rejection under 35 USC § 103

Claims 105-111 and 113 are rejected under 35 USC § 103 as obvious over Lechuga-Ballesteros (US 2006/0018840).

Applicant respectfully traverses the rejection and respectfully submits that the skilled artisan would not arrive at claims 105-113 based on the teachings in Lechuga-Ballesteros.

Applicant respectfully submits that Lechuga-Ballesteros dose not disclose or suggest the presently claimed "electronic cigarette cartridge."

Assuming, *arguendo*, that Lechuga-Ballesteros discloses a "cartridge" (which it does not),[1] the skilled artisan would readily recognize that an electronic cigarette cartridge would not be interchangeable with a cartridge that is used in a metered dose inhaler as described by Lechuga-Ballesteros.

Lechuga-Ballesteros is directed to a metered dose inhaler which is described in paragraph [0003] as follows (emphasis added):

> Metered Dose Inhalers (MDIs) comprise a pressure resistant container typically filled with a product, such as an active agent, dissolved or suspended in a liquefied propellant. The pressure resistant container is fitted with a metering valve and an actuator. Actuation of the metering valve aerosolizes and releases a measured dose of the product typically introduced into a subject via inhalation of the aerosol. When actuated, the liquefied propellant aerosolizes the dissolved or micronized drug particles so that they may be delivered to the lungs of an individual during the individual's inhalation.

At paragraph [0031], Lechuga-Ballesteros states that a metered dose inhaler (emphasis added):

> …refers to an inhalation delivery system typically comprising, for example, a canister containing an active agent dissolved or suspended in a propellant optionally with one or more excipients, a metered dose valve and actuator, and a mouthpiece.

At paragraph [0035], Lechuga-Ballesteros states:

> The formulation may be formulated to be used in a metered dose inhaler and may comprise a propellant, such as a hydrofluoroalkane propellant, for aerosolizing the formulation. The compositions may further comprise one or more excipients, such as a co-solvent. The nicotine, organic acid, and/or any excipient may be dissolved in or may be suspended in the propellant.

Based on at least the above statements in Lechuga-Ballesteros, the skilled artisan would

[1] This is not an admission that Lechuga-Ballesteros discloses a "cartridge." Moreover, Lechuga-Ballesteros clearly does not disclose the presently claimed electronic cigarette cartridge.

readily understand that the propellant is a liquid carrier for the active agent (e.g., nicotine). Indeed, the formulations in Lechuga-Ballesteros contain 75 wt% or more of the propellant[2] and the examples in Table 1 use 97.6 wt% to 99.7 wt% of the propellant. Thus, Lechuga-Ballesteros' propellant is a liquid carrier corresponding to the presently claimed liquid carrier comprising propylene glycol and glycerol.

On page 10 of the Office Action, the Office asserts:

> Note that while the liquid formulation of Lechuga-Ballesteros et al is designed to aerosolize without being heated (i.e., in metered does inhaler), it certainly would also be capable of generating aerosol upon heating, be in it an electronic cigarette or any other device).

Applicant disagrees for at least two reasons.

First, the statement by the Office is not the appropriate question for an obviousness rejection. The appropriate question is whether the skilled artisan would reasonably be motivated to replace the liquid propellant carrier in the metered-dose inhaler described in Lechuga-Ballesteros with the presently claimed liquid carrier comprising propylene glycol and glycerol. *See* MPEP § 2142 ("the examiner should set forth … the proposed modification of the applied reference(s) necessary to arrive at the claimed invention."). The replacement of the propellant in a metered dose inhaler with the presently claimed liquid carrier comprising propylene glycol and glycerol would render the "cartridge" in Lechuga-Ballesteros completely unsuitable for its intended use in a metered dose inhaler. A propellant is not interchangeable with a liquid carrier comprising propylene glycol and glycerol. Indeed, a metered dose inhaler could not operate without a propellant. If a proposed modification would render the prior art being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *See* MPEP § 2143.01.

Second, under no circumstances would the skilled artisan use a propellant in an electronic cigarette and the skilled artisan would not reasonably believe that a propellant could be heated in electronic cigarette to generate an inhalable aerosol for delivery of nicotine to the lungs. At the very least, an electronic cigarette cartridge is not a pressure-resistant container designed to house and deliver a propellant.[3] Applicant requests that the Office provide evidence to support the proposition that a propellant could be used in an electronic cigarette to generate an aerosol consistent with the

[2] Lechuga-Ballesteros at [0041].
[3] *See, e.g.*, Lechuga-Ballesteros at paragraph [0003].

requirements in MPEP § 2144.02 ("when an examiner relies on a scientific theory, evidentiary support for the existence and meaning of that theory must be provided.").

For at least the reasons described above, the skilled artisan would not be motivated by the teachings in Lechuga-Ballesteros arrive at claims 105-113. In view thereof, Applicant respectfully requests withdrawal of the rejection.

Second Rejection under 35 USC § 103

Claim 112 is rejected under 35 USC § 103 as obvious over Lechuga-Ballesteros (US 2006/0018840) in view of Barker (US 2004/0168950).

Applicant traverses the rejection and submits that claims 105-111 and 113 are unobvious over Lechuga-Ballesteros for the reasons discussed above. Barker does not cure the deficiencies of Lechuga-Ballesteros. Because claims 105-111 and 113 are unobvious over Lechuga-Ballesteros and because Barker does not cure the deficiencies of Lechuga-Ballesteros, claim 112 is also unobvious over Lechuga-Ballesteros in view of Barker. In view thereof, Applicant respectfully requests withdrawal of the rejection.

Conclusion

The Commissioner is authorized to charge any necessary fees due in connection with the filing of this paper, including any required extension of time fees, or credit any overpayment to Deposit Account Number 50-0311, referencing US Application No. 17/171,976.

If the Examiner believes a telephone conference would expedite prosecution of this application, please contact the undersigned at (858) 314-1898.

Respectfully submitted,

/Edward D. Grieff/

Dated: January 23, 2024

Edward D. Grieff
Registration No. 38898

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

UNITED STATES
PATENT AND TRADEMARK OFFICE

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**01/23/2024 02:18:39 PM Z ET**	**062210-501C04US**

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CONFIRMATION #	1080	FILED BY	Edward Grieff
PATENT CENTER #	64052162	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 3

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
062210-501C04US_Response_NFOA.pdf		9	-	187 KB
062210-501C04US_Response_NFOA-A....pdf	(1-1)	1	Amendment/Request for Reconsideration-After Non-Final Rejection	136 KB
062210-501C04US_Response_NFOA-CLM.pdf	(2-5)	4	Claims	114 KB
062210-501C04US_Response_NFOA-REM.pdf	(6-9)	4	Applicant Arguments/Remarks Made in an Amendment	150 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/171,976	Filing Date 02/09/2021	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	01/23/2024	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 27	Minus	** 20	= 7		x $100 =	700
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	700

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/DIANE FLOYD/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



United States Patent and Trademark Office

Office of the Chief Financial Officer

Document Code:WFEE

User :Dianne Floyd

Sale Accounting Date:01/26/2024

Sale Item Reference Number	Effective Date
17171976	01/23/2024

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20241P032239500	1202	CLAIMS IN EXCESS OF 20	$700.00	Deposit Account

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Utility Application of: Adam Bowen et al.	
Application No.: 17/171,976	Confirmation No.: 1080
Filed: February 09, 2021	Art Unit: 1747
For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	Examiner: D. W. Mayes

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA PATENT CENTER
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08 submission. It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is being submitted under 37 C.F.R. §1.97(c) after the mailing of a first Office Action on the merits, but before the mailing date of a Final Office Action under §1.113, a Notice of Allowance under §1.311, or any other action that closes prosecution.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), Submitted herewith are copy of non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2). In accordance with 37 C.F.R. § 1.98(d)(1) and as noted by a double-asterisk next to the Cite No. on the attached PTO/SB/08, copies of the noted references are not supplied because they were previously cited by or submitted to the Office in prior application number 14/925,961 filed on October 28, 2015 and 14/271,071 filed on May 06, 2014 and relied on in the above-identified application for an earlier effective filing date under 35 U.S.C. § 120.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references. The Examiner is also requested to consider the references that have already been considered in parent application US 14/925,961 and 14/271,071, to which the above-identified continuation application claims the benefit under 35 U.S.C. § 120. See MPEP 609.02.

Any fees believed to be due have been paid herewith. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 50-0311, under Application No.: 17/171,976.

Dated: February 28, 2024

Respectfully submitted,

By: /Kenneth E. Jenkins/

Kenneth E. Jenkins
Registration No.: 51,846
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C.
3580 Carmel Mountain Road, Suite 300
San Diego, California 92130-6768
(858) 314-1500 || (858) 314-1501 (Fax)
Attorney for Applicant

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam BOWEN
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D.W. MAYES
Sheet	1	of	1	Attorney Docket Number	062210-501C04US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document: Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	**	JP-09-075058	03-25-1997	Nagai, Masaya		
	**	JP-A-03-049671	03-05-1991	Brown & Williamson Tobacco Corporation		
	**	KR-10-0193885-B1	06-15-1999	Philip Morris Products S.A.		

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Interlocutory Decision in Opposition Proceedings received for European Application No. 14794206.4 mailed on May 19, 2023, 25 pages.	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

514867515v.1

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**02/28/2024 12:35:02 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Tushar Bhati
PATENT CENTER #	64473271	AUTHORIZED BY	Edward Grieff
CUSTOMER #	148514	FILING DATE	02/09/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Adam Bowen

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 500311	**E20242RC35487223**	**Luis Jaramillo**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1806	SUBMISSION OF AN INFORMATION DISCLOSURE STATEMENT	260.00	1	260.00
			TOTAL AMOUNT:	**$260.00**

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C.

371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**02/28/2024 12:35:02 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

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CONFIRMATION #	1080	FILED BY	Tushar Bhati
PATENT CENTER #	64473271	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 3

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
NPL_EP147942064_Interlocutory Decision in Opposition Proceedings_05_19_2023.pdf		25	Non Patent Literature	1064 KB
062210-501C04US_IDS_2024-02-28.pdf		3	-	291 KB
062210-501C04US_IDS_2024-02-28-TRAN.LET.pdf	(1-2)	2	Transmittal Letter	99 KB
062210-501C04US_IDS_2024-02-28-IDS.pdf	(3-3)	1	Information Disclosure Statement (IDS) Form (SB08)	199 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
NPL_EP147942064_Interlocutory Decision in Opposition Proceedings_05_19_2023.pdf	BD607E5E706335B5F7D3712C9D5D516524777C10CDF87C97F8F5E6E26F3DED846C0524B48BE33CEEC08925337622FB57A485715D6B9BAE2A776C965F261D71A0
062210-501C04US_IDS_2024-02-28.pdf	B1CB81179FFC47DB1CAFF4EF80473BCF3E49B829D554EDEC0CB742E2E7B94B1A175CC278D57A9AA87C6A18E9925C3320392910F14AE3CD8EB78125726428F748
062210-501C04US_IDS_2024-02-28-TRAN.LET.pdf	076F6C078F45B9050D9B4CD376561FCB692CC64BC019E5C49B0DD86E72CE2AD2959E87BAC7CB1C1C6692040CEC0FA850D306402DFA78D83307F78CF6DEE4ABD3
062210-501C04US_IDS_2024-02-28-IDS.pdf	D16775547EAE07458170D538B3B68B673FA6CA387AB3D9E5AA6365C1FC46177E4C3751F60B17B4C414A4E4E16F3A87957BF905A69AD0478B93573D14B151B9A3

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

148514 7590 04/11/2024

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER
MAYES, DIONNE WALLS

ART UNIT	PAPER NUMBER
1747	

DATE MAILED: 04/11/2024

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

TITLE OF INVENTION: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	07/11/2024

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148514 7590 04/11/2024
Mintz/JUUL
One Financial Center
Boston, MA 02111

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

TITLE OF INVENTION: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	07/11/2024

EXAMINER	ART UNIT	CLASS-SUBCLASS
MAYES, DIONNE WALLS	1747	131-328000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via the USPTO patent electronic filing system ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

148514 7590 04/11/2024

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER	
MAYES, DIONNE WALLS	
ART UNIT	PAPER NUMBER
1747	

DATE MAILED: 04/11/2024

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 11/23)

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/ owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).
https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf

Routine uses of the information in this record may include disclosure to:

1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
2) a federal, state, local, or international agency, in response to its request;
3) a contractor of the USPTO having need for the information in order to perform a contract;
4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
9) the Office of Personnel Management (OPM) for personnel research purposes; and
10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 17/171,976	Applicant(s) Bowen et al.	
	Examiner DIONNE W MAYES	Art Unit 1747	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the Amendment filed on Jan 23, 2024.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 105-106,108-116 and 118-133 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DIONNE W. MAYES/
Primary Examiner, Art Unit 1747

Reasons for Allowance

1. Claims 105-106, 108-116 and 118-133 are allowed.

2. The following is an examiner's statement of reasons for allowance:

As stated in the prior Office action regarding independent claims 114 and 115 (and the claims that depend therefrom), the prior art neither teaches nor reasonably suggests an electronic cigarette, or a method of providing nicotine to a user, wherein a nicotine salt liquid formulation comprising a salt of nicotine and benzoic acid in a liquid carrier, is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20%(w/w) in the nicotine salt liquid formulation; wherein the liquid carrier comprises glycerol and propylene glycol; and wherein the nicotine salt liquid formulation is heated in the electronic cigarette to produce an inhalable aerosol inhaled by a user.

Further, the newly-amended independent claim 105 (and those that depend therefrom) are now allowable because the prior art neither teachers nor reasonably suggests an electronic cigarette cartridge wherein a nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier, which is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; and wherein the liquid carrier comprises 90% to 30% glycerol

and 10% to 70% propylene glycol. As such the claims are allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Terminal Disclaimer

3. The terminal disclaimer filed on January 23, 2024 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US. Pat. No. 10,952,468 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE WALLS MAYES whose telephone number is (571)272-5836. The examiner can normally be reached Mondays and Thursdays, 8:00AM - 4:00PM (EST).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO

Automated Interview Request (AIR) at

http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael H Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DIONNE W. MAYES/
Primary Examiner, Art Unit 1747

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

CPC						
Symbol					**Type**	**Version**
A24B	/	15	/	167	F	2016-11-01
A24B	/	15	/	16	I	2013-01-01
A61K	/	31	/	465	I	2013-01-01
A61K	/	9	/	12	I	2013-01-01
A61K	/	9	/	007	I	2013-01-01
A61K	/	31	/	60	I	2013-01-01
A61K	/	47	/	10	I	2013-01-01
A24F	/	40	/	10	A	2020-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	27	
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	29 March 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8

U.S. Patent and Trademark Office — Part of Paper No.: 20240329A

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

INTERNATIONAL CLASSIFICATION				
CLAIMED				
A24B	/	15	/	16

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	27	
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	29 March 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8

U.S. Patent and Trademark Office — Part of Paper No.: 20240329A

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	105	11	114	26	123	9	132								
2	106	19	115	27	124	10	133								
	107	20	116	12	125										
3	108		117	13	126										
4	109	21	118	14	127										
5	110	22	119	15	128										
6	111	23	120	16	129										
7	112	24	121	17	130										
8	113	25	122	18	131										

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	27	
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	29 March 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8

U.S. Patent and Trademark Office Part of Paper No.: 20240329A

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

CPC - Searched*		
Symbol	**Date**	**Examiner**
A24B15/16; A61K9/12; A24B15/167; A61P43/00; A61K31/60; A61P25/26; A61K31/465; A61K9/007; A61K47/10; A24F40/10; A61M15/06- cursory overview	03/22/2023	DWM
updated above	10/18/2023	DWM
updated above	03/29/2024	DWM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
PE2E Search conducted (see attached search strategy)	03/22/2023	DWM
Inventor search conducted	03/22/2023	DWM
Updated Inventor Search	10/18/2023	DWM
PE2E Search conducted (see attached search strategy)	10/18/2023	DWM
Inventor search updated	03/29/2024	DWM
PE2E Search conducted (see attached search strategy)	03/29/2024	DWM

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
A24B	15/16; 167	03/29/2024	DWM
A24F	40/10	03/29/2024	DWM

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam BOWEN
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D.W. MAYES
Sheet	1	of	1	Attorney Docket Number	062210-501C04US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document: Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	**	JP-09-075058	03-25-1997	Nagai, Masaya		
	**	JP-A-03-049671	03-05-1991	Brown & Williamson Tobacco Corporation		
	**	KR-10-0193885-B1	06-15-1999	Philip Morris Products S.A.		

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Interlocutory Decision in Opposition Proceedings received for European Application No. 14794206.4 mailed on May 19, 2023, 25 pages.	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/29/2024

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

514867515v.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B.
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D. W. Mayes
Sheet	1	of	2	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20130192615-A1	08-01-2013	Tucker, et al.	
		US-20130192617-A1	08-01-2013	Thompson, Spencer	
		US-20130213417-A1	08-22-2013	Chong, et al.	
		US-20130213419-A1	08-22-2013	Tucker, et al.	
		US-20140202472-A1	07-24-2014	Levitz, et al.	
		US-20140261507-A1	09-18-2014	Balder, Edwin	
		US-20140299137-A1	10-09-2014	Kieckbusch, et al.	
		US-20090139533-A1	06-04-2009	Park, Sung K., et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		CN-102014995-A	04-13-2011	UNIV. DUKE		
		CN-1298294-A	06-06-2001	ART. SLUTSKY		
		JP-2012506263-A	03-15-2012	Buchberger, Helmut		
		KR-100694546-B1	03-14-2007	Chon, Chang Ho		
		KR-101074619-B1	10-17-2011	BRITISH AMERICAN TOBACCO (INVESTMENTS) LIMITED		
		KR-10-2010-0088626-B1	08-09-2010	CELANESE ACETATE,LLC		
		KR-10-2011-0094118-B1	08-19-2011	JAPAN TOBACCO INC.		
		WO-03055486-A1	07-10-2003	Pharmacia Ab		
		WO-2009069519-A1	06-04-2009	JAPAN TOBACCO INC.		
		WO-2010045671-A1	04-29-2010	Buchberger, Helmut		

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/29/2024

Submission 1 of 2

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B.
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D. W. Mayes
Sheet	2	of	2	Attorney Docket Number	

*EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with a single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Declaration by Dr. Bradley James Ingebrethsen,on September 4 2015, 64 pages.	
		DUELL, Nicotine in Tobacco Product Aerosols: 'it's Déjà Vu All Over Again', Tobacco Control, 7 pages. 2020.	
		Electronic Cigarette,Merriam-Webster,1 page.	
		Influence of pH on Absorption of Nicotine from Urinary Bladder and Subcutaneous Tissues.	
		Inventor Bowen to Ploom - 61-820,128, Assignment of June 3, 2013,2 pages.	
		Inventors Bowen, Xing to Ploom - 61-912,507, Assignment of May 01, 2014,4 pages.	
		IUPAC Compendium of Chemical Terminology, 2nd ed. (the "Gold Book").	
		Pax to JUUL, Recorded Change of Name of August 14, 2017,11 pages.	
		Pax to JUUL, Recorded Corrective Assignment of August 6, 2018,15 pages.	
		Ploom to Pax, Recorded Assignment of March 03, 2015,8 pages.	
		(2014) The Art of Medicine: Electronic Cigarettes and History.	
		(2016) The Efficacy and Short-Term Effects of Electronic Cigarettes as a Method For Smoking Cessation: A Systematic Review and a Meta-Analysis.	
		(2015) Web record in respect of 14/271,071, 2 pages.	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/29/2024

*EXAMINER: Initial if reference considered whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

Submission 1 of 2

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:00 PM
L2	9	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:03 PM
L3	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:41 PM
L4	209427	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:52 AM
L5	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L6	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L7	3248	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:18 AM
L8	2770	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:29 AM
L9	2382	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2023/03/22

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				08:30 AM
L10	1251	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L11	1249	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L12	157	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:33 AM
L13	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:34 AM

L14	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 09:16 AM
L15	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:52 PM
L16	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:55 PM
L17	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

		"20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR					

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L18	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR					

		"20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR					

		"4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR					

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		"8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
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		"20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR					

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		"20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
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		"20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR					

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		"5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L22	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR					

		"9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L23	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L24	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L25	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L26	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L27	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L28	62	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L29	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L30	145	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2023/10/18 09:01 AM

		("INC"))).AS,AANM.					
L31	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2023/10/18 09:02 AM
L32	231	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L33	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L34	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 03:46 PM
L35	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L36	11	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L37	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L38	212966	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L39	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L40	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L41	3337	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7)					
L42	2849	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L43	2439	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L44	1280	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L45	1278	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L46	173	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L47	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L48	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L49	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L50	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L51	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR					

		"20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR					

		"20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR					

		"20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L52	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR					

		"20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR					

		"4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR					

		"5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR					

		"6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L69	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L70	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L71	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L72	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L73	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L74	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L75	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L76	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L77	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L78	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L79	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L80	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		heat$4 AND inhal$5 AND glycerol AND liquid					
L81	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L82	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L83	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L84	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L85	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR					

		"20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR					

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		"20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L86	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR					

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		"4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR					

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L87	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR					

		"D695450" OR "D707389" OR "D725310").pn.					
L88	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR					

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L89	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR					

		"2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR					

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		"5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L90	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR					

		"9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L91	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L92	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L93	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L94	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L95	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L96	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/03/29

			USOCR)				10:32 AM
L97	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L98	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L99	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L100	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L101	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L102	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L103	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L104	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L105	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L106	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L107	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L108	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L109	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)					
L110	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L111	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L112	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L113	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L114	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L115	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L116	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L117	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L118	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L119	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR					

		"20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR					

		"20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR					

		"20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L120	250	("20150196060" OR "20150208729" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR					

		"20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR					

		"3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR					

		"5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR					

		"6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L121	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:12 PM
L122	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM
L123	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM

		"20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol					
L124	2	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:14 PM
L125	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 01:20 PM
L126	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L127	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L128	4	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic AND propylene glycol AND glycer$3).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:22 PM
L129	4	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2024/03/29 01:30 PM

		("INC"))).AS,AANM. AND (benzoic AND nicotine AND salt AND propylene glycol AND glycer$3).clm.					
L130	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:04 PM
L131	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:05 PM
L132	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol AND concentration).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:06 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM
N2	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM
N3	215260	(A24B15/16 OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.					10:46 AM

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	D. W. Mayes
Sheet	1	of	2	Attorney Docket Number	

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-D557209-S	12-11-2007	Ahlgren, et al.	
		US-D611409-S	03-09-2010	Green, et al.	
		US-D624238-S1	09-21-2010	Jeffrey D. Turner	
		US-D649932-S	12-06-2011	Symons, Dominic	
		US-D674748-S	01-22-2013	Ferber, et al.	
		US-D686987-S	07-30-2013	Vanstone, et al.	
		US-D700572-S	03-04-2014	Esses, Alfred	
		US-D704629-S	05-13-2014	Liu, Qiuming	
		US-D704634-S	05-13-2014	Eidelman, et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		EP-0354661-A2	02-14-1990	British-American Tobacco Company Limited		
		EP-2186507-A2	05-19-2010	McNeil AB		
		WO-2011139684-A2	11-10-2011	Niconovum USA, Inc.		
		WO-2013141906-A1	09-26-2013	Njoy, Inc.		
		WO-2013141994-A1	09-26-2013	Njoy, Inc.		
		WO-2013141998-A2	09-26-2013	Njoy, Inc.		
		WO-2013142671-A1	09-26-2013	Njoy, Inc.		
		WO-2014113592-A1	07-24-2014	Njoy, Inc.		
		WO-2015100361-A1	07-02-2015	Pax Labs, Inc.		
Examiner Signature	/DIONNE W. MAYES/			Date Considered	03/29/2024	

Submission 2 of 2

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	D. W. Mayes
Sheet	2	of	2	Attorney Docket Number	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and-or country where published.	T[2]
		HATTON et al.; U.S. Pat. Appl. # 15/396,584 entitled "Leak-resistant vaporizer cartridges for use with cannabinoids," filed 12/31/2016.	

Examiner Signature	/DIONNE W. MAYES/	Date Considered	03/29/2024

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

Submission 2 of 2

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**05/16/2024 05:51:03 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	65559418	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 6

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
0662110-501C04US_RCE.pdf		3	Request for Continued Examination (RCE)	43 KB
Warning: This is not a USPTO supplied RCE fillable form. Data in the form cannot be automatically loaded to other USPTO systems.				
0662110-501C04US_IDS_2024-05-16.pdf		3	-	351 KB
0662110-501C04US_IDS_2024-05-16-TRAN.LET.pdf	(1-2)	2	Transmittal Letter	128 KB

0662110-501C04US_IDS_2024-05-16-IDS.pdf	(3-3)	1	Information Disclosure Statement (IDS) Form (SB08)	232 KB
0662110-501C04US_Amendment_2024-05-16.pdf		6	-	143 KB
0662110-501C04US_Amendment_2024-05-16-AMSB.pdf	(1-1)	1	Amendment Submitted/Entered with Filing of Continued Prosecution Application (CPA)/Request for Continued Examination(RCE)	134 KB
0662110-501C04US_Amendment_2024-05-16-CLM.pdf	(2-5)	4	Claims	110 KB
0662110-501C04US_Amendment_2024-05-16-REM.pdf	(6-6)	1	Applicant Arguments/Remarks Made in an Amendment	104 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
0662110-501C04US_RCE.pdf	9F688C09FA79DC327478E3CF22095CFB767BE037100FCB418EED92EDD2A189086337C27122EC5D909710E836EC4CB1BA78E3B65F71EA3AD2CC3AD13CFCE475BE
0662110-501C04US_IDS_2024-05-16.pdf	74435C5FF1E304BA79C4A4740D59E272B5340A204D706624476DD3D50E7DDBE8291A408A909CF12A2B5B212E4218DB45CD14CDEFAE1A9F6DB54EA8045D8C43FA
0662110-501C04US_IDS_2024-05-16-TRAN.LET.pdf	82182E80C4A4EB796FF998A1E090AEC1DDCAD3793B7FCD346F5342016CAC68B526F09683947320AA4608E89AC06AA24CAD13E4B926304C0DA2F533958B9411CF

0662110-501C04US_IDS_2024-05-16-IDS.pdf	07657A08175873652D7742104099A4FB898A229E89224476C87F03492FF2E937B813A48BD0B31BB3FF5D7F64F362D7BA6F68E86AAEFF55F60B20E5C13CBB0387
0662110-501C04US_Amendment_2024-05-16.pdf	E14AD468F598FC1D12542314A6D5B6C27DC30DF679F00D1F28361DE496104FADC5EB19C62E9BE04B5712DCE6920D48744E82011EAA5D3C05F1DE57D10E872E4E
0662110-501C04US_Amendment_2024-05-16-AMSB.pdf	D1E389D427FD827B38294D8435A98187C6CA1B55AA0619D49D97EEFE9A0E271DEDF8B3F50FE409BECE22B750FAC61CF623BBAC55A00AC8D46F84010E4EF13B37
0662110-501C04US_Amendment_2024-05-16-CLM.pdf	8850E00F49E895A52EC8D1D8357729C4698155174FC824BEF074C17BF65F0640C9C4DCD5F48C362FF230C9C170C533C86E4A6C81AD0D38FB291CACFACFC1B0B9
0662110-501C04US_Amendment_2024-05-16-REM.pdf	E5EF46299825204CF0F6F4C694744F390A47B81BCE8D9AC3569DE50FCF5F86033BF3601233036C45700BD987E2F96E6359E3F3C76E6A8E7214C7B423173A8CF0

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on May 16, 2024.

PATENT
Attorney Docket No.: 062210-501C04US

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: 1747

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Dionne Walls MAYES

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA PATENT CENTER
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08 submission(s). It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed with a Request for Continued Examination.

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted.

In accordance with 37 C.F.R. § 1.56(a)(1), Applicant hereby notes that the first of the two attached PTO/SB/08 submissions includes references cited in Office actions, search reports, and/or opposition proceedings, from or before the USPTO and/or a foreign patent office in related applications.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references. The Examiner is also requested to consider the references that have already been considered in parent application US 15/101,303, US 16/585,382 & US 17/993,459 to which the above-identified continuation application claims the benefit under 35 U.S.C. § 120. *See* MPEP 609.02.

Any fees believed to be due have been paid herewith. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 50-0311, under Application No.: 18/224,814.

Respectfully submitted,

By: /Kenneth E. Jenkins/

Dated: May 16, 2024

Kenneth E. Jenkins
Registration No.: 51,846
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C.
3580 Carmel Mountain Road, Suite 300
San Diego, California 92130-6768
(858) 314-1500 || (858) 314-1501 (Fax)
Attorney for Applicant

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	17/171,976
Filing Date	February 9, 2021
First Named Inventor	Adam Bowen
Art Unit	1747
Examiner Name	Dionne Walls MAYES
Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-7,387,788-B1	06-17-2008	Carrara et al	
		US-20050053665-A1	03-10-2005	Ek et al	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	17171976	Filing Date	2021-02-09	Docket Number (if applicable)	062210-501C04US	Art Unit	1747
First Named Inventor	Adam Bowen			Examiner Name	Dionne Walls MAYES		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 500311

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Edward D. Grieff/	Date (YYYY-MM-DD)	2024-05-16
Name	Edward D. Grieff	Registration Number	38898

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on May 16, 2024.

PATENT
Attorney Docket No.:062210-501C04US

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: 1747

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Dionne Walls MAYES

By EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This Amendment is submitted in conjunction with a Request for Continued Examination and an Information Disclosure Statement following receipt of the Notice of Allowance dated April 11, 2024.

Amendments to the Claims begin on page 2.

Remarks begin on page 6.

Amendments to the Claims

The following Listing of Claims replaces all prior versions and listings of the claims.

Listing of Claims

1-104. (Canceled)

105. (Currently Amended) An electronic cigarette cartridge comprising a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and **an organic** ~~**benzoic**~~ acid in a liquid carrier**, wherein the organic acid is benzoic acid or lactic acid**;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation;

(c) the liquid carrier comprises 90% to 30% of glycerol and 10% to 70% of propylene glycol; and

(d) the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

106. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the liquid carrier further comprises water.

107. (Canceled)

108. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

109. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

110. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

111. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the

salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

112. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises a flavorant.

113. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

114. (Currently Amended) An electronic cigarette comprising a cartridge, wherein the cartridge comprises a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and **an organic** ~~**benzoic**~~ acid in a liquid carrier**, wherein the organic acid is benzoic acid or lactic acid**;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation;

(c) the liquid carrier comprises glycerol and propylene glycol; and

(d) the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

115. (Previously Presented) A method of providing nicotine to a user, the method comprising:

(a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and

(b) inhalation of the aerosol by the user;

wherein:

(i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; and

(iii) the liquid carrier comprises glycerol and propylene glycol.

116. (Previously Presented) The method of claim 115, wherein the liquid carrier further comprises water.

117. (Canceled)

118. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

119. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

120. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

121. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

122. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises a flavorant.

123. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

124. (Previously Presented) The method of claim 115, wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

125. (Previously Presented) The electronic cigarette of claim 114, wherein the liquid carrier further comprises water.

126. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

127. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the

nicotine salt liquid formulation.

128. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

129. (Previously Presented) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises a flavorant.

130. (Previously Presented) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

131. (Previously Presented) The electronic cigarette of claim 114, wherein the cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

132. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of glycerol.

133. (Previously Presented) The electronic cigarette cartridge of claim 105, wherein the electronic cigarette cartridge is configured to serve as a mouthpiece and a reservoir that holds the nicotine salt liquid formulation.

134. (New) The electronic cigarette cartridge of claim 105, wherein the organic acid is benzoic acid.

135. (New) The electronic cigarette cartridge of claim 105, wherein the organic acid is lactic acid.

136. (New) The electronic cigarette of claim 114, wherein the organic acid is benzoic acid.

137. (New) The electronic cigarette of claim 114, wherein the organic acid is lactic acid.

Remarks

After entry of the amendment, claims 105, 106, 108-116, and 118-137 are pending.

Claims 105 and 114 have been amended to refer to benzoic acid or lactic acid, and remain supported by the specification at, e.g., paragraph [0058] and [00130] in, e.g., Embodiments 135, 183, 231, 337, 406, 449, and 530.

Claims 134-137 are supported throughout the specification, e.g., paragraph [0058] and [00130] in, e.g., Embodiments 135, 183, 231, 337, 406, 449, and 530.

No issues of new matter arise.

Conclusion

The Commissioner is authorized to charge any necessary fees due in connection with the filing of this paper, including any excess claim fees and required extension of time fees, or credit any overpayment to Deposit Account Number 50-0311.

If the Examiner believes a telephone conference would expedite prosecution of this application, please contact the undersigned at (858) 314-1898.

Respectfully submitted,

/Edward D. Grieff/

Dated: May 16, 2024

Edward D. Grieff
Registration No. 38898

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	05/16/2024 05:51:03 PM Z ET	062210-501C04US

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	65559418	AUTHORIZED BY	Edward Grieff
CUSTOMER #	148514	FILING DATE	02/09/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Adam Bowen

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 500311	E20245FH52135233	Luis Jaramillo

PRE-AUTHORIZED ACCOUNT	PRE-AUTHORIZED CATEGORY
500311	37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees); 37 CFR 1.19 (Document supply fees); 37 CFR 1.20 (Post Issuance fees); 37 CFR 1.21 (Miscellaneous fees and charges)

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1801	REQUEST FOR CONTINUED EXAMINATION (RCE) - 1ST REQUEST (SEE 37 CFR 1.114)	1360.00	1	1360.00
1202	EACH CLAIM IN EXCESS OF 20	100.00	4	400.00
			TOTAL AMOUNT:	$1,760.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized

by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/171,976	Filing Date 02/09/2021	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	05/16/2024	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 31	Minus	** 27	= 4		x $100 =	400
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	400

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/ALA H HUNTER/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**07/24/2024 04:34:44 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	66501290	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 13

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
062210-501C04US_IDS_2024-07-24.pdf		5	-	358 KB
062210-501C04US_IDS_2024-07-24-TRAN.LET.pdf	(1-2)	2	Transmittal Letter	127 KB
062210-501C04US_IDS_2024-07-24-IDS.pdf	(3-5)	3	Information Disclosure Statement (IDS) Form (SB08)	239 KB
FOR_WO_2015169127_A1.pdf		18	Foreign Reference	1145 KB

FOR_WO_2015179641_A1.pdf	15	Foreign Reference	1253 KB
NPL_CLAYTON_Use.pdf	2	Non Patent Literature	1327 KB
NPL_GOLDENSON_Nicotine.pdf	1	Non Patent Literature	132 KB
NPL_CHEN_Organic.pdf	7	Non Patent Literature	850 KB
FOR_EP_0283672_B1.pdf	23	Foreign Reference	2270 KB
FOR_WO_2016054580_A1.pdf	36	Foreign Reference	2493 KB
FOR_WO_2016014652_A1.pdf	41	Foreign Reference	2531 KB
FOR_WO_2013141907_A1.pdf	20	Foreign Reference	1489 KB
NPL_SHAO_Nicotine.pdf	11	Non Patent Literature	1715 KB
NPL_Bradley_Ingebrethsen.pdf	64	Non Patent Literature	7641 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
062210-501C04US_IDS_2024-07-24.pdf	92178931192268B261471F506EAADEE51C09AD6B1613B7DC229A973B6BED4BD0C8BAFF25FF76926D9CFEB823B96F1DBFA0DF9E6E3127F021B1C6C6D6518B8F8C
062210-501C04US_IDS_2024-07-24-TRAN.LET.pdf	C589C611323D7BE6D7F2E7940560C484D9FDD3A062F32454AC463B78DBA5C5329F56190C877E37E2712BACE28ADC3B841A9F5496A53C487920E56B47297CA891

062210-501C04US_IDS_2024-07-24-IDS.pdf	5EB51839DDD95ED5377040AF53CC6104B740C438BC1CDE1391F966746BCC46844040E9D866E2A3D427F80AE0F6D08A7B013ECE2389649769E7D5D8AFD660F360
FOR_WO_2015169127_A1.pdf	0A9B8CA4500E7FDEE07D0BA5106785002779EAC50C86718070C2801A3F8325A370C722F6AFFC308E827AC114AEEC998FF21E3ACD6B7B70C3CAB4A1F970EA4F41
FOR_WO_2015179641_A1.pdf	CE0F348B6947A48B050D374115E99FD9C7835C1727300DC52319F30A84157AD8B7AE9F35EC3F7FA28EDFC0799FD387AC6D5E2AE82A5624C60406AB3F48F1591B
NPL_CLAYTON_Use.pdf	773941BB34BD68A04FC83A6925C520EA1337929AC852BDC1969A342BB3DA04B148EC5F77CB12E4FDE934522F30C68C75717D75E1EBF1BDED6C5DFEE068267CB0
NPL_GOLDENSON_Nicotine.pdf	6BBAAFA7E95595E6BABF8BC21A8271ADF02BA2B1E07D223449865119758 35EBC2203BAD3CDAED38E1D7D80456381913717FC7A1FF247B12EF3BBDC5AC3D0CEF8
NPL_CHEN_Organic.pdf	0C8120F1343B2EC6A8ED9FD5490F4272CADF7580CF9B46C0CAE670E311FC50284B9651C35B2F75F1E72870C412F469882223184B46B1A30CE9866440F6C30444
FOR_EP_0283672_B1.pdf	96D136D6885D829D6818257797CF3D5455DAE2885B6FACC97036D979D7A4741941FBFB58232322656DC01188922D25D206922AB6CCB793E764856866955A860F
FOR_WO_2016054580_A1.pdf	DE88C7D54F1CC0A5B4010AEF4FB83F6428E6D02E96482B0571279468AF7821BF4ECF12E8E238B99D5EC71AFA75DB149F7F8B85E8CE186F922CBABB9F5C51340C
FOR_WO_2016014652_A1.pdf	2C220A7FB95CAB0B653653E7F107921452A01D207EEF9563588029FB004247C6C3A61E43C3AD6B5E215BE8C16582965B86B937AD6D2D76D05634D930372D39AD
FOR_WO_2013141907_A1.pdf	59ACC91E84F1F776972CFDF4566F7E374719D06B8FEB31AEB32BF143245AA8B4F9BA3906FB7A7A3CFB2585114FC787CD963DD8C07443DD274E18ED7F4DFD48C3

NPL_SHAO_Nicotine.pdf	364A55C7440422A05940A7639CD1F045E934620385A20512D0 A83D7B8B8EF7F96306EEBEEDB79949DA4206BF1F672955BFF 1BD74A96AC01F2E7D86A968DE239E
NPL_Bradley_Ingebrethsen.pdf	FE44E382F88AE0F59C54DBBF2A0064B3E5A1500FC96972488 1A36F59A8384208D58C8A2CFE7D16E0ABE0F30379D861F02F C5E09B21BBC1EB94BF34E9B24E9BF6

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Adam Bowen et al.

Application No.: 17/171,976	Confirmation No.: 1080
Filed: February 09, 2021	Art Unit: 1747
For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF	Examiner: D. W. Mayes

INFORMATION DISCLOSURE STATEMENT (IDS)

FILED VIA PATENT CENTER
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98, the attention of the United States Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08 submission(s). It is respectfully requested that the information be expressly considered during the prosecution of the above-identified application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits under 37 C.F.R. §1.97(b)(3).

In accordance with 37 C.F.R. § 1.98(a)(2)(ii), copies of U.S. patents and U.S. patent application publications are not submitted. Submitted herewith are copies of foreign patents and non-patent literature in accordance with 37 C.F.R. § 1.98(a)(2).

In accordance with 37 C.F.R. § 1.56(a)(1), Applicant hereby notes that the first of the two attached PTO/SB/08 submissions includes references cited in Office actions, search reports, and/or opposition proceedings, from or before the USPTO and/or a foreign patent office in related applications.

In accordance with 37 CFR § 1.56(a)(2) and MPEP 2004[1], Applicant hereby notes that the second of the two attached PTO/SB/08 submissions includes references which the Applicant believes may also include relevant information over which the pending claims patentably defines.

In accordance with 37 C.F.R. § 1.97(g), the filing of this Information Disclosure Statement shall not be construed as a representation that a search has been made. In accordance with 37 C.F.R. § 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in this Information Disclosure Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

It is submitted that the Information Disclosure Statement is in compliance with 37 C.F.R. § 1.98, and the Examiner is respectfully requested to consider the listed references.

Any fees believed to be due have been paid herewith. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed, or which should have been filed herewith to our Deposit Account No. 50-0311, under Application No.: 17/171,976.

Respectfully submitted,

By: /Kenneth E. Jenkins/

Dated: July 24, 2024

Kenneth E. Jenkins
Registration No.: 51,846
MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, P.C.
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San Diego, California 92130-6768
(858) 314-1500 || (858) 314-1501 (Fax)
Attorney for Applicant

[1] *See* Note 10: "When in doubt, it is desirable and safest to submit information."

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	1	of	2	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-3878850-A	04-22-1975	Imperial Chemical Industries Limited	
		US-6358060-B2	03-19-2002	JSR LLC	
		US-6893654-B2	05-17-2005	JSR LLC	
		US-D725823-S	03-31-2015	Njoy, Inc.	
		US-9010335-B1	04-21-2015	Njoy, Inc.	
		US-9089166-B1	07-28-2015	Njoy, Inc.	
		US-9623592-B2	04-18-2017	Huizhou KIMREE Technology Co., Ltd.	
		US-10058129-B2	08-28-2018	JUUL Labs, Inc.	
		US-11478021-B2	10-25-2022	Pax Labs, Inc.	
		US-20040173224-A1	09-09-2004	Burgard, et al.	
		US-20080121610-A1	05-29-2008	Cheil Industries, Inc.	
		US-20090001085-A1	01-01-2009	Bartz, et al.	
		US-20120325228-A1	12-27-2012	Williams, Jonnie R.	
		US-20140083442-A1	03-27-2014	Scatterday, Mark	
		US-20150042412-A1	02-12-2015	Qualcomm Inc.	
		US-20150101945-A1	04-16-2015	Njoy, Inc.	
		US-20150157893-A1	06-11-2015	Balanced Body, Inc.	
		US-20150157901-A1	06-11-2015	Babolat VS	
		US-20150165067-A1	06-18-2015	ImClone, LLC.	
		US-20170079331-A1	03-23-2017	James, et al.	

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	2	of	2	Attorney Docket Number	062210-501C04US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		EP-0283672-B1	09-22-1993	R.j. Reynolds Tobacco Company		
		WO-2013141907-A1	09-26-2013	Njoy, Inc.		
		WO-2015169127-A1	11-12-2015	Lin, Guangrong		
		WO-2015179641-A1	11-26-2015	Nuryan Holdings Limited		
		WO-2016014652-A1	01-28-2016	Altria Client Services Inc.		
		WO-2016054580-A1	04-07-2016	Digirettes, Inc.		
Examiner Signature				Date Considered		

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with a double asterisk (**) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	3	of	2	Attorney Docket Number	062210-501C04US

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and-or country where published.	T[2]
		CLAYTON, P. et al, "Use of chiroptical spectroscopy to determine the ionisation status of (S)- nicotine in e-cigarette formulations", Presentation Coresta Gongress, (20141016), 2 pages.	
		CHEN, et al., (August 2011), "Organic Chemistry," Beijing Institute of Technology Press, 251-252.	
		Declaration by Dr. Bradley James Ingebrethsen, on September 4, 2015, 64 pages.	
		GOLDENSON, et al., (2020) "Nicotine Uptake Following the Use of E-liquids with Different Organic Acid Salts and Nicotine Concentrations among Adult Smokers", Juul Labs, Inc. and Pinney Associates, Inc.,1 page.	
		SHAO, et al., (December13, 2012) "Nicotine Delivery to Rats via Lung Alveolar Region-Targeted Aerosol Technology Produces Blood Pharmacokinetics Resembling Human Smoking", Nicotine Tob Res., Vol. 15, No.7, pages 1248-1258.	
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

148514 7590 07/30/2024

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EXAMINER	
MAYES, DIONNE WALLS	
ART UNIT	**PAPER NUMBER**
1747	
NOTIFICATION DATE	**DELIVERY MODE**
07/30/2024	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

IPDocketingBOS@mintz.com
IPFileroombos@mintz.com
mintzdocketing@cpaglobal.com

PTOL-90A (Rev. 04/07)

Office Action Summary	**Application No.** 17/171,976	**Applicant(s)** Bowen et al.	
	Examiner DIONNE W MAYES	**Art Unit** 1747	**AIA (FITF) Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on May 16, 2024.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 105-106,108-116 and 118-137 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☑ Claim(s) 114-116,118-131 and 136-137 is/are allowed.

7) ☑ Claim(s) 105-106,108-113 and 132-135 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on May 16, 2024 has been entered.

Claim Objections

3. Claims 131 and 133 are objected to because of the following informalities:

-in line 2 of these claims, the word “that” should be deleted from in front of the word “holds”.

Appropriate correction is requested.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims the examiner presumes that the subject matter of the various claims was commonly owned as of the effective filing date of the claimed invention(s) absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and effective filing dates of each claim that was not commonly owned as of the effective filing date of the later invention in order for the examiner to consider the applicability of 35 U.S.C. 102(b)(2)(C) for any potential 35 U.S.C. 102(a)(2) prior art against the later invention.

7. Claims 105-106, 108-113 and 132-135 are rejected under 35 U.S.C. 103 as being unpatentable over EP 0 283 672 (hereinafter referred to as "Lawson et al").

Regarding independent claim 105, and dependent claims 108-111, 132 and 135, Lawson et al discloses a smoking article/cigarette which delivers good tobacco taste as well as smoke that is not overly harsh or irritating to the user. One or more salts provided from nicotine and an organic acid can be incorporated into the cigarette, and are applied to the tobacco filler via known techniques. When the nicotine/organic acid salts are applied using spraying techniques, it is desirable to form a liquid solution of the salt in a suitable solvent. Numerous nicotine/organic acid salts can improve the flavor or aroma of the aerosol delivered to the user. Example of such salts is nicotine lactate (inherently created form nicotine and lactic acid). Suitable solvents for the salts include water, glycerol, propylene glycol and combinations thereof (see pages 6-7) (corresponding to the claimed "a nicotine salt liquid formulation, wherein: (a) the nicotine salt liquid formulation comprises a salt of nicotine and an organic acid in a liquid carrier, wherein the organic acid is benzoic acid or lactic acid…the liquid carrier comprises…glycerol and…propylene glycol; and the nicotine

salt liquid formulation generates an inhalable aerosol…"; and the "wherein the organic acid is lactic acid" recitation of claim 135).

Lawson et al discloses that the concentration of salt within the liquid solution can be about 20 weight percent (see page 7). While there is no clear indication of the concentration of *nicotine* in this nicotine salt liquid solution, it is clear that at 20 weight percent salt in the solution, the nicotine of the salt in the solution would be less than that. One having ordinary skill in the art would have undergone routing experimentation to find the optimal nicotine concentration in the solution to deliver a superior organoleptic experience for the user and would have arrived at the claimed nicotine concentration ranges (corresponding to the claimed "nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation"; the "wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation" recitation of claim 108; the "wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation" recitation of claim 109; the "wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 150% (w/w) in the nicotine salt liquid formulation" recitation of claim 110; the "wherein the salt is present in an amount that forms a nicotine

concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation" recitation of claim 111).

Also, while there is no specific ratio of propylene glycol to glycerol, Lawson et al indicates that a combination of these solvent carriers is possible. Hence, it would have been obvious to one having ordinary skill in the art as of the effective filing date of the claimed invention to have arrived at the claimed ratio/proportion of glycerol to propylene glycol after undergoing routine experimentation aimed at providing the optimal amounts of each solvent (corresponding to the claimed "liquid carrier comprises 90% to 30% of glycerol and 10% to 70% of propylene glycol"; and the "wherein the liquid carrier comprises 20% to 50% of propylene glycol and 80% to 50% of glycerol" recitation of claim 132).

Lastly, Lawson et al discloses a smoking article and not "an electronic cigarette cartridge", per se. However, because the structure/composition of the claimed "electronic cigarette cartridge" and that of the Lawson et al cigarette/smoking article are the same, the "electronic cigarette cartridge" recitation of the preamble of independent claim 105 does not impose any limit on the interpretation of the claim. It is well understood in U.S. Patent practice that an "intended use" limitation does not distinguish a claimed

article from a prior art article that satisfies all the structural limitations of the claimed apparatus. MPEP 2111.02.

Regarding claim 106, Lawson et al states that, in addition to propylene glycol and glycerol, water can also be a suitable solvent component (page 7) (corresponding to the claimed “wherein the liquid carrier further comprises water”).

Regarding claims 112-113, Lawson et al states that it may be desirable to add additional organic acids to provide specific flavor characteristics to the flavor to the cigarette (see page 5). It follows that one of ordinary skill in the art would opt to provide such acid in the nicotine salt liquid formulation for ease of administration of said additive along, with the nicotine salt, to the tobacco material of the smoking article (corresponding to the “wherein the nicotine salt liquid formulation further comprises a flavorant” recitation of claim 112; and the “wherein the nicotine salt liquid formulation comprises one or more additional organic acids” recitation of claim 113).

Regarding claim 133, as mentioned above, the claimed “cartridge” is actually the modified cigarette/smoking article of Lawson et al. As such, the “suction end” of said cigarette would be considered to be the claimed “mouthpiece”, and the tobacco filler to which the nicotine salt liquid

formulation is applied is considered to be the claimed “reservoir” (corresponding to the claimed “wherein the electronic cigarette cartridge is configured to serve as a mouthpiece and a reservoir holds the nicotine salt liquid formulation”).

Regarding claim 134, Lawson et al discloses that an organic acid that is useful in its invention includes benzoic acid (page 5). Hence, it would have been obvious to one having ordinary skill in the art as of the effective filing date of the claimed invention to have added this acid to the liquid carrier along with nicotine, hance forming a nicotine benzoate salt (corresponding to the claimed “wherein the organic acid is benzoic acid”).

Allowable Subject Matter

8. Claims 114-115, 118-131, and 136-137 allowed.

9. The following is an examiner’s statement of reasons for allowance:

-The prior art of record neither teaches nor reasonably suggests an electronic cigarette, or a method of providing nicotine to a user from an electronic cigarette, wherein a nicotine salt liquid formulation comprising a salt of nicotine and benzoic acid or lactic acid in a liquid carrier is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIONNE WALLS MAYES whose telephone number is (571)272-5836. The examiner can normally be reached Mondays and Thursdays, 8:00AM - 4:00PM (EST).

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael H Wilson can be reached on 571-270-3882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DIONNE W. MAYES/
Primary Examiner, Art Unit 1747

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

CPC - Searched*		
Symbol	**Date**	**Examiner**
A24B15/16; A61K9/12; A24B15/167; A61P43/00; A61K31/60; A61P25/26; A61K31/465; A61K9/007; A61K47/10; A24F40/10; A61M15/06- cursory overview	03/22/2023	DWM
updated above	10/18/2023	DWM
updated above	03/29/2024	DWM
updated above	07/25/2024	DWM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
PE2E Search conducted (see attached search strategy)	03/22/2023	DWM
Inventor search conducted	03/22/2023	DWM
Updated Inventor Search	10/18/2023	DWM
PE2E Search conducted (see attached search strategy)	10/18/2023	DWM
Inventor search updated	03/29/2024	DWM
PE2E Search conducted (see attached search strategy)	03/29/2024	DWM
PE2E search conducted (see attached search strategy)	07/25/2024	DWM

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
A24B	15/16; 167	03/29/2024	DWM
A24F	40/10	03/29/2024	DWM

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:00 PM
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L6	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
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L9	2382	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2023/03/22

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				08:30 AM
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L11	1249	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
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L18	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR					

		"20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR					

		"4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR					

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		"6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR					

		"8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
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		"0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR					

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		"20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
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		"20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR					

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		"5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR					

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L22	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR					

		"9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L23	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L24	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L25	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L26	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L27	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L28	62	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L29	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L30	145	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2023/10/18 09:01 AM

		("INC"))).AS,AANM.					
L31	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2023/10/18 09:02 AM
L32	231	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L33	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L34	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 03:46 PM
L35	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L36	11	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L37	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L38	212966	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L39	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L40	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L41	3337	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7)					
L42	2849	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L43	2439	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L44	1280	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L45	1278	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L46	173	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L47	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L48	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L49	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L50	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L51	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR					

		"20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR					

		"20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR					

		"20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L52	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR					

		"20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR					

		"4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR					

		"5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR					

		"6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L69	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L70	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L71	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L72	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L73	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L74	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L75	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L76	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L77	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L78	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L79	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L80	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		heat$4 AND inhal$5 AND glycerol AND liquid					
L81	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L82	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L83	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L84	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L85	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR					

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		"20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR					

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		"4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR					

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		"8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR					

		"D695450" OR "D707389" OR "D725310").pn.					
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		"20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR					

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		"20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR					

		"2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR					

		"4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR					

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L90	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR					

		"9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L91	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L92	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L93	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L94	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L95	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L96	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/03/29

			USOCR)				10:32 AM
L97	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L98	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L99	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L100	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L101	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L102	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L103	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L104	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L105	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L106	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L107	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L108	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L109	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)					
L110	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L111	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L112	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L113	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L114	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L115	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L116	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L117	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L118	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L119	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR					

		"20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR					

		"20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR					

		"20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L120	250	("20150196060" OR "20150208729" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR					

		"20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR					

		"3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR					

		"5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR					

		"6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L121	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:12 PM
L122	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM
L123	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM

		"20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol					
L124	2	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:14 PM
L125	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 01:20 PM
L126	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L127	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L128	4	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic AND propylene glycol AND glycer$3).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:22 PM
L129	4	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2024/03/29 01:30 PM

		("INC"))).AS,AANM. AND (benzoic AND nicotine AND salt AND propylene glycol AND glycer$3).clm.					
L130	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:04 PM
L131	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:05 PM
L132	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol AND concentration).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:06 PM
L133	0	"76387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:53 AM
L134	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:53 AM
L135	1	"20050053665".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:54 AM
L136	1	11/492568.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:23 AM
L137	1	17/171976.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:38 AM
L138	1	"10463069".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:56 AM
L139	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:59 AM
L140	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 10:22 AM
L141	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L142	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L143	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L144	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.					
L145	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L146	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L147	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L148	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L149	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L150	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol					
L151	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L152	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L153	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L154	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L155	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L156	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L157	250	("0374584" OR "0576653" OR "0595070" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR					

		"20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR					

		"20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR					

		"20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR					

		"20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L158	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR					

		"2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR					

		"5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR					

		"5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L159	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR					

		"9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L160	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR					

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L161	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR					

		"3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR					

		"5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR					

		"6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L162	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR					

		"9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L163	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L164	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L165	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L166	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L167	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L168	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L169	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L170	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L171	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L172	249	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM
L173	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM

		liquid AND glycol AND glycerol).clm.					
L174	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L175	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L176	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L177	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L178	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L179	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L180	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L181	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L182	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L183	2534	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/07/25

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				04:52 PM
L184	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L185	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L186	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L187	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

L188	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L189	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L190	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L191	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

		"20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR					

		"20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR					

		"20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L192	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR					

		"20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR					

		"4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR					

		"5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L193	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L194	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

L195	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L196	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L197	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L198	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L199	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L200	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L201	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		heat$4 AND inhal$5					
L202	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L203	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L204	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L205	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L206	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L207	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L208	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160174603" OR "9648905").pn.					
L209	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR					

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		"20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR					

		"20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L210	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR					

		"2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR					

		"4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR					

		"5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L211	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR					

		"9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L212	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR					

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		"20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L213	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR					

		"3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR					

		"5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR					

		"6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L214	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR					

		"9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L215	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L216	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L217	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L218	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L219	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L220	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L221	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L222	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L223	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L224	249	((("BOWEN") near3 ("Adam")) OR (("XING") near3	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM

		("Chenyue"))).INV.					
L225	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM
L226	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L227	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L228	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L229	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L230	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L231	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L232	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L233	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L234	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L235	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L236	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L237	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L238	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L239	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L240	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L241	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L242	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L243	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR					

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L247	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L248	2	("20090139533" OR "20130192615" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

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L249	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L250	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L251	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM
N2	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM

		A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)					
N3	215260	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:46 AM

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Application Number	17/171,976
				Filing Date	February 9, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
(Use as many sheets as necessary)				Examiner Name	Dionne Walls MAYES
Sheet	1	of	1	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-7,387,788-B1	06-17-2008	Carrara et al	
		US-20050053665-A1	03-10-2005	Ek et al	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]

Examiner Signature	/DIONNE W. MAYES/	Date Considered	07/16/2024

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

517775409v.1

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	1	of	2	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-3878850-A	04-22-1975	Imperial Chemical Industries Limited	
		US-6358060-B2	03-19-2002	JSR LLC	
		US-6893654-B2	05-17-2005	JSR LLC	
		US-D725823-S	03-31-2015	Njoy, Inc.	
		US-9010335-B1	04-21-2015	Njoy, Inc.	
		US-9089166-B1	07-28-2015	Njoy, Inc.	
		US-9623592-B2	04-18-2017	Huizhou KIMREE Technology Co., Ltd.	
		US-10058129-B2	08-28-2018	JUUL Labs, Inc.	
		US-11478021-B2	10-25-2022	Pax Labs, Inc.	
		US-20040173224-A1	09-09-2004	Burgard, et al.	
		US-20080121610-A1	05-29-2008	Cheil Industries, Inc.	
		US-20090001085-A1	01-01-2009	Bartz, et al.	
		US-20120325228-A1	12-27-2012	Williams, Jonnie R.	
		US-20140083442-A1	03-27-2014	Scatterday, Mark	
		US-20150042412-A1	02-12-2015	Qualcomm Inc.	
		US-20150101945-A1	04-16-2015	Njoy, Inc.	
		US-20150157893-A1	06-11-2015	Balanced Body, Inc.	
		US-20150157901-A1	06-11-2015	Babolat VS	
		US-20150165067-A1	06-18-2015	ImClone, LLC.	
		US-20170079331-A1	03-23-2017	James, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	2	of	2	Attorney Docket Number	062210-501C04US

FOREIGN PATENT DOCUMENTS						
Examiner Initials*		Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name Of Patentee Or Applicant Of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		EP-0283672-B1	09-22-1993	R.j. Reynolds Tobacco Company		
		WO-2013141907-A1	09-26-2013	Njoy, Inc.		
		WO-2015169127-A1	11-12-2015	Lin, Guangrong		
		WO-2015179641-A1	11-26-2015	Nuryan Holdings Limited		
		WO-2016014652-A1	01-28-2016	Altria Client Services Inc.		
		WO-2016054580-A1	04-07-2016	Digirettes, Inc.		
Examiner Signature	/DIONNE W. MAYES/			Date Considered	07/25/2024	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with a double asterisk (**) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	3	of	2	Attorney Docket Number	062210-501C04US

NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and-or country where published.	T[2]
		CLAYTON, P. et al, "Use of chiroptical spectroscopy to determine the ionisation status of (S)- nicotine in e-cigarette formulations", Presentation Coresta Gongress, (20141016), 2 pages.	
		CHEN, et al., (August 2011), "Organic Chemistry," Beijing Institute of Technology Press, 251-252.	
		Declaration by Dr. Bradley James Ingebrethsen, on September 4, 2015, 64 pages.	
		GOLDENSON, et al., (2020) "Nicotine Uptake Following the Use of E-liquids with Different Organic Acid Salts and Nicotine Concentrations among Adult Smokers", Juul Labs, Inc. and Pinney Associates, Inc.,1 page.	
		SHAO, et al., (December13, 2012) "Nicotine Delivery to Rats via Lung Alveolar Region-Targeted Aerosol Technology Produces Blood Pharmacokinetics Resembling Human Smoking", Nicotine Tob Res., Vol. 15, No.7, pages 1248-1258.	
Examiner Signature	/DIONNE W. MAYES/	Date Considered	07/25/2024

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]Applicant is to place a check mark here if English language Translation is attached.

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**08/05/2024 11:42:46 AM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	66648479	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Edward Grieff

Documents

TOTAL DOCUMENTS: 3

DOCUMENT		PAGES	DESCRIPTION	SIZE (KB)
062210-501C04US_Response_NFOA.pdf		6	-	144 KB
062210-501C04US_Response_NFOA-A....pdf	(1-1)	1	Amendment/Request for Reconsideration-After Non-Final Rejection	136 KB
062210-501C04US_Response_NFOA-CLM.pdf	(2-4)	3	Claims	110 KB
062210-501C04US_Response_NFOA-REM.pdf	(5-6)	2	Applicant Arguments/Remarks Made in an Amendment	108 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
062210-501C04US_Response_NFOA.pdf	30219EA4FA15F920E0B6C6A55BF8511166EF192E714044328D592BCD86F8663057D167E8CEEE8B18313712AE08BF890DF7B80F1E372D6A8F2D50ED3EE860A2A9
062210-501C04US_Response_NFOA-A...pdf	82CB180AB3FFCD129C3983136265F74BE41D94556B88A2ED50B280DAF70F90561542457EEFB13261B08878DA15A730E4D73C4527B844304332D2CFE34C222DF3
062210-501C04US_Response_NFOA-CLM.pdf	9977C00EDC88E5080688AA13BE00AE2EFF21B77C03394FBACBE202AEC4742AE6B5D011AB329D3BDF865ACFC3CD2D810F6F4257702316E6DE4CF0A9223B6B2C60
062210-501C04US_Response_NFOA-REM.pdf	1C71CC7F3BEF2B532A762D3E8B75039043C94136033238B0C00BF97792EC521ACB86C4E119099547DF886D57D389645C5293F292A12ED18EDC04516FCD41C2CA

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

I hereby certify that this correspondence is being filed via EFS-Web with the United States Patent and Trademark Office on August 5, 2024.

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

By: /Luis Jaramillo/
Luis Jaramillo

PATENT
Docket No. 062210-501C04US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Adam Bowen et al.

Application No.: 17/171,976 | Confirmation No.: 1080

Filed: February 9, 2021 | Art Unit: 1747

For: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF | Examiner: Dionne Walls MAYES

By EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

This Response and Amendment is submitted in reply to the Non-Final Office Action dated July 30, 2024, for which a response is due October 30, 2024.

Pending Claims begin on page 2.

Remarks begin on page 5.

Amendments to the Claims

The following Listing of Claims replaces all prior versions and listings of the claims.

Listing of Claims

1-113. (Canceled)

114. (Previously Presented) An electronic cigarette comprising a cartridge, wherein the cartridge comprises a nicotine salt liquid formulation, wherein:

(a) the nicotine salt liquid formulation comprises a salt of nicotine and an organic acid in a liquid carrier, wherein the organic acid is benzoic acid or lactic acid;

(b) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation;

(c) the liquid carrier comprises glycerol and propylene glycol; and

(d) the nicotine salt liquid formulation generates an inhalable aerosol upon heating in the electronic cigarette.

115. (Previously Presented) A method of providing nicotine to a user, the method comprising:

(a) heating a nicotine salt liquid formulation in an electronic cigarette to produce an inhalable aerosol, and

(b) inhalation of the aerosol by the user;

wherein:

(i) the nicotine salt liquid formulation comprises a salt of nicotine and benzoic acid in a liquid carrier;

(ii) the salt is present in an amount that forms a nicotine concentration of 0.5% (w/w) to 20% (w/w) in the nicotine salt liquid formulation; and

(iii) the liquid carrier comprises glycerol and propylene glycol.

116. (Previously Presented) The method of claim 115, wherein the liquid carrier further comprises water.

117. (Canceled)

118. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 20% (w/w) in the nicotine salt liquid formulation.

119. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

120. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

121. (Previously Presented) The method of claim 115, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

122. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises a flavorant.

123. (Previously Presented) The method of claim 115, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

124. (Currently Amended) The method of claim 115, wherein the electronic cigarette comprises a cartridge, and the cartridge is configured to serve as a mouthpiece and a reservoir**, wherein the reservoir** ~~**that**~~ holds the nicotine salt liquid formulation.

125. (Previously Presented) The electronic cigarette of claim 114, wherein the liquid carrier further comprises water.

126. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 1% (w/w) to 18% (w/w) in the nicotine salt liquid formulation.

127. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 3% (w/w) to 15% (w/w) in the nicotine salt liquid formulation.

128. (Previously Presented) The electronic cigarette of claim 114, wherein the salt is present in an amount that forms a nicotine concentration of 4% (w/w) to 12% (w/w) in the nicotine salt liquid formulation.

129. (Previously Presented) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises a flavorant.

130. (Previously Presented) The electronic cigarette of claim 114, wherein the nicotine salt liquid formulation further comprises one or more additional organic acids.

131. (Currently Amended) The electronic cigarette of claim 114, wherein the cartridge is configured to serve as a mouthpiece and a reservoir**, wherein the reservoir** ~~**that**~~ holds the nicotine salt liquid formulation.

132-135. (Canceled)

136. (Previously Presented) The electronic cigarette of claim 114, wherein the organic acid is benzoic acid.

137. (Previously Presented) The electronic cigarette of claim 114, wherein the organic acid is lactic acid.

Remarks

After entry of the amendment, claims 114-116, 118-131, 136, and 137 are pending.

Claims 124 and 131 are editorially amended.

Claims 105, 106, 108-113, and 132-135 are canceled without prejudice.

No issues of new matter arise.

Allowable Subject Matter

At paragraph (8), the Examiner indicates that claims 114-115, 118-131, and 136-137 are allowed.

Applicant notes that dependent claim 116 is not subject to any rejections and respectfully submits that claim 116 is allowable.

Applicant respectfully submits that this Response and Amendment places the application in condition for allowance.

Claim Objections

Claims 131 and 133 are objected to for the presence of the word "that" in the claims.

Applicant traverses. Nonetheless, and solely to further prosecution, claim 131 has been editorially amended and claim 133 is canceled without prejudice. Applicant respectfully requests withdrwal of the objection.

Rejection under 35 USC § 103

Claims 105, 106, 108-113, and 132-135 are rejected under 35 USC § 103 as being obvious over Lawson (EP 0 283 872).

Applicant traverses. Nonetheless, and solely to further prosecution, claims 105, 106, 108-113, and 132-135 are canceled without prejudice. In view thereof, Applicant respectfully requests withdrawal of the rejection.

Conclusion

The Commissioner is authorized to charge any necessary fees due in connection with the filing of this paper, including any excess claim fees and required extension of time fees, or credit any overpayment to Deposit Account Number 50-0311.

If the Examiner believes a telephone conference would expedite prosecution of this application, please contact the undersigned at (858) 314-1898.

Respectfully submitted,

Date: August 5, 2024

/Edward D. Grieff/

Edward D. Grieff
Registration No. 38898

MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO, PC

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/171,976	Filing Date 02/09/2021	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $480 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	08/05/2024	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 19	Minus	** 31	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $480 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/BRUCE D HARRISON/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**10/29/2024 07:56:39 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	67768640	FILING DATE	02/09/2021
CUSTOMER #	148514	FIRST NAMED INVENTOR	Adam Bowen
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	Kenneth Jenkins

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
062210-501C04US_Issue_Fee_Transmittal.pdf	1	Issue Fee Payment (PTO-85B)	88 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
062210-501C04US_Issue_Fee_Transmittal.pdf	14F5FC462C7BBA1A5FA9E48A41686009C4997C0D6C44D7D9AFF26E5E702AC61054DAA1C9455B9902C634F050023C46E1B47E9264E74C623AE03E3E031FD27B3A

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

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CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148514 7590 10/29/2024
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Boston, MA 02111

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

TITLE OF INVENTION: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	01/29/2025

EXAMINER	ART UNIT	CLASS-SUBCLASS
MAYES, DIONNE WALLS	1747	131-328000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: **JUUL LABS, INC.**

(B) RESIDENCE: (CITY and STATE OR COUNTRY): **San Francisco, CA**

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 500311

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

☐ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Kenneth E. Jenkins/ Date October 29, 2024

Typed or printed name Kenneth E. Jenkins Registration No. 51,846

PTOL-85 Part B (11/23) Approved for use through 03/31/2026 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
17/171,976	**10/29/2024 07:56:39 PM Z ET**	**062210-501C04US**

Title of Invention

NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	1080	FILED BY	Luis Jaramillo
PATENT CENTER #	67768640	AUTHORIZED BY	Kenneth Jenkins
CUSTOMER #	148514	FILING DATE	02/09/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Adam Bowen

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
DA / 500311	**E20240SJ57406132**	**Luis Jaramillo**

PRE-AUTHORIZED ACCOUNT	PRE-AUTHORIZED CATEGORY
500311	**37 CFR 1.16 (National application filing, search, and examination fees); 37 CFR 1.17 (Patent application and reexamination processing fees); 37 CFR 1.19 (Document supply fees); 37 CFR 1.20 (Post Issuance fees); 37 CFR 1.21 (Miscellaneous fees and charges)**

FEE CODE	DESCRIPTION	ITEM PRICE($)	QUANTITY	ITEM TOTAL($)
1501	UTILITY ISSUE FEE	1200.00	1	1200.00
			TOTAL AMOUNT:	**$1,200.00**

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement

Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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NOTICE OF ALLOWANCE AND FEE(S) DUE

148514 7590 10/29/2024

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER
MAYES, DIONNE WALLS

ART UNIT	PAPER NUMBER
1747	

DATE MAILED: 10/29/2024

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

TITLE OF INVENTION: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	01/29/2025

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

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By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148514 7590 10/29/2024
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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

TITLE OF INVENTION: NICOTINE SALT FORMULATIONS FOR AEROSOL DEVICES AND METHODS THEREOF

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1200	$0.00	$0.00	$1200	01/29/2025

EXAMINER	ART UNIT	CLASS-SUBCLASS
MAYES, DIONNE WALLS	1747	131-328000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required)

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via the USPTO patent electronic filing system ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

❑ Applicant asserting small entity status. See 37 CFR 1.27

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

❑ Applicant changing to regular undiscounted fee status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

148514 7590 10/29/2024

Mintz/JUUL
One Financial Center
Boston, MA 02111

EXAMINER	
MAYES, DIONNE WALLS	
ART UNIT	PAPER NUMBER
1747	

DATE MAILED: 10/29/2024

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/ owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).
https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf

Routine uses of the information in this record may include disclosure to:

1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
2) a federal, state, local, or international agency, in response to its request;
3) a contractor of the USPTO having need for the information in order to perform a contract;
4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
9) the Office of Personnel Management (OPM) for personnel research purposes; and
10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 17/171,976	Applicant(s) Bowen et al.	
	Examiner DIONNE W MAYES	Art Unit 1747	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the Amendment filed on August 5, 2024.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 114-116,118-131 and 136-137 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some* c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/DIONNE W. MAYES/
Primary Examiner, Art Unit 1747

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

CPC - Searched*		
Symbol	**Date**	**Examiner**
A24B15/16; A61K9/12; A24B15/167; A61P43/00; A61K31/60; A61P25/26; A61K31/465; A61K9/007; A61K47/10; A24F40/10; A61M15/06- cursory overview	03/22/2023	DWM
updated above	10/18/2023	DWM
updated above	03/29/2024	DWM
updated above	07/25/2024	DWM
updated above	10/17/2024	DWM

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	Art Unit
	DIONNE W MAYES	1747

Search Notes		
Search Notes	**Date**	**Examiner**
PE2E Search conducted (see attached search strategy)	03/22/2023	DWM
Inventor search conducted	03/22/2023	DWM
Updated Inventor Search	10/18/2023	DWM
PE2E Search conducted (see attached search strategy)	10/18/2023	DWM
Inventor search updated	03/29/2024	DWM
PE2E Search conducted (see attached search strategy)	03/29/2024	DWM
PE2E search conducted (see attached search strategy)	07/25/2024	DWM

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
A24B	15/16; 167	10/17/2024	DWM
A24F	40/10	10/17/2024	DWM

/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

CPC						
Symbol					**Type**	**Version**
A24B	/	15	/	167	F	2016-11-01
A24B	/	15	/	16	I	2013-01-01
A61K	/	31	/	465	I	2013-01-01
A61K	/	9	/	12	I	2013-01-01
A61K	/	9	/	007	I	2013-01-01
A61K	/	31	/	60	I	2013-01-01
A61K	/	47	/	10	I	2013-01-01
A24F	/	40	/	10	A	2020-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

Use images from artifact folder? ◉ Yes ○ No

NONE (Assistant Examiner) (Date)		**Total Claims Allowed:** 19	
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747 (Primary Examiner)	17 October 2024 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 8

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

INTERNATIONAL CLASSIFICATION				
CLAIMED				
A24B	/	15	/	16

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

Use images from artifact folder? ◉ Yes ○ No

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	19	
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	17 October 2024	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/171,976	Bowen et al.
	Examiner	**Art Unit**
	DIONNE W MAYES	1747

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	114	18	123		132										
11	115	19	124		133										
12	116	2	125		134										
	117	3	126		135										
13	118	4	127	9	136										
14	119	5	128	10	137										
15	120	6	129												
16	121	7	130												
17	122	8	131												

Use images from artifact folder? ◉ Yes ○ No

NONE		**Total Claims Allowed:**
(Assistant Examiner)	(Date)	19
/DIONNE W. MAYES/ Primary Examiner, Art Unit 1747	17 October 2024	O.G. Print Claim(s): 1 / O.G. Print Figure: 8
(Primary Examiner)	(Date)	

PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	1	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:00 PM
L2	9	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:03 PM
L3	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/21 09:41 PM
L4	209427	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:52 AM
L5	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L6	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 07:53 AM
L7	3248	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:18 AM
L8	2770	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:29 AM
L9	2382	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2023/03/22

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				08:30 AM
L10	1251	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L11	1249	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:30 AM
L12	157	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 08:33 AM
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L14	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/03/22 09:16 AM
L15	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:52 PM
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L17	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

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L18	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR					

		"20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR					

		"4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR					

		"5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L19	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:58 PM

		"6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR					

		"8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L20	250	("0374584" OR "0576653" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR					

		"20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR					

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		"20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR					

		"20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L21	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR					

		"2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR					

		"5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR					

		"5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L22	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/03/22 01:59 PM

		"7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR					

		"9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L23	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L24	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:16 PM
L25	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L26	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L27	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L28	62	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L29	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/06/27 04:18 PM
L30	145	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2023/10/18 09:01 AM

		("INC"))).AS,AANM.					
L31	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2023/10/18 09:02 AM
L32	231	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L33	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2023/10/18 09:03 AM
L34	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 03:46 PM
L35	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L36	11	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L37	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L38	212966	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L39	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L40	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L41	3337	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7)					
L42	2849	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L43	2439	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L44	1280	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L45	1278	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L46	173	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L47	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L48	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2023/10/18 08:52 PM
L49	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L50	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM
L51	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR					

		"20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR					

		"20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR					

		"20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L52	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2023/10/18 08:52 PM

		"20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR					

		"20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR					

		"4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR					

		"5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR					

		"6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L69	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L70	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L71	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L72	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L73	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L74	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L75	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L76	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L77	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L78	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L79	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L80	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		heat$4 AND inhal$5 AND glycerol AND liquid					
L81	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L82	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L83	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L84	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L85	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR					

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L86	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR					

		"20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR					

		"4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR					

		"5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					

L87	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR					

		"D695450" OR "D707389" OR "D725310").pn.					
L88	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR					

		"20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR					

		"20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR					

		"20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L89	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR					

		"2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR					

		"4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR					

		"5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L90	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR					

		"9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L91	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L92	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L93	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L94	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L95	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L96	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/03/29

			USOCR)				10:32 AM
L97	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L98	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L99	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L100	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L101	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 10:32 AM
L102	10	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L103	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L104	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L105	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L106	215661	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L107	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L108	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L109	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)					
L110	2906	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L111	2485	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L112	1308	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L113	1306	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM

		A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L114	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L115	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L116	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/03/29 10:32 AM
L117	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L118	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM
L119	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR					

		"20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR					

		"20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR					

		"20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L120	250	("20150196060" OR "20150208729" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:32 AM

		"20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR					

		"20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR					

		"3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR					

		"5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR					

		"6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L121	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:12 PM
L122	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM
L123	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:13 PM

		"20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol					
L124	2	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 01:14 PM
L125	155	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/03/29 01:20 PM
L126	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L127	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/03/29 01:21 PM
L128	4	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic AND propylene glycol AND glycer$3).clm.	(USPAT)	ADJ	ON	ON	2024/03/29 01:22 PM
L129	4	((("JUUL") near3 ("LABS") near3	(USPAT)	ADJ	ON	ON	2024/03/29 01:30 PM

		("INC"))).AS,AANM. AND (benzoic AND nicotine AND salt AND propylene glycol AND glycer$3).clm.					
L130	239	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:04 PM
L131	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:05 PM
L132	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol AND concentration).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/03/29 02:06 PM
L133	0	"76387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:53 AM
L134	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:53 AM
L135	1	"20050053665".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 10:54 AM
L136	1	11/492568.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:23 AM
L137	1	17/171976.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:38 AM
L138	1	"10463069".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:56 AM
L139	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/16 11:59 AM
L140	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 10:22 AM
L141	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L142	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L143	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L144	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.					
L145	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L146	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L147	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L148	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L149	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L150	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol					
L151	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L152	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L153	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L154	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L155	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L156	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L157	250	("0374584" OR "0576653" OR "0595070" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR					

		"20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR					

		"20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR					

		"20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR					

		"20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L158	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR					

		"2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR					

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L159	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR					

		"9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L160	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR					

		"20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR					

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L161	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR					

		"3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR					

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		"6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L162	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR					

		"9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L163	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L164	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L165	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L166	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L167	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L168	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L169	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L170	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L171	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L172	249	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM
L173	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM

		liquid AND glycol AND glycerol).clm.					
L174	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L175	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L176	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L177	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L178	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L179	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L180	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L181	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L182	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L183	2534	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/07/25

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	USOCR)				04:52 PM
L184	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L185	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L186	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L187	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

L188	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L189	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L190	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L191	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR					

		"20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR					

		"20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR					

		"20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L192	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR					

		"20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR					

		"4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR					

		"5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L193	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L194	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

L195	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L196	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L197	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L198	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L199	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L200	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L201	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		heat$4 AND inhal$5					
L202	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L203	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L204	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L205	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L206	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L207	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L208	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20160174603" OR "9648905").pn.					
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		"20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR					

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		"20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR					

		"2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR					

		"4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR					

		"5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L211	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR					

		"9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L212	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR					

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		"20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
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		"3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR					

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		"6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L214	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR					

		"9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L215	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L216	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L217	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L218	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L219	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L220	65	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L221	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L222	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L223	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L224	249	((("BOWEN") near3 ("Adam")) OR (("XING") near3	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM

		("Chenyue"))).INV.					
L225	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/07/25 04:52 PM
L226	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L227	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L228	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L229	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L230	217682	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L231	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L232	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L233	3458	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L234	2961	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L235	2534	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L236	1323	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L237	1319	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L238	200	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L239	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L240	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/07/25 04:52 PM
L241	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L242	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L243	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR					

		"20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR					

		"20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR					

		"20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L244	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR					

		"20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR					

		"4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR					

		"5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					

L245	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L246	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L247	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L248	2	("20090139533" OR "20130192615" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM

		"20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid					
L249	164	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L250	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L251	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/07/25 04:52 PM
L265	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L266	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L267	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L268	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L269	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L270	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L271	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L272	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L273	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L274	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L275	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L276	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L277	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L278	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L279	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L280	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L281	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR					

		"20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR					

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		"20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR					

		"20150181928" OR "20150189695" OR "20150196059").pn.					
L282	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR					

		"3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR					

		"5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR					

		"6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L283	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR					

		"9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L284	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR					

		"20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR					

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L285	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR					

		"20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR					

		"4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR					

		"5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR					

		"6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L286	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR					

		"D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L287	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L288	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L289	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L290	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L291	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L292	68	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L293	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L294	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L295	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L296	253	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L297	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L298	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L299	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L300	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L301	1	"10952468".pn.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

			USOCR)				06:56 PM
L302	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L303	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L304	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L305	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L306	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L307	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L308	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L309	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L310	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L311	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L312	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L313	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L314	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

L315	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR					

		"20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR					

		"20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR					

		"20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L316	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR					

		"2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR					

		"4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR					

		"5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L317	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L318	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L319	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L320	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L321	1	"9215895".pn.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

			USOCR)				06:56 PM
L322	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L323	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L324	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L325	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L326	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol					
L327	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L328	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L329	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L330	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L331	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L332	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L333	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR					

		"20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR					

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		"20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L334	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR					

		"3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR					

		"5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR					

		"6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L335	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR					

		"9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L336	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR					

		"20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR					

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L337	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR					

		"20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR					

		"4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR					

		"5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR					

		"6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L338	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR					

		"9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L339	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L340	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L341	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L342	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L343	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L344	68	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L345	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L346	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L347	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L348	253	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L349	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L350	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L351	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L352	12	(nicotine salt AND	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

		benzoic acid AND concentration AND aerosol).clm.	USOCR)				06:56 PM
L353	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L354	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L355	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L356	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L357	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L358	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L359	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5					
L360	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L361	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L362	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L363	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L364	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L365	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

L366	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L367	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR					

		"20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR					

		"20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR					

		"20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L368	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR					

		"2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR					

		"4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR					

		"5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L369	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"D686987" OR "D700572" OR "D704629" OR "D704634").pn.					
L370	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L371	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L372	2	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid					
L373	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L374	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L375	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm. AND propylene glycol AND glycer$3	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L376	4	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic AND propylene glycol AND glycer$3).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L377	4	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic AND nicotine AND salt AND propylene glycol AND glycer$3).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L378	253	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L379	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L380	10	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND benzoic AND salt AND glycerin$3 AND propylene glycol AND concentration).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L381	0	"76387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L382	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L383	1	"20050053665".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L384	1	11/492568.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L385	1	17/171976.app.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L386	1	"10463069".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L387	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L388	1	"7387788".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L389	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L390	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L391	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L392	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L393	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L394	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L395	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L396	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4					
L397	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L398	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L399	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L400	211	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

		A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	USOCR)				06:56 PM
L401	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L402	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L403	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L404	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L405	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR					

		"20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR					

		"20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR					

		"20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L406	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR					

		"20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR					

		"4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR					

		"5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR					

		"6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L407	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR					

		"D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L408	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR					

		"20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR "20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR					

		"20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR "20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR					

		"20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L409	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR					

		"20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR					

		"4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR					

		"5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L410	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR					

		"9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L411	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L412	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L413	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L414	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L415	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L416	68	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L417	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L418	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L419	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L420	253	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L421	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L422	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L423	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L424	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L425	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L426	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L427	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L428	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L429	3500	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	USOCR)				06:56 PM
L430	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L431	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L432	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L433	1335	(A24B15/16 OR	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

		A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	USOCR)				06:56 PM
L434	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L435	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L436	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L437	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L438	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L439	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR					

		"20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR					

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		"20150189695" OR "20150196059").pn.					
L440	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR					

		"3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR					

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L441	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L442	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L443	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L444	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L445	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L446	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L447	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		OR aerosol$7)					
L448	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L449	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L450	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L451	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid					
L452	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L453	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L454	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L455	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L456	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L457	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR					

		"20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR "20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR					

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L458	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR "20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR					

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		"4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR					

		"5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR "5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR					

		"6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L459	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR "6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR "8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR					

		"9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L460	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR "1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR "20070267031" OR "20070267033" OR "20070277816" OR "20070280652" OR "20070283972" OR "20080000763" OR "20080023003" OR "20080029095" OR "20080092912" OR "20080149118" OR "20080216828" OR "20080228214" OR "20080241255" OR "20080257367" OR "20080276947" OR "20080286340" OR "20080302375" OR "20090004249" OR "20090095287" OR "20090095311" OR "20090111287" OR "20090126745" OR "20090133691" OR "20090151717" OR "20090230117" OR "20090255534" OR "20090267252" OR "20090272379" OR "20090283103" OR "20090288668" OR "20090288669" OR "20090293892" OR "20090293895" OR					

		"20100000672" OR "20100006092" OR "20100024834" OR "20100031968" OR "20100156193" OR "20100163063" OR "20100186757" OR "20100200006" OR "20100200008" OR "20100236562" OR "20100242974" OR "20100242976" OR "20100275938" OR "20100276333" OR "20100307116" OR "20110030706" OR "20110036346" OR "20110041861" OR "20110049226" OR "20110094523" OR "20110108023" OR "20110155153" OR "20110162667" OR "20110168194" OR "20110180433" OR "20110192397" OR "20110226236" OR "20110226266" OR "20110232654" OR "20110236002" OR "20110240047" OR "20110265806" OR "20110268809" OR "20110274628" OR "20110277780" OR "20110278189" OR "20110293535" OR "20110315701" OR "20120006342" OR "20120039981" OR "20120060853" OR "20120111347" OR "20120152265" OR "20120192880" OR "20120199146" OR "20120204889" OR "20120227753" OR "20120255567" OR "20120260927" OR "20120261286" OR "20120267383" OR "20120273589" OR "20120285475" OR "20120325227" OR "20130042865" OR "20130068239" OR "20130081642" OR "20130098377" OR					

		"20130140200" OR "20130152922" OR "20130186416" OR "20130199528" OR "20130228191" OR "20130247924" OR "20130248385" OR "20130255702" OR "20130276802" OR "20130284190" OR "20130284191" OR "20130298905" OR "20130312742" OR "20130313139" OR "20130319435" OR "20130319440" OR "20130333700" OR "20130333712" OR "20130340775" OR "20140000638" OR "20140007891" OR "20140014124" OR "20140014126" OR "20140041655" OR "20140041658" OR "20140053856" OR "20140053858" OR "20140060552" OR "20140060556" OR "20140096781" OR "20140096782" OR "20140109921" OR "20140116455" OR "20140123990" OR "20140144429" OR "20140150810" OR "20140166028" OR "20140174459" OR "20140190501" OR "20140190503" OR "20140196731" OR "20140196735" OR "20140202474" OR "20140209105" OR "20140216450" OR "20140230835" OR "20140261474" OR "20140261486" OR "20140261487" OR "20140270727" OR "20140271946" OR "20140301721" OR "20140305450" OR "20140345631" OR "20140345633" OR "20140345635" OR "20140355969" OR "20140366898" OR					

		"20140378790" OR "20150020823" OR "20150020824" OR "20150020825" OR "20150020830" OR "20150020831" OR "20150027457" OR "20150027468" OR "20150027472" OR "20150034103" OR "20150034104" OR "20150038567" OR "20150040929" OR "20150101625" OR "20150122252" OR "20150122274" OR "20150128965" OR "20150128966" OR "20150128967" OR "20150128976" OR "20150136153" OR "20150136158" OR "20150142387" OR "20150144147" OR "20150150308" OR "20150157054" OR "20150157056" OR "20150164141" OR "20150164144" OR "20150164147" OR "20150181928" OR "20150189695" OR "20150196059").pn.					
L461	250	("20150196060" OR "20150208729" OR "20150208731" OR "20150216237" OR "20150223521" OR "20150224268" OR "20150237917" OR "20150237918" OR "20150245654" OR "20150245660" OR "20150257445" OR "20150258289" OR "20150272220" OR "20150272222" OR "20150282525" OR "20150282527" OR "20150305409" OR "20150313275" OR "20150313285" OR "20150320114" OR "20150335074" OR "20150351456" OR "20150359264" OR "20150366265" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"20150366266" OR "20160021931" OR "20160021932" OR "20160021933" OR "20160021934" OR "20160029694" OR "20160029697" OR "20160029698" OR "20160044967" OR "20160044968" OR "20160053988" OR "20160057811" OR "20160058071" OR "20160058072" OR "20160073692" OR "20160081393" OR "20160081395" OR "20160095355" OR "20160106154" OR "20160106155" OR "20160106936" OR "20160109115" OR "20160120218" OR "20160120220" OR "20160120227" OR "20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR					

		"20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR "3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR					

		"4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR "5105831" OR "5105838" OR "5123530" OR "5133368" OR "5141004" OR "5144962" OR "5152456" OR "5183062" OR "5224498" OR "5240012" OR "5249586" OR "5261424" OR "5269237" OR "5269327" OR "5303720" OR "5322075" OR "5324498" OR "5372148" OR "5388574" OR "5449078" OR "5456269" OR "5497791" OR "5529078" OR "5579934" OR "5591368" OR "5605226" OR "5626866" OR "5641064" OR "5649552" OR "5666977" OR "5666978" OR "5708258" OR "5730118" OR					

		"5730158" OR "5746587" OR "5810164" OR "5819756" OR "5845649" OR "5865185" OR "5878752" OR "5881884" OR "5894841" OR "5931828" OR "5934289" OR "5938018" OR "5944025" OR "5954979" OR "5967310" OR "5975415" OR "5979460" OR "5994025" OR "5996589" OR "6053176" OR "6089857" OR "6095153" OR "6102036" OR "6125853" OR "6155268" OR "6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L462	119	("6799576" OR "6803545" OR "6805545" OR "6810883" OR "6827573" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"6874507" OR "6909840" OR "6954979" OR "7000775" OR "7015796" OR "7025066" OR "7374048" OR "7428905" OR "7488171" OR "7546703" OR "7621403" OR "7644823" OR "7726320" OR "7766013" OR "7767698" OR "7801573" OR "7815332" OR "7832410" OR "7886507" OR "7988034" OR "8003080" OR "8079371" OR "8141701" OR "8156944" OR "8251060" OR "8308624" OR "8314235" OR "8322350" OR "8371310" OR "8375957" OR "8381739" OR "8387612" OR "8443534" OR "8464867" OR "8479747" OR "8490629" OR "8511318" OR "8539959" OR "8541401" OR "8550069" OR "8596460" OR "8671952" OR "8707965" OR "8714150" OR "8741348" OR "8794245" OR "8794434" OR "8809261" OR "8820330" OR "8851081" OR "8851083" OR "8881737" OR "8899238" OR "8905040" OR "8910641" OR "8915254" OR "8919561" OR "8925555" OR					

		"8931492" OR "8991402" OR "9004073" OR "9072321" OR "9095175" OR "9215895" OR "9220302" OR "9226526" OR "9254002" OR "9255277" OR "9271525" OR "9271529" OR "9272103" OR "9277768" OR "9277769" OR "9282772" OR "9282773" OR "9289014" OR "9308336" OR "9315890" OR "9319865" OR "9326547" OR "9345269" OR "9351522" OR "9380810" OR "9420829" OR "9427022" OR "9456632" OR "9462832" OR "9497995" OR "9510624" OR "9538781" OR "9554597" OR "9596881" OR "9629391" OR "9635886" OR "9642397" OR "9648905" OR "9675108" OR "9682203" OR "9682204" OR "9687025" OR "9687027" OR "9693584" OR "9717274" OR "9717279" OR "D590990" OR "D590991" OR "D624238" OR "D642330" OR "D644375" OR "D653803" OR "D691324" OR "D695450" OR "D707389" OR "D725310").pn.					
L463	1	"20140000638".pn.	(US-PGPUB; USPAT;	ADJ	ON	ON	2024/10/18

			USOCR)				06:56 PM
L464	1	"20060196518".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L465	0	(lachuga-ballesteros).in. AND (bezoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L466	0	(lachuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L467	0	(lachuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L468	68	(lechuga-ballesteros).in.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L469	1	(lechuga-ballesteros).in. AND (benzoic acid)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L470	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L471	1	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L472	253	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L473	4	((("BOWEN") near3 ("Adam")) OR (("XING") near3 ("Chenyue"))).INV. AND (nicotine AND salt AND liquid AND glycol AND glycerol).clm.	(US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT)	ADJ	ON	ON	2024/10/18 06:56 PM
L474	11	metered dose inhaler near50 flavor$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L475	2	17/171976	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L476	12	(nicotine salt AND benzoic acid AND concentration AND aerosol).clm.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L477	1	"10952468".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L478	219187	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

L479	1	"9215895".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L480	1	"11510433".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L481	3500	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L482	3001	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L483	2570	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L484	1340	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM

		AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol					
L485	1335	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L486	211	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L487	1	"20140000638".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L488	1	"20060018840".pn.	(US-PGPUB; USPAT; USOCR)	ADJ	ON	ON	2024/10/18 06:56 PM
L489	5	("10463069" OR "11510433" OR "20090023819" OR "20110005535" OR "20120291791").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L490	6	("20060243290" OR "20080138423" OR "20100260688" OR "20140217092" OR "20160174603" OR "9648905").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L491	250	("0374584" OR "0576653" OR "0595070" OR "0720007" OR "0799844" OR "0968160" OR "0969076" OR "1067531" OR "1163183" OR "1299162" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"1505748" OR "1552877" OR "1632335" OR "1706244" OR "1845340" OR "1972118" OR "1998683" OR "20010015209" OR "20010032643" OR "20010032795" OR "20010052480" OR "20020043554" OR "20020059939" OR "20020078951" OR "20020175164" OR "20030005926" OR "20030089377" OR "20040002520" OR "20040031495" OR "20040050382" OR "20040099266" OR "20040149296" OR "20040149624" OR "20040173229" OR "20040182403" OR "20040191322" OR "20040221857" OR "20040237974" OR "20050016549" OR "20050016550" OR "20050034723" OR "20050061759" OR "20050118545" OR "20050145533" OR "20050169849" OR "20050172976" OR "20050244521" OR "20050268911" OR "20060018840" OR "20060054676" OR "20060102175" OR "20060150991" OR "20060157072" OR "20060191546" OR "20060191548" OR "20060196518" OR "20060254948" OR "20060255105" OR "20070006889" OR "20070045288" OR "20070062548" OR "20070074734" OR "20070098148" OR "20070102013" OR "20070144514" OR "20070163610" OR "20070215164" OR "20070235046" OR					

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		"20160120228" OR "20160135503" OR "20160143359" OR "20160143365" OR "20160157524" OR "20160166564" OR "20160174611" OR "20160200463" OR "20160227839" OR "20160227840" OR "20160242466" OR "20160249680" OR "20160250201" OR "20160270451" OR "20160278435" OR "20160295924" OR "20160295926" OR "20160302471" OR "20160302483" OR "20160302484" OR "20160302486" OR "20160309784" OR "20160324215" OR "20160331033" OR "20160331038" OR "20160331040" OR "20160338402" OR "20160338410" OR "20160338411" OR "20160345627" OR "20160345630" OR "20160366939" OR "20160368670" OR "20160371464" OR "20160374390" OR "20160374398" OR "20170019951" OR "20170049155" OR "20170064999" OR "20170071257" OR "20170079329" OR "2031363" OR "2039559" OR "2104266" OR "2159698" OR "2177636" OR "2195260" OR "2231909" OR "2327120" OR "2460427" OR "2483304" OR "2502561" OR "2765949" OR "2830597" OR "2860638" OR "2897958" OR "2935987" OR "3146937" OR					

		"3258015" OR "3271719" OR "3292634" OR "3373915" OR "3420360" OR "3443827" OR "3456645" OR "3479561" OR "3567014" OR "3675661" OR "3707017" OR "3792704" OR "3815597" OR "3861523" OR "3941300" OR "4020853" OR "4049005" OR "4066088" OR "4207976" OR "4215708" OR "4219032" OR "4303083" OR "4312367" OR "4506683" OR "4519319" OR "4520938" OR "4579858" OR "4595024" OR "4597961" OR "4648393" OR "4708151" OR "4735217" OR "4771796" OR "4793365" OR "4794323" OR "4798310" OR "4813536" OR "4819665" OR "4830028" OR "4836224" OR "4846199" OR "4848374" OR "4848563" OR "4893639" OR "4907606" OR "4941483" OR "4944317" OR "4947874" OR "4947875" OR "5005759" OR "5020548" OR "5027836" OR "5031646" OR "5042509" OR "5050621" OR "5060671" OR "5065776" OR "5076297" OR					

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		"6164287" OR "6196232" OR "6211194" OR "6234169" OR "6269966" OR "6324261" OR "6344222" OR "6349728" OR "6381739" OR "6386371" OR "6431363" OR "6446793" OR "6510982" OR "6532965" OR "6536442" OR "6557708" OR "6598607" OR "6603924" OR "6606998" OR "6612404" OR "6615840" OR "6622867" OR "6655379" OR "6672762" OR "6688313" OR "6726006" OR "6772756").pn.					
L493	17	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L494	1	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		"D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND benzoic					
L495	7	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L496	2	("20090139533" OR "20130192615" OR "20130192617" OR "20130213417" OR "20130213419" OR "20140202472" OR "20140261507" OR "20140299137" OR "D557209" OR "D611409" OR "D624238" OR "D649932" OR "D674748" OR "D686987" OR "D700572" OR "D704629" OR "D704634").pn. AND nicotine AND (glycerol OR glycerin$1) AND propylene glycol AND acid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L497	175	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L498	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM. AND (benzoic).clm.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM
L499	5	((("JUUL") near3 ("LABS") near3 ("INC"))).AS,AANM.	(USPAT)	ADJ	ON	ON	2024/10/18 06:56 PM

		AND (benzoic).clm. AND propylene glycol AND glycer$3					

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	193	(A24B15/16 OR A24B15/167 OR A24F40/10 OR A61M15/06).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7) AND heat$4 AND inhal$5 AND glycerol AND liquid	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM
N2	3400	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc. AND nicotine AND benzoic AND salt AND (vapor$7 OR aerosol$7)	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:45 AM
N3	215260	(A24B15/16 OR A61K9/12 OR A24B15/167 OR A61P43/00 OR A61K31/60 OR A61P25/26 OR A61K31/465 OR A61K9/007 OR A61K47/10 OR A24F40/10).cpc.	(US-PGPUB; USPAT)	ADJ	ON	ON	2024/03/29 10:46 AM

Used in Lieu of PTO/SB/08A/B
(Based on PTO 11-07 version)

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	17/171,976
				Filing Date	February 09, 2021
				First Named Inventor	Adam Bowen
				Art Unit	1747
				Examiner Name	Dionne Walls Mayes
Sheet	1	of	2	Attorney Docket Number	062210-501C04US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if *known*)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Change(s) applied to document, /T.W./ 11/6/2024		US-3878850-A	04-22-1975	~~Imperial Chemical Industries Limited~~	Gibson et al.
		US-6358060-B2	03-19-2002	JSR LLC	Pinney et al.
		US-6893654-B2	05-17-2005	JSR LLC	Pinney et al.
		US-D725823-S	03-31-2015	Njoy, Inc.	Scatterday et al.
		US-9010335-B1	04-21-2015	Njoy, Inc.	Scatterday
		US-9089166-B1	07-28-2015	Njoy, Inc.	Scatterday
		US-9623592-B2	04-18-2017	Huizhou KIMREE Technology Co., Ltd.	Liu
		US-10058129-B2	08-28-2018	JUUL Labs, Inc.	Monsees et al.
		US-11478021-B2	10-25-2022	~~Pax Labs, Inc.~~	Bowen et al.
		US-20040173224-A1	09-09-2004	Burgard, et al.	
		US-20080121610-A1	05-29-2008	~~Cheil Industries, Inc.~~	Nagata et al.
		US-20090001085-A1	01-01-2009	Bartz, et al.	
		US-20120325228-A1	12-27-2012	Williams, Jonnie R.	
		US-20140083442-A1	03-27-2014	Scatterday, Mark	
		US-20150042412-A1	02-12-2015	~~Qualcomm Inc.~~	Imbornone et al.
		US-20150101945-A1	04-16-2015	Njoy, Inc.	Scatterday
		US-20150157893-A1	06-11-2015	Balanced Body, Inc.	Canevari
		US-20150157901-A1	06-11-2015	Babolat VS	Mace et al.
		US-20150165067-A1	06-18-2015	~~ImClone, LLC.~~	Balderes et al.
		US-20170079331-A1	03-23-2017	James, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.W.M/

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	12/03/2024	12156533	062210-501C04US	1080

148514 7590 11/13/2024

Mintz/JUUL
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Boston, MA 02111

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at https://patentcenter.uspto.gov/. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at https://certifiedcopycenter.uspto.gov/index.html. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 316 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Center (https://patentcenter.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site https://patentcenter.uspto.gov for additional inventors):

Adam Bowen, San Francisco, CA;
Chenyue XING, San Francisco, CA;

APPLICANT(s) (Please see PATENT CENTER site https://patentcenter.uspto.gov for additional applicants):

JUUL Labs, Inc., San Francisco, CA;

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/171,976	02/09/2021	Adam Bowen	062210-501C04US	1080

148514 7590 12/03/2024

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EXAMINER
MAYES, DIONNE WALLS

ART UNIT	PAPER NUMBER
1747	

NOTIFICATION DATE	DELIVERY MODE
12/03/2024	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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IPFileroombos@mintz.com
mintzdocketing@cpaglobal.com

APPLICATION NO.	ISSUE DATE	PATENT NO.
17/171,976	03-Dec-2024	12156533

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EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at https://patentcenter.uspto.gov

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