504380365 05/23/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4427060

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
DAEHYEON KIM	03/07/2017
SATOKO GATINEAU	03/07/2017
WONTAE NOH	03/07/2017
JULIEN GATINEAU	03/08/2017
JEAN-MARC GIRARD	03/10/2017

RECEIVING PARTY DATA

Name:	L'AIR LIQUIDE, SOCIÉTÉ ANONYME POUR L'ETUDE ET L'EXPLOITATION DES PROCÉDÉS GEORGES CLAUDE
Street Address:	75 QUAI D'ORSAY
City:	PARIS
State/Country:	FRANCE
Postal Code:	F-75007

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15396159

CORRESPONDENCE DATA

Fax Number: (713)624-8950

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: 713-624-8953

Email: NEVA.DARE-SC@AIRLIQUIDE.COM

Correspondent Name: AIR LIQUIDE USA LLC
Address Line 1: 9811 KATY FREEWAY

Address Line 2: SUITE 100

Address Line 4: HOUSTON, TEXAS 77024

ATTORNEY DOCKET NUMBER:	2016P00454US
NAME OF SUBMITTER:	NEVA DARE
SIGNATURE:	/Neva Dare/
DATE SIGNED:	05/23/2017

Total Attachments: 2

PATENT REEL: 042479 FRAME: 0347 source=2016P00454_US_Assignment signed#page1.tif source=2016P00454_US_Assignment signed#page2.tif

PATENT REEL: 042479 FRAME: 0348

Assignment of Invention

WHEREAS WE, Daehyeon KIM, Satoko GATINEAU, Wontae NOH, Julien GATINEAU, and Jean-Marc GIRARD, have invented certain new and useful improvements documented in a patent application entitled, "ZIRCONIUM, HAFNIUM, TITANIUM PRECURSORS AND DEPOSITION OF GROUP 4 FILMS USING THE SAME", or which a United States (patent application was filed on December 30, 2016, having Application No. 15/396,159;

WHEREAS, L'Air Liquide, Société Anonyme pour l'Étude et l'Exploitation des Procédés Georges Claude, a French corporation having offices at 75 quai d'Orsay, F-75007 Paris, FRANCE (hereinafter referred to as "ASSIGNEE"), desires to acquire from Daehyeon KIM, Satoko GATINEAU, Wontae NOH, Julien GATINEAU, and Jean-Marc GIRARD the entire right, title and interest WE have in and to said invention and in and to any Letters Patent that may be granted thereof in the United States and its territorial possessions;

NOW, THEREFORE, for valuable consideration, the receipt whereof is hereby acknowledged, WE, by these presents do sell, assign and transfer unto said ASSIGNEE, effective as of the first priority date, the full and exclusive right to the said invention in the United States and its territorial possessions, including the right to claim priority of the above-mentioned patent application(s), and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in and to any and all subsequent provisionals, non-provisionals, divisions, reissues, continuations, continuations-in-part, reexaminations, substitutions and renewals thereof.

WE hereby authorize and request the Patent Office Officials in the United States and its territorial possessions to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said ASSIGNEE, its successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.

Further, WE, agree that WE will communicate to said ASSIGNEE or its representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all non-provisional, divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions.

The undersigned hereby grants authorized representatives of the above identified ASSIGNEE the power to insert on this assignment any further identification, INCLUDING ANY SUBSEQUENT DATE OF APPLICATION FILING AND THE APPLICATION SERIAL NUMBER, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Date:03. 00 - 2011	
	Daehyeon KIM (Inventor)
Date: <u>March 7, 2017</u>	Sacoko GATINEAU
	Satoko GATINEAU (Inventor)
Date: 3 / 7 / 2 9 / 7	Emmany Commence of the Commenc
	Wontae NOH (Inventor)
Date: <u>Nord 8, 7017-</u>	C. The state of th
	Julien GATINEAU (Inventor)
Date:	
	Marc GIRARD (Inventor)

Assignment of Invention

WHEREAS WE, Daehyeon KIM, Satoko GATINEAU, Wontae NOH, Julien GATINEAU, and Jean-Marc GIRARD, have invented certain new and useful improvements documented in a patent application entitled, "ZIRCONIUM, HAFNIUM, TITANIUM PRECURSORS AND DEPOSITION OF GROUP 4 FILMS USING THE SAME", or which a United States (patent application was filed on December 30, 2016, having Application No. 15/396,159;

WHEREAS, L'Air Liquide, Société Anonyme pour l'Étude et l'Exploitation des Procédés Georges Claude, a French corporation having offices at 75 quai d'Orsay, F-75007 Paris, FRANCE (hereinafter referred to as "ASSIGNEE"), desires to acquire from Daehyeon KIM, Satoko GATINEAU, Wontae NOH, Julien GATINEAU, and Jean-Marc GIRARD the entire right, title and interest WE have in and to said invention and in and to any Letters Patent that may be granted thereof in the United States and its territorial possessions;

NOW, THEREFORE, for valuable consideration, the receipt whereof is hereby acknowledged, WE, by these presents do sell, assign and transfer unto said ASSIGNEE, effective as of the first priority date, the full and exclusive right to the said invention in the United States and its territorial possessions, including the right to claim priority of the above-mentioned patent application(s), and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in and to any and all subsequent provisionals, non-provisionals, divisions, reissues, continuations, continuations-in-part, reexaminations, substitutions and renewals thereof.

WE hereby authorize and request the Patent Office Officials in the United States and its territorial possessions to issue any and all of said Letters Patent, when granted, to said ASSIGNEE as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said ASSIGNEE, its successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this Assignment and sale not been made.

Further, WE, agree that WE will communicate to said ASSIGNEE or its representatives any facts known to me respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all non-provisional, divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEE, its successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions.

The undersigned hereby grants authorized representatives of the above identified ASSIGNEE the power to insert on this assignment any further identification, INCLUDING ANY SUBSEQUENT DATE OF APPLICATION FILING AND THE APPLICATION SERIAL NUMBER, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Date:	Daehyeon KiM (Inventor)	
Date:	Satoko GATINEAU (Inventor)	
Date:	Wontae NOH (Inventor)	***********
Date:	Julien GATINEAU (Inventor)	
Date: 02/10/2013-	Marc GIRARU (Thventor)	

PATENT REEL: 042479 FRAME: 0350