PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE: | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT |

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------------------|----------------|
| PHILIP MORRIS PRODUCTS S.A. | 05/31/2016 |

RECEIVING PARTY DATA

| Name: | ALTRIA CLIENT SERVICES LLC | |
|-----------------|----------------------------|--|
| Street Address: | 6601 WEST BROAD STREET | |
| City: | RICHMOND | |
| State/Country: | VIRGINIA | |
| Postal Code: | 23230 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15711347 |

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 703-668-8000

Email: dcmailroom@hdp.com

Correspondent Name: HARNESS, DICKEY & PIERCE-ALTRIA
Address Line 1: 11730 PLAZA AMERICA DRIVE, SUITE 600

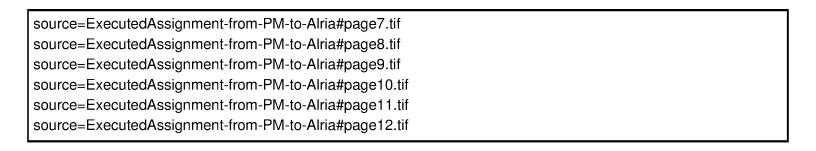
Address Line 4: RESTON, VIRGINIA 20190

| ATTORNEY DOCKET NUMBER: | 24000PA-000059-US | |
|-------------------------|-------------------|--|
| NAME OF SUBMITTER: | COREY E. SMITH | |
| SIGNATURE: | /COREY E. SMITH/ | |
| DATE SIGNED: | 05/23/2018 | |

Total Attachments: 12

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PATENT 504928133 REEL: 045885 FRAME: 0257



ASSIGNMENT

Whereas Philip Morris Products S.A., Quai Jeanrenaud 3, 2000 Neuchâtel,

Switzerland (Assignor), is the owner of the full and exclusive right, title and

interest throughout the world, including the right to claim priority under all

treaties and laws, to European Application No. 16172287.1, filed

31st May 2016 (Application) and the entire subject matter described therein

(Inventions);

Whereas Altria Client Services LLC, 6601 West Broad Street, Richmond,

Virginia 23230, USA (Assignee) is desirous of acquiring the entire right, title

and interest in the United States of America to the Inventions, and the right

to claim priority to the Application in all U.S. applications on the Inventions;

For good and valuable consideration, the receipt and adequacy whereof

Assignor hereby acknowledges, Assignor hereby confirms any prior

assignment to the Assignee and to the extent Assignor has not already done

so, agrees to assign, and hereby does, sell, assign and transfer unto Assignee

and its successors in interest, the full and exclusive right, title and interest in

the United States of America to the Inventions, the right to claim priority to

the Application in all U.S. applications on the Inventions, all U.S. applications

on the Inventions, all divisionals, continuations, continuations-in-part, or

other U.S. applications claiming priority directly or indirectly from U.S.

applications on the Inventions, and any United States Letters Patent or other

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similar rights which may be granted thereon, including reissues,

reexaminations and extensions thereof, and all copyright rights in the United

States of America in the Inventions, these rights, title and interest to be held

and enjoyed by Assignee to the full end of the term for which the Letters Patent

or other similar rights are granted and any extensions thereof as fully and

entirely as the same would have been held by Assignor had this assignment

and sale not been made, and the right to sue for, and recover for past

infringements of, or liabilities for, any of the rights relating to any of the U.S.

applications, U.S. patents or other similar rights, resulting therefrom, and

the copyright rights in the U.S.

Assignor hereby covenants and agrees to execute all instruments or

documents required or requested for the making and prosecution of any U.S.

applications of any type for patent or other similar rights, and for copyright

in the United States including, but not limited to, any provisional,

continuation, continuation-in-part, divisional, renewal or substitute thereof,

any derivation proceedings relating thereto, and as to Letters Patent any

supplemental examination, derivation proceeding, opposition, post grant

review, reissue, re-examination, inter partes review, or extension thereof, and

for litigation regarding, or for the purpose of protecting title and to the said

invention, the United States application for patent, or Letters Patent therefor.

Assignor hereby covenants that Assignor has not made and will not make any

assignment, sale, license, agreement or encumbrance which would conflict

with this Assignment.

Assignor hereby requests the United States Patent and Trademark Office to issue any Letters Patent of the United States of America on the Inventions to Assignee.

Assignor hereby grants the law firm of Harness, Dickey & Pierce, P.L.C. the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office for recordation of this document.

Philip Morris Products S.A.

By:

Title:

Date:

Patent Counsel Philip Morris Products S.A

Sidfan Kaiser Senior Patent Counsel Philip Monis Products S.A.

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Switzerland (Assignor), is the owner of the full and exclusive right, title and

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treaties and laws, to European Application No. 16172262.4, filed

31st May 2016 (Application) and the entire subject matter described therein

(Inventions);

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Philip Morris Products S.A.

By:

Title:

Takeshi Mikayama

Patent Counsel
Philip Morris Products S.A

Date:

31 May 2017

Stefan Kaiser
Senior Patent Counsel
Philip Morris Products S.A.

ASSIGNMENT

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Switzerland (Assignor), is the owner of the full and exclusive right, title and

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treaties and laws, to European Application No. 16172263.2, filed

31st May 2016 (Application) and the entire subject matter described therein

(Inventions);

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Philip Morris Products S.A.

By:

Title:

Tekeshi Mikayama
Petent Counsel
Philip Morris Products S.A

Date:

31 May 2017

Stefan Kalser Senier Patent Counsel Philip Morris Products S.A.

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Philip Morris Products S.A.

By:

Title:

Date:

Patent Counsel

Philip Momis Products S.A

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