PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4536659

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
AIR PRODUCTS AND CHEMICALS, INC.	02/14/2017

RECEIVING PARTY DATA

Name:	VERSUM MATERIALS US, LLC
Street Address:	8555 S. RIVER PARKWAY
City:	TEMPE
State/Country:	ARIZONA
Postal Code:	85284

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15548884

CORRESPONDENCE DATA

Fax Number: (610)640-1965

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: 6106405800
Email: Svictor@stradley.com
Correspondent Name: SHEILA VICTOR FOR JOSEPH D. ROSSI, ESQ.
Address Line 1: STRADLEY RONON STEVENS & YOUNG, LLP
Address Line 2: 30 VALLEY STREAM PARKWAY
Address Line 4: MALVERN, PENNSYLVANIA 19355

ATTORNEY DOCKET NUMBER:	188947-3053
NAME OF SUBMITTER:	SHEILA VICTOR
SIGNATURE:	/Sheila Victor/
DATE SIGNED:	08/04/2017

Total Attachments: 101
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WORLDWIDE PATENT ASSIGNMENT

This WORLDWIDE PATENT ASSIGNMENT (this "Assignment") is made effective as of the 1st day of October, 2016 by Air Products and Chemicals, Inc., a Delaware corporation of the United States of America having its principal place of business at 7201 Hamilton Boulevard, Allentown, Pennsylvania 18195-1501, U.S.A. ("Assignor") to Versum Materials US, LLC, a Delaware limited liability company of the United States of America having its principal place of business at 8555 River Parkway, Tempe, Arizona 85284, U.S.A. ("Assignee").

WHEREAS, Assignor has agreed to sell, assign, transfer, convey, grant, and deliver to Assignee all of Assignor's right, title, and interest in, to, and under the patent applications and patents identified and set forth on Schedule A (the "Transferred Patents"); and

WHEREAS, Assignee has agreed to purchase from Assignor all of Assignor's right, title, and interest in, to, and under the Transferred Patents.

NOW, THEREFORE, for good and valuable consideration (including the premises and covenants set forth in this document), the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

1. Assignor hereby sells, assigns, transfers, conveys, grants, and delivers to Assignee, or its designees, all of Assignor's respective right, title, and interest that exist today and may exist in the future in, to, and under any and all of the following (collectively, the "Patent Rights"):

(a) the Transferred Patents;

(b) all patents and patent applications (i) to which any of the Transferred Patents directly or indirectly claims priority, (ii) for which any of the Transferred Patents directly or indirectly forms a basis for priority, and/or (iii) that directly or indirectly incorporate by reference the Transferred Patents or are directly or indirectly incorporated by reference by the Transferred Patents;

(c) all reissues, reexaminations, extensions, continuations, continuations in part, continuing prosecution applications, requests for continuing examinations, divisions, registrations of any item in either of the foregoing categories (a) and (b);

(d) all foreign patents, patent applications, and counterparts relating to any item in any of the foregoing categories (a) through (c), including, without limitation, certificates of invention, utility models, industrial design protection, design patent protection, and other governmental grants or issuances;

(e) all items in any of the foregoing in categories (b) through (d), whether or not expressly listed as Transferred Patents and whether or not claims in any of the foregoing have been rejected, withdrawn, cancelled, or the like;

(f) all inventions, invention disclosures, and discoveries described in any item in any of the foregoing categories (a) through (e) and all other rights arising out of such inventions, invention disclosures, and discoveries;

(g) all rights to apply in any or all countries of the world for patents, certificates of invention, utility models, industrial design protections, design patent protections, or other governmental grants or issuances of any type related to any item in any of the foregoing categories (a) through (f), including, without limitation, under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement, or understanding;

(h) all causes of action (whether known or unknown or whether currently pending, filed, or otherwise) and other enforcement rights under, or on account of, any of the Transferred Patents and/or any item in any of the foregoing categories (b) through (g), including, without limitation, all causes of action and other enforcement rights for (i) damages, (ii) injunctive relief, and (iii) any other remedies of any kind for past, current, and future infringement; and

(i) all rights to collect royalties and other payments under or on account of any of the Transferred Patents and/or any item in any of the foregoing categories (b) through (h).

2. Assignor represents, warrants and covenants that:

(a) Assignor has the full power and authority, and has obtained all third party consents, approvals, and/or other authorizations required to enter into this Agreement and to carry out its obligations hereunder, including the assignment of the Patent Rights to Assignee; and

(b) Assignor owns, and by this document assigns to Assignee, all right, title, and interest to the Patent Rights, including, without limitation, all right, title, and interest to sue for infringement of the Patent Rights. Assignor has obtained and properly recorded previously executed assignments for the Patent Rights as necessary to fully perfect its rights and title in the Patent Rights in accordance with governing law and regulations in each respective jurisdiction. The Patent Rights are free and clear of all liens, claims, mortgages, security interests, or other encumbrances and restrictions. There are no actions, suits, investigations, claims, or proceedings threatened, pending, or in progress relating in any way to the Patent Rights. There are no existing contracts, agreements, options, commitments, proposals, bids, offers, or rights with, to, or in any person to acquire any of the Patent Rights.

3. Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents, certificates of invention, utility models, or other governmental grants or issuances that may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest in the Patent Rights.

4. Assignor shall, at the reasonable request of Assignee and without demanding any further consideration therefor, do all things necessary, proper, or advisable, including without limitation, the execution, acknowledgment, and recordation of specific assignments, oaths, declarations, and other documents on a country-by-country basis, to assist Assignee in obtaining, perfecting, sustaining, and/or enforcing the Patent Rights. Such assistance shall include providing, and obtaining from the respective inventors, prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, powers of attorney, specifications, declarations or other papers, and other assistance reasonably necessary for filing patent applications, complying with any duty of disclosure, and conducting prosecution, reexamination, reissue, interference or other priority proceedings, opposition proceedings, cancellation proceedings, public use proceedings, infringement or other court actions and the like with respect to the Patent Rights. Upon the condition that Assignee has provided prior written approval for Assignor's reasonable costs and expenses, Assignee shall pay Assignor's reasonable costs and expenses.

5. The terms and conditions of this Assignment of Patent Rights shall inure to the benefit of Assignee, its successors, assigns, and other legal representatives and shall be binding upon Assignor, its successors, assigns, and other legal representatives.

6. This Assignment shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania, United States of America, applicable to agreements made and to be performed entirely within such Commonwealth, without regard to the conflicts of law principles of such Commonwealth.

7. This Assignment may be executed in one or more counterparts, all of which shall be considered one and the same agreement, and shall become effective when one or more such counterparts have been signed by each of the parties and delivered to the other party.

IN WITNESS WHEREOF, Assignor and Assignee have caused this Assignment to be duly executed as of the date first above written.

ASSIGNOR

Dated: 14 Feb. 2017

Air Products and Chemicals, Inc.
By:
Name: Mark L. Rodgers
Title: Assistant General Counsel--IP

ASSIGNEE

Dated: 14 Feb 2017

Versum Materials US, LLC
By:
Name: Michael W. Valente
Title: Senior Vice President, General Counsel & Secretary

COMMONWEALTH OF PENNSYLVANIA:
ss
COUNTY OF LEHIGH :

Sworn and subscribed before me, on this 14 day of February 2017, the signing officer, personally appeared Mark L. Rodgers and Michael W. Valente, known to me (or satisfactorily proven) to be the persons whose names are subscribed to the within instrument, and acknowledged that each executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my hand and official seal.

[SEAL] Virginia K Reda
Notary

VIRGINIA K. REDA, Notary public
My Commission Expires Nov. 26, 2018

SCHEDULE A

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Australia	INACTIVE	22787/77	3/1/1977	502899.0	2/7/1980	REFRIGERATION SYSTEM FOR SHIPP ING CONTAINER
Australia	INACTIVE	44091/85	5/17/1985			SEPTUM CLOSURE
Australia	INACTIVE	44969/85	6/21/1985	578297.0	3/16/1989	CHEMICAL REFILL SYSTEM
Australia	INACTIVE	28554/89	1/18/1989	592048.0	4/12/1990	CHEMICAL REFILL SYSTEM
Australia	INACTIVE	44316/85	5/17/1985			ION BEAM INPLANT SYSTEM
Australia	INACTIVE	44093/85	5/17/1985			METALIZED VALVE
Australia	INACTIVE	43590/85	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Australia	INACTIVE	44315/85	5/17/1985	578707.0	4/4/1989	ION IMPLANT USING TETRAFLUOROB ORATES
Australia	INACTIVE	78655/85	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Australia	INACTIVE					FLUORINATED BETA-KETOIMINATO METAL COMPLEXES
Australia	INACTIVE	51976/93	11/26/1993	650397.0	10/4/1994	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Australia	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Australia	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Australia	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Australia	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Australia	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Australia	INACTIVE	20000501.0	5/1/2000			Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Austria	INACTIVE	85902834.2	5/17/1985	E47125	10/11/1989	SEPTUM CLOSURE
Austria	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Austria	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Austria	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Austria	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Austria	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Austria	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Austria	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Austria	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Austria	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Austria	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Austria	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Austria	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Austria	INACTIVE	94105564.2	4/11/1994			HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Austria	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Austria	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Austria	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Austria	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Austria	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Austria	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Austria	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Austria	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Austria	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Austria	INACTIVE	930248.0	5/1/2000	1190006.0	5/1/2000	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Belgium	INACTIVE	189633.0	8/1/1978	869431.0	8/31/1978	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL S
Belgium	INACTIVE	186910.0	4/19/1978	866133.0	5/12/1978	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Belgium	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Belgium	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Belgium	INACTIVE	86111222.5	8/13/1986	222075.0	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Belgium	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Belgium	INACTIVE	88115327.4	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Belgium	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Belgium	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Belgium	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Belgium	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Belgium	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Belgium	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Belgium	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Belgium	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Belgium	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Belgium	INACTIVE	89119523.2	10/20/1989	387403.0	10/6/1993	DEPOSITION OF SILICON OXIDE FI LMS USING ALKYLSILANE LIQUID S OURCES
Belgium	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Belgium	INACTIVE	89120616.1	11/7/1989			VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL COMPLEXES
Belgium	INACTIVE	89121546.9	11/21/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
Belgium	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Belgium	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Belgium	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Belgium	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Belgium	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Belgium	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Belgium	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Belgium	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Belgium	INACTIVE	92304012.5	5/5/1992	515054.0	7/17/1996	METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Belgium	INACTIVE	93309632.1	12/3/1993	600752.0	3/27/1996	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Belgium	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSITING COPPER ALUMINUM ALLOYONT OF A SUBSTRATE
Belgium	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
Belgium	INACTIVE	93108567.4	5/27/1993			PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
Belgium	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Belgium	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Belgium	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Belgium	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Belgium	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
Belgium	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Belgium	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Belgium	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Belgium	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Belgium	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Belgium	INACTIVE	9700112.0	2/5/1997	9700112.0	4/6/1999	METHOD AND APPARATUS FOR TRANS PORTING, STORING AND DELIVERIN G DANGEROUS CHEMICALS
Belgium	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Belgium	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Belgium	INACTIVE	97101356.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORI DE SYNTHESIS
Belgium	INACTIVE	96306186.6	8/23/1996			PRODUCTION OF ULTRA-HIGH PURIT Y OXYGEN FROM CRYOGENIC AIR SE PARATION PLANTS
Belgium	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Belgium	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Belgium	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Belgium	INACTIVE	98118306.4	9/25/1998	908448.0		THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Belgium	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Belgium	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Belgium	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Belgium	INACTIVE	99109396.4	6/2/1999	964441.0		DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Belgium	INACTIVE	111836.3	6/7/2000	1059295.0	8/13/2003	Production of Metal-Ligand Complexes
Belgium	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Belgium	INACTIVE	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Belgium	INACTIVE	5005646.4	3/15/2005	1580607.0	10/22/2014	Process Solutions Containing Surfactants
Belgium	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
Belgium	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Belgium	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Belgium	ISSUED	6255104.9	10/3/2006	1772460.0	3/25/2009	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Belgium	ISSUED	9151404.2	1/27/2009	2083096.0	1/2/2013	Antimony Precursors for GST Films in ALD/CVD Processes
Belgium	ISSUED	9005251.5	4/9/2009	2116633.0	6/19/2013	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Belgium	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices

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Brazil	INACTIVE	PI7900337	1/18/1979	PI7900337	11/29/1983	PROCESS AND APPARATUS FOR BLEN DING FLUIDS TO MAINTAIN CONCEN TRATION OF ONE FLUID BELOW A P REDETERMINED MAXIMUM
Brazil	INACTIVE	PI8004829	7/31/1980	PI8004829	4/24/1984	CRYOGENIC FREEZER
Brazil	INACTIVE	PI8106741	10/20/1981			SPIRAL-TYPE HEAT EXCHANGER
Brazil	INACTIVE	PI8604444	9/12/1986			PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Brazil	INACTIVE	PI8804852	9/20/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Brazil	INACTIVE	PI8801157	3/15/1988			CONCENTRATED STABLE FLUOROCHEM ICAL AQUEOUS EMULSIONS
Brazil	INACTIVE	PI8804851	9/20/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Brazil	INACTIVE	PI8801158	3/15/1988			STABLE FLUOROCARBON AQUEOUS EM ULSIONS
Brazil	INACTIVE	PI9304899-8	11/30/1993	PI9304899-8	9/5/2000	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINERS
Canada	INACTIVE	236503.0	9/26/1975	1074509.0	4/1/1980	FLUORINATED POLYESTER TIRE REI NFORCEMENT MATERIALS
Canada	INACTIVE	308547.0	8/1/1978	1100254.0	5/5/1981	ENHANCING SOLVENT BARRIER PROP ERTY OF PIGMENTED POLYMERIC BO DIES
Canada	INACTIVE	301466.0	4/19/1978	1090535.0	12/2/1980	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Canada	INACTIVE	309723.0	8/21/1978	1097479.0	3/17/1981	PREPARATION OF IODINE PENTAFLU ORIDE BY DIRECT FLOURINATION O F MOLTEN IODINE
Canada	INACTIVE	321336.0	2/13/1979	1105239.0	7/21/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Canada	INACTIVE	321334.0	2/13/1979	1104794.0	7/14/1981	PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Canada	INACTIVE	417122.0	12/7/1982			TEMPERATURE ACTUATED VALVE AND PHASE SEPARATION METHOD
Canada	INACTIVE	577785.0	9/19/1988	1336273.0	7/11/1995	DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Canada	INACTIVE	577786.0	9/19/1988	1306903.0	9/1/1992	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Canada	INACTIVE	561390.0	3/14/1988	1312010.0	12/29/1992	STABLE FLUOROCARBON AQUEOUS EM ULSIONS
Canada	INACTIVE	377928.0	5/20/1981	1171940.0	7/31/1984	VAPOR MASS FLOW CONTROL SYSTEM
Canada	INACTIVE	526990.0	1/9/1987			SEPTUM CLOSURE
Canada	INACTIVE	528932.0	2/4/1987			CHEMICAL REFILL SYSTEM
Canada	INACTIVE	526991.0	1/9/1987			ION BEAM INPLANT SYSTEM
Canada	INACTIVE	527119.0	1/12/1987			METALIZED VALVE
Canada	INACTIVE	526995.0	1/9/1987	1276118.0	11/13/1990	DISPOSABLE CHEMICAL CONTAINER
Canada	INACTIVE	615765.0	6/8/1990			DISPOSABLE CHEMICAL CONTAINER
Canada	INACTIVE	526989.0	1/9/1987			ION IMPLANT USING TETRAFLUOROB ORATES
Canada	INACTIVE	528931.0	2/4/1987			VACUUM VAPOR TRANSPORT CONTROL
Canada	INACTIVE	549730.0	10/20/1987			SEMICONDUCTOR DOPANT VAPORIZER
Canada	INACTIVE	563214.0	4/5/1988	1333146.0	11/22/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Canada	INACTIVE					LARGE BREAKSEAL ACTUATOR WITH BUILT IN VALVE
Canada	INACTIVE	615119.0	9/29/1989	1337033.0	9/19/1995	DEPOSITION OF SILICON OXIDE FI LMS USING ALKYLSILANE LIQUID S OURCES
Canada	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Canada	INACTIVE	615128.0	9/29/1989	1330803.0	7/19/1994	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
Canada	INACTIVE	2004639-2	12/5/1989			FLUORINATED BETA-KETOIMINES AND BETA-KETOIMINATO METAL COMPLEXES
Canada	INACTIVE	2043445.0	5/29/1991	2043445.0	1/21/1997	SURFACE CLEANING USING A CRYOGENIC AEROSOL
Canada	INACTIVE	2037538-8	3/5/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Canada	INACTIVE	2055422.0	11/13/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Canada	INACTIVE	2051041.0	9/10/1991	2051041.0	5/21/1996	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Canada	INACTIVE	2058483.0	12/27/1991	2058483.0	1/5/1999	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Canada	INACTIVE	2067897.0	5/1/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Canada	INACTIVE	2110217.0	11/29/1993	2110217.0	12/16/1997	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Canada	INACTIVE	2086394.0	12/29/1992			DIFFUSION GAS DILUTER
Canada	INACTIVE	2096928.0	5/25/1993	2096928.0	8/25/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
Canada	INACTIVE	2097472.0	6/1/1993	2097472.0	12/22/1998	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Canada	INACTIVE	2137037.0	11/30/1994	2137037.0	10/21/1997	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
Canada	INACTIVE	2137036.0	11/30/1994	2137036.0	6/10/1997	PROCESS FOR PREPARING DIFLUORI NATED DIAZONIABICYCLOALKANE DE RIVATIVES
Canada	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Canada	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Canada	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Canada	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Canada	INACTIVE	2138282.0	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Canada	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Canada	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Canada	INACTIVE	2177345.0	5/24/1996	2177345.0	11/23/1999	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
Canada	INACTIVE	2195908.0	1/24/1997	2195908.0	11/9/1999	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS

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Canada	INACTIVE	2183931.0	8/22/1996	2183931.0	3/23/1999	PRODUCTION OF ULTRA-HIGH PURIT Y OXYGEN FROM CRYOGENIC AIR SE PARATION PLANTS
Canada	INACTIVE	2177912.0	5/31/1996	2177912.0	2/23/1999	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Canada	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Canada	INACTIVE	2218147.0	10/24/1997			FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Canada	INACTIVE	2248407.0	9/22/1998	2248407.0	12/16/2003	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Canada	INACTIVE	2248446.0	9/22/1998	2248446.0	6/25/2002	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Canada	INACTIVE	2260277.0	1/25/1999	2260277.0	7/8/2003	IMIDAZOLATE SULFURYL DIFLUORIDES
Canada	INACTIVE	2276930.0	7/2/1999			PREPARATION OF 1,4-BIS-(DIFLUOROMETHYL)BENZENE
Canada	INACTIVE	2324644.0	10/27/2000	2324644.0	7/18/2006	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Canada	INACTIVE	2324920.0	10/25/2000	2324920.0	8/9/2005	Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
Canada	INACTIVE	2324186.0	10/25/2000	2324186.0	3/29/2005	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-Dicarbonyl Compounds Using Oxygen as a Radical Scavange
Canada	ISSUED	2322730.0	10/10/2000	2322730.0	8/17/2004	Vacuum Preparation of Hydrogen Halide Drier
Canada	INACTIVE	2345873.0	5/1/2001	2345873.0	10/28/2003	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Canada	INACTIVE	2345489.0	4/30/2001	2345489.0	1/11/2005	A Process for Concentrating Fluorine Compounds
Canada	INACTIVE	2354956.0	8/10/2001	2354956.0	7/11/2006	Sub-Atmospheric Gas Delivery Method and Apparatus
Canada	INACTIVE	2520086.0	9/19/2005			Process for the Production of Nitrogen Trifluoride
Canada	INACTIVE	2306954.0	10/13/1998			Aqueous Stripping And Cleaning Compositions
Canada	INACTIVE	2317393.0	10/13/1998			Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
Canada	INACTIVE	2296699.0	5/21/1998	2296699.0	8/5/2003	Purification Of Hydroxylamine
Canada	INACTIVE	2279786.0	7/30/1999			Compositon And Method For Selectively Etching A Silicon Nitride Film
Canada	INACTIVE	2423468.0	9/18/2001			Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Canada	INACTIVE	2690697.0	1/21/2010			Selective Etching and Formation of Xenon Difluoride
Canada	INACTIVE	2733682.0	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
China P.R.	INACTIVE					PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
China P.R.	INACTIVE	88107587.6	9/24/1988	9631.0	3/6/1991	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
China P.R.	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
China P.R.	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
China P.R.	INACTIVE	96106833.7	6/7/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
China P.R.	INACTIVE	99101268.2	1/20/1999	99101268.2	11/21/2007	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
China P.R.	ISSUED	99108459.4	6/11/1999	ZL99108459.4	2/18/2004	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING IS(TERTIARYBUTYLAMINO)SILANE
China P.R.	INACTIVE	87115891.0	9/24/1998			ORDERED MESOPOROUS THIN FILMS
China P.R.	INACTIVE	119208.6	6/10/2000	ZL00119208.6	4/14/2004	Production of Metal-Ligand Complexes
China P.R.	INACTIVE	1133976.4	8/18/2001	ZL01133976.4	2/23/2005	Sub-Atmospheric Gas Delivery Method and Apparatus
China P.R.	INACTIVE	1121968.8	6/21/2001	ZL01121968.8	9/28/2005	Multiple Contents Container Assembly for Ultrapure Solvent Purging
China P.R.	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
China P.R.	ISSUED	02102345.X	1/17/2002	ZL02102345.X	2/8/2006	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
China P.R.	ISSUED	200510008055.8	1/17/2002	200510008055.8	8/13/2008	Low Dielectric Constant Interlayer Dielectric Film and Method of Forming the Same
China P.R.	INACTIVE	200310120274.6	12/12/2003			Low Dielectric Constant Material and Method of Processing By CVD
China P.R.	INACTIVE	3155631.0	8/29/2003	ZL03155631.0	10/11/2006	Single Source Mixtures of Metal Siloxides
China P.R.	INACTIVE	2157857.5	12/20/2002			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
China P.R.	ISSUED	200610114834.0	8/8/2006	200610114834.0	12/22/2010	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
China P.R.	ISSUED	200410055002.7	6/23/2004	200410055002.7	4/4/2007	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
China P.R.	INACTIVE	200810178584.6	10/15/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
China P.R.	ISSUED	3102740.7	1/14/2003	ZL03102740.7	7/19/2006	Cabinet for Chemical Delivery with Solvent Purge
China P.R.	ISSUED	3136860.3	5/23/2003	ZL03136860.3	3/8/2006	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
China P.R.	ISSUED	200410089932.4	9/24/2004	200410089932.4	9/3/2008	Purgeable Container for Low Vapor Pressure Chemicals
China P.R.	PENDING	200910138000.7	5/5/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
China P.R.	PENDING	201310074000.1	5/5/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
China P.R.	INACTIVE	3141324.2	5/30/2003	3141324.2	3/7/2007	Low Dielectric Materials and Methods for Making Same
China P.R.	INACTIVE	200710003883.1	1/11/2007			Low Dielectric Materials and Methods for Making Same
China P.R.	ISSUED	200510067628.4	3/18/2005	200510067628.4	3/30/2011	Process Solutions Containing Surfactants
China P.R.	INACTIVE	201110030242.1	3/18/2005			Process Solutions Containing Surfactants
China P.R.	INACTIVE	3138297.5	5/30/2003	3138297.5	9/9/2009	Low Dielectric Materials and Methods for Making Same
China P.R.	INACTIVE	200410100570.4	11/26/2004	200410100570.4	2/27/2008	Method For Etching High Dielectric Constant Materials And For Cleaning Deposition Chambers for High Dielectric Constant Materials
China P.R.	INACTIVE					Method for Nitrogen Trifluoride Production
China P.R.	INACTIVE	200310120959.0	11/19/2003	200310120959.0	7/26/2006	Method for Nitrogen Trifluoride Production

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
China P.R.	ISSUED	200410001869.4	1/15/2004	200410001869.4	4/30/2008	Process for the Production and Purification of Bis(tertiary-butylamino)silane
China P.R.	INACTIVE	200410001869.4	1/21/2004			Precursors for Depositing Silicon Containing Films and Processes Thereof
China P.R.	ISSUED	200410032658.7	3/4/2004	200410032658.7	9/23/2009	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
China P.R.	ISSUED	200910164131.2	3/4/2004	200910164131.2	9/25/2013	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
China P.R.	INACTIVE	200410104720.9	12/8/2004			Purification Of Hydride Gases
China P.R.	INACTIVE	200410100567.2	11/19/2004	200410100567.2	4/4/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
China P.R.	INACTIVE	99810169.9	7/6/1999	99810169.9	3/12/2008	Method and Apparatus for the Preparation of High Purity Phosphine or Other Gas
China P.R.	ISSUED	200510006494.5	1/21/2005	200510006494.5	2/27/2008	Process For The Purification of NF3
China P.R.	INACTIVE	200410071478.X	5/28/2004	200410071478.X	4/18/2007	Mechanical Enhancer Additives for Low Dielectric Films
China P.R.	ISSUED	200410063967.0	6/24/2004	200410063967.0	8/15/2007	HIGH PURITY CHEMICAL CONTAINER
China P.R.	ISSUED	200410083284.1	8/19/2004	200410083284.1	8/5/2009	Method and Vessel for the Delivery of Precursor Materials
China P.R.	INACTIVE	200410068438.X	7/15/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
China P.R.	ISSUED	200410100649.7	12/8/2004	200410100649.7	7/9/2008	Process For Removing Water From Ammonia
China P.R.	INACTIVE	200510071791.8	4/29/2005			Method for Removing a Substance From a Substrate Using Electron Attachment
China P.R.	INACTIVE	200510078503.1	6/14/2005	200510078503.1	11/26/2008	Liquid Media Containing Lewis Acidic Reactive Compounds for Storage and Delivery of Lewis Basic Gases
China P.R.	ISSUED	200410094772.2	11/18/2004	200410094772.2	3/7/2007	Aqueous Polyurethane Dispersion And Method For Making And Using Same
China P.R.	INACTIVE	200510065651.X	3/2/2005	200510065651.X	12/1/2010	Compositions for Preparing Low Dielectric Materials Containing Solvents
China P.R.	INACTIVE	200810088359.3	3/2/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
China P.R.	INACTIVE	200510083521.9	7/8/2005	200510083521.9	10/1/2008	Storage and Delivery Systems for Gases Held in Liquid Medium
China P.R.	INACTIVE	200810131499.4	4/30/2008	200810131499.4	1/18/2012	Wick Systems for Complexed Gas Technology
China P.R.	INACTIVE	200510050914.X	1/21/2005			Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
China P.R.	ISSUED	200510124977.5	9/23/2005	200510124977.5	10/27/2010	Ionic Liquid Based Mixtures for Gas Storage and Delivery
China P.R.	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
China P.R.	ISSUED	200510076151.6	6/7/2005	200510076151.6	10/14/2009	Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
China P.R.	INACTIVE	200510116574.6	9/20/2005	200510116574.6	4/29/2009	Process for the Production of Nitrogen Trifluoride
China P.R.	ISSUED	800080.8	1/4/2000	800080.8	11/17/2004	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
China P.R.	INACTIVE	808091.7	5/23/2000	ZL00808091.7	7/21/2004	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
China P.R.	INACTIVE	18162657.0	9/18/2001	ZL01816265.7	10/5/2005	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
China P.R.	ISSUED	2813011.1	6/17/2002	ZL02813011.1	7/19/2006	Process For Removing Contaminant From A Surface And Composition Useful Therefor
China P.R.	INACTIVE	1820298.5	12/3/2001	ZL01820298.5	7/26/2006	Method For Cleaning Etcher Parts
China P.R.	ISSUED	03802036.X	1/6/2003	03802036.X	2/7/2007	Aqueous Stripping and Cleaning Composition
China P.R.	INACTIVE	200610105651.2	1/6/2003			Aqueous Stripping and Cleaning Composition
China P.R.	INACTIVE	1821474.6	11/27/2001			Process For Producing Ammonia With Ultra-Low Metals Content
China P.R.	INACTIVE	200410083303.0	9/29/2004			Process For Producing Ammonia With Ultra-Low Metals Content
China P.R.	INACTIVE	2815972.1	6/4/2002			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
China P.R.	ISSUED	3823216.2	9/26/2003	3823216.2	2/6/2008	Compositions Substrate For Removing Etching Residue And Use Thereof
China P.R.	ISSUED	200380108156.1	12/29/2003	200380108156.1	6/27/2012	Composition And Method Used For Chemical Mechanical Planarization Of Metals
China P.R.	INACTIVE	3816222.9	7/10/2003	ZL0381622.9	10/11/2006	Composition For Removing Etching Residue and Use Thereof
China P.R.	ISSUED	200510087545.1	7/22/2005	200510087545.1	10/27/2010	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
China P.R.	ISSUED	201010113978.0	7/22/2005	201010113978.0	4/24/2013	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
China P.R.	ISSUED	200480018439.1	5/24/2004	200480018439.1	10/6/2010	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
China P.R.	INACTIVE	201010251766.9	5/24/2004			Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
China P.R.	ISSUED	200910128161.8	3/12/2009	200910128161.8	5/29/2013	Semi-Aqueous Stripping and Cleaning Composition Containing Aminobenzenesulfonic Acid\r
China P.R.	INACTIVE	200510128525.4	11/30/2005			Compositions Comprising Tannic Acid as Corrosion Inhibitor
China P.R.	INACTIVE	200410062172.8	5/21/2003			Composition for Removing Residues From the Microstructure of an Object
China P.R.	INACTIVE	200510116578.4	9/30/2005			Silicon Nitride from Aminosilane Using PECVD
China P.R.	ISSUED	200510089699.4	7/1/2005	200510089699.4	10/27/2010	Composition for Stripping and Cleaning and Use Thereof
China P.R.	INACTIVE	200610160485.6	7/1/2005	200610160485.6	10/10/2012	Composition for Stripping and Cleaning and Use Thereof
China P.R.	ISSUED	201010156882.2	7/1/2005	201010156882.2	9/19/2012	Composition for Stripping and Cleaning and Use Thereof
China P.R.	INACTIVE	200510128504.2	11/30/2005			Method and Apparatus for Utilizing a Sequence Interpreter Approach to a Programmable Logic Controlle
China P.R.	ISSUED	200510129132.5	10/14/2005	200510129132.5	1/2/2013	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
China P.R.	ISSUED	200510129199.9	9/28/2005	200510129199.9	7/17/2013	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
China P.R.	INACTIVE	201310216757.X	9/28/2005			Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
China P.R.	ISSUED	200480008330.X	3/26/2004	CN100399109	7/2/2008	Electro-Optic Assemblies and Materials for Use Therein
China P.R.	INACTIVE	200510137359.4	12/9/2005			Precursors for Silica or Metal Silicate Films
China P.R.	INACTIVE	200510138062.X	11/9/2005			Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
China P.R.	INACTIVE	200610059229.8	2/3/2006			System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream

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China P.R.	INACTIVE	200610008941.5	1/28/2006			Aqueous Based Residue Removers Comprising Fluoride
China P.R.	INACTIVE	200610008926.0	1/28/2006	200610008926.0	7/9/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
China P.R.	ISSUED	200510135796.2	12/29/2005	200510135796.2	10/16/2013	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
China P.R.	ISSUED	200510104721.8	12/30/2005	200510104721.8	6/11/2008	Volatile Metal Beta-Ketoiminate Complexes
China P.R.	INACTIVE	200710169694.1	12/30/2005			Volatile Metal Beta-Ketoiminate Complexes
China P.R.	INACTIVE	200710169695.6	12/30/2005			Volatile Metal Beta-Ketoiminate Complexes
China P.R.	ISSUED	200610008986.2	2/14/2006	200610008986.2	9/9/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
China P.R.	ISSUED	200610084008.6	4/18/2006	200610084008.6	10/5/2011	Dual-Flow Valve and Internal Processing Vessel Isolation System
China P.R.	INACTIVE	200710105125.0	5/18/2007	200710105125.0	6/2/2010	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
China P.R.	INACTIVE	200610135935.6	10/13/2006			Aqueous Cleaning Composition and Method for Using Same
China P.R.	ISSUED	200610107693.X	6/23/2006	200610107693.X	10/27/2010	Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
China P.R.	ISSUED	200710087978.6	3/1/2007	200710087978.6	11/3/2010	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
China P.R.	ISSUED	200610135974.6	10/16/2006	200610135974.6	10/15/2014	Aqueous Cleaning Composition for Removing Residues and Method Using Same
China P.R.	INACTIVE	200610162431.3	11/22/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
China P.R.	ISSUED	201010104484.6	1/27/2010	201010104484.6	11/7/2013	Selective Etching and Formation of Xenon Difluoride
China P.R.	INACTIVE	201210028545.4	1/27/2010			Selective Etching and Formation of Xenon Difluoride
China P.R.	INACTIVE	200710002200.0	1/12/2007			pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
China P.R.	INACTIVE	200710101167.7	5/9/2007			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
China P.R.	ISSUED	200610144437.8	9/30/2006	200610144437.8	6/8/2011	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
China P.R.	INACTIVE	200710007926.3	1/30/2007			Cleaning Formulations
China P.R.	ISSUED	200710109915.6	6/11/2007	200710109915.6	1/27/2010	Process for Separating Components of a Multi-Component Feed Stream
China P.R.	INACTIVE	UNKNOWN	12/22/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
China P.R.	ISSUED	200710078973.7	2/16/2007	200710078973.7	10/3/2012	Formulation for Removal of Photoresist, Etch Residue and Barc
China P.R.	ISSUED	200710105348.7	4/13/2007	200710105348.7	8/3/2011	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
China P.R.	INACTIVE	200710100643.3	2/25/2007			Top Coat for Lithography Processes
China P.R.	INACTIVE	200810085663.2	2/5/2008			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbon
China P.R.	INACTIVE	200710128801.6	5/30/2007			Diethylsilane as a Silicon Source in the Depositon of Metal Silicate Films
China P.R.	ISSUED	200710104246.3	5/23/2007	200710104246.3	5/29/2013	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
China P.R.	PENDING	201310103494.1	5/23/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
China P.R.	PENDING	201310137899.7	5/23/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
China P.R.	ISSUED	200710103575.6	4/18/2007	200710103575.6	12/5/2012	Materials and Methods of Forming Controlled Void
China P.R.	ISSUED	201210022734.0	4/18/2007	201210022734.0	8/3/2016	Materials and Methods of Forming Controlled Void
China P.R.	INACTIVE	200810005470.1	2/5/2008			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
China P.R.	INACTIVE	200710138802.9	7/10/2007			Route to Prepare 4-Bromo-1-Oxypentafluorosulfanylbenzene
China P.R.	ISSUED	200710109792.6	4/25/2007	200710109792.6	12/29/2010	Metal Complexes of Polydentate Beta-Ketoiminates
China P.R.	ISSUED	200710138338.3	7/27/2007	200710138338.3	2/22/2012	Component Heater
China P.R.	INACTIVE	200810088110.2	1/11/2008			Cleaning Composition for Semiconductor Substrates
China P.R.	INACTIVE	200710109760.6	5/25/2007			Composition and Method for Photoresist Removal
China P.R.	INACTIVE	200710137974.4	6/8/2007			High Flow GaCl3 Delivery
China P.R.	INACTIVE	200710128806.9	6/1/2007			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
China P.R.	ISSUED	200710142253.2	8/31/2007	200710142253.2	5/6/2015	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
China P.R.	ISSUED	200710138000.8	6/13/2007	200710138000.8	3/30/2011	Low-Impurity Organosilicon Product as Precursor for CVD
China P.R.	INACTIVE	200710142193.4	6/27/2007			Curing Dielectric Films Under a Reducing Atmosphere
China P.R.	ISSUED	200710199985.5	10/19/2007	200710199985.5	7/4/2012	Solid Source Container With Inlet Plenum
China P.R.	INACTIVE	200710300368.X	12/13/2007			Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
China P.R.	ISSUED	201210020757.8	12/13/2007	201210020757.8	11/5/2014	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
China P.R.	INACTIVE					Adhesives and Binders for Electro-Optic Displays
China P.R.	ISSUED	200710306176.X	11/28/2007	200710306176.X	10/30/2013	Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
China P.R.	ISSUED	200710300936.6	12/14/2007	200710300936.6	7/4/2012	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
China P.R.	INACTIVE	200710162188.X	12/21/2007			Compositions for Chemical Mechanical Planarization of Copper
China P.R.	INACTIVE	200810085664.7	2/5/2008			Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
China P.R.	INACTIVE	200810092038.0	2/15/2008			Activated Chemical Process for Enhancing Material Properties of Dielectric Films
China P.R.	PENDING	200810088179.5	2/27/2008			Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
China P.R.	PENDING	201510250443.0	2/27/2008			Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
China P.R.	INACTIVE	200810109261.1	4/16/2008			Metal Precursor Solutions for Chemical Vapor Deposition
China P.R.	INACTIVE	200810142802.0	6/19/2008	200810142802.0	6/20/2012	Plasma-Enhanced ALD for TiSiN Film Deposition With TDMAT, BTBAS and NH3
China P.R.	INACTIVE	200810125876.3	4/24/2008	200810125876.3	2/6/2013	Tellurium (Te) Precursors for Making Phase Change Memory Materials

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China P.R.	INACTIVE	201210568217.3	4/24/2008			Tellurium (Te) Precursors for Making Phase Change Memory Materials
China P.R.	INACTIVE	200810210333.1	6/20/2008			Process for Forming Continuous Copper Thin Films Via Vapor Deposition
China P.R.	INACTIVE	200810176206.4	11/14/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
China P.R.	ISSUED	200810144625.X	6/5/2008	200810144625.X	9/18/2013	Low Tempertaure Thermal Conductive Inks
China P.R.	INACTIVE	200810127703.5	5/16/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
China P.R.	INACTIVE					Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
China P.R.	PENDING	PCT/US08/68323	6/26/2008			Electro-Optic Displays, and Materials for Use Therein
China P.R.	INACTIVE	200810177899.9	11/7/2008	200810177899.9	9/5/2012	Preparation of Metal-Containing Film Via ALD or CVD Processes
China P.R.	INACTIVE	200810161930.X	9/27/2008			Cyclopentene as a Precursor for Carbon-Based Films
China P.R.	ISSUED	200810185373.5	12/22/2008	200810185373.5	10/5/2011	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
China P.R.	ISSUED	200810189328.7	11/26/2008	200810189328.7	7/11/2012	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
China P.R.	ISSUED	200810189329.1	11/26/2008	200810189329.1	7/9/2014	Vessels With Personnel Access Provisions
China P.R.	ISSUED	201310224066.4	11/26/2008	201310224066.4	9/16/2015	Vessels With Personnel Access Provisions
China P.R.	INACTIVE	200910166911.0	8/12/2009			Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
China P.R.	INACTIVE	200810179929.X	10/13/2008			Antireflective Coatings
China P.R.	INACTIVE	200810178599.2	10/13/2008	200810178599.2	2/6/2013	Antireflective Coatings for Photovoltaic Applications
China P.R.	ISSUED	200810188741.1	11/5/2008	200810188741.1	6/6/2012	Copper Precursors for Thin Film Deposition
China P.R.	ISSUED	200810189883.X	11/27/2008	200810189883.X	7/18/2012	Tellurium Precursors for GST Films in an ALD or CVD Process
China P.R.	INACTIVE					Metal Complexes of Tridentate Beta-Ketoiminates
China P.R.	ISSUED	200810178688.7	11/27/2008	200810178688.7	3/6/2013	Metal Complexes of Tridentate Beta-Ketoiminates
China P.R.	ISSUED	200810178055.6	12/19/2008	200810178055.6	9/24/2014	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
China P.R.	INACTIVE	201410042842.3	12/19/2008			Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
China P.R.	ISSUED	200910126767.8	2/1/2009	200910126767.8	8/8/2012	Antimony Precursors for GST Films in ALD/CVD Processes
China P.R.	ISSUED	201310353853.9	8/13/2013	201310353853.9	8/17/2016	Precursors for GST Films in ALD/CVD Processes
China P.R.	ISSUED	200910134637.9	3/6/2009	200910134637.9	7/17/2013	Stripper for Dry Film Removal
China P.R.	INACTIVE	200910138733.0	3/13/2009			Stripper for Copper/Low K BEOL Clean
China P.R.	ISSUED	200910138735.X	3/24/2009	200910138735.X	6/4/2014	Improved Adhesion to Copper and Copper Electromigration Resistance
China P.R.	ISSUED	200910203981.9	4/10/2009	200910203981.9	8/19/2015	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
China P.R.	INACTIVE	200910173396.9	8/14/2009			Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
China P.R.	ISSUED	200910149773.5	5/8/2009	200910149773.5	7/16/2014	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
China P.R.	ISSUED	201210195351.3	6/11/2012	201210195351.3	4/1/2015	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
China P.R.	ISSUED	200980120277.5	6/3/2009	200980120277.5	6/19/2013	Low Temperature Deposition of Silicon-Containing Films
China P.R.	PENDING	201310204535.6	6/3/2009			Low Temperature Deposition of Silicon-Containing Films
China P.R.	ISSUED	200910148844.X	5/27/2009	200910148844.X	7/4/2012	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
China P.R.	INACTIVE	200910160914.3	7/24/2009			Removal of Trace Arsenic Impurities From Triethylphosphate (TEPO)
China P.R.	ISSUED	200910166969.5	7/14/2009	200910166969.5	9/10/2014	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
China P.R.	INACTIVE	200910166913.X	7/10/2009	200910166913.X	9/18/2013	Aminosilanes for Shallow Trench Isolation Films
China P.R.	ISSUED	200910211629.X	9/16/2009	200910211629.X	2/24/2016	Process and System for Providing Acetylene
China P.R.	ISSUED	200910205725.3	8/28/2009	200910205725.3	7/22/2015	Selective Etching of Silicon Dioxide Compositions
China P.R.	ISSUED	200910166641.3	8/24/2009	200910166641.3	12/21/2011	Cross Purge Valve and Container Assembly
China P.R.	INACTIVE	200910212005.X	11/6/2009			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
China P.R.	INACTIVE	200910204487.4	9/29/2009			Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
China P.R.	ISSUED	200980148388.7	11/25/2009	200980148388.7	1/28/2015	Dielectric Barrier Deposition Using Oxygen Containing Precursor
China P.R.	PENDING	201410712726.8	11/25/2009			Dielectric Barrier Deposition Using Oxygen Containing Precursor
China P.R.	ISSUED	200910246836.9	11/12/2009	200910246836.9	12/26/2012	Amino Vinylsilane Precursors for Stressed SiN Films
China P.R.	ISSUED	201110404812.9	11/12/2009	201110404812.9	12/9/2015	Amino Vinylsilane Precursors for Stressed SiN Films
China P.R.	PENDING	201010246319.4	8/4/2010			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
China P.R.	PENDING	2015105556475.0	8/4/2010			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
China P.R.	ISSUED	201110036115.2	2/9/2011	201110036115.2	9/18/2013	Methods to Prepare Silicon-Containing Films
China P.R.	PENDING	201310291966.0	2/9/2011			Methods to Prepare Silicon-Containing Films
China P.R.	ISSUED	200911000051.X	12/17/2009	200911000051.X	8/22/2012	Wet Clean Compositions for CoWP and Porous Dielectrics
China P.R.	ISSUED	201010139333.4	3/19/2010	201010139333.4	11/14/2012	Splashguard for High Flow Vacuum Bubbler Vessel
China P.R.	INACTIVE	201310025264.8	1/16/2013			Splashguard for High Flow Vacuum Bubbler Vessel
China P.R.	ISSUED	201010139509.6	3/9/2010	201010139509.6	5/28/2014	Method for Preparing Metal Complexes of Polydentate Beta-Ketoiminates
China P.R.	ISSUED	201010162050.1	4/15/2010	201010162050.1	2/13/2013	Method for Making a Chlorosilane
China P.R.	ISSUED	201010269271.9	8/31/2010	201010269271.9	11/19/2014	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
China P.R.	ISSUED	201010180939.2	5/13/2010	201010180939.2	6/27/2012	Dielectric Barrier Deposition Using Nitrogen Containing Precursor

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China P.R.	INACTIVE	03807995.X	2/11/2003	03807995.X	5/5/2010	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
China P.R.	INACTIVE	200680050136.7	11/1/2006	200680050136.7	3/21/2012	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
China P.R.	INACTIVE	200680017799.9	3/24/2006	200680017799.9	7/24/2013	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
China P.R.	ISSUED	201010224869.6	7/7/2010	201010224869.6	11/28/2012	Formulations and Method for Post-CMP Cleaning
China P.R.	ISSUED	201110265726.4	9/1/2011	201110265726.4	1/20/2016	Electrodes for Electrolytic Germane Process
China P.R.	INACTIVE	2805701.5	2/8/2002			Chemical-Mechanical Planarization Using Ozone
China P.R.	ISSUED	201210028264.9	1/18/2012	201210028264.9	5/11/2016	Electrolytic Apparatus, System and Method for the Safe Production of Nitrogen Trifluoride
China P.R.	INACTIVE	201010195297.3	5/31/2010			Volatile Group 2 Metal Precursors
China P.R.	ISSUED	201010279948.7	9/8/2010	201010279948.7	3/27/2013	Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
China P.R.	ISSUED	201110096510.X	4/14/2011	201110096510.X	6/25/2014	Recovery of NF3 from Adsorption Operation
China P.R.	ISSUED	201110048467.X	2/23/2011	201110048467.X	7/2/2014	Method of Making a Multicomponent Film
China P.R.	ISSUED	201010281805.X	9/13/2010	201010281805.X	7/9/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
China P.R.	INACTIVE	2801818.4	5/24/2002	2801818.4	12/7/2005	Cerium Oxide Slurry, and Method of Manufacturing Substrate
China P.R.	ISSUED	201110038355.6	2/9/2011	201110038355.6	7/22/2015	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
China P.R.	ISSUED	201010521551.4	10/25/2010	201010521551.4	9/3/2014	Group 4 Metal Precursors for Metal-Containing Films
China P.R.	ISSUED	201010521611.2	10/25/2010	201010521611.2	8/19/2015	Methods for Deposition of Group 4 Metal Containing Films
China P.R.	ISSUED	201110154621.1	6/2/2011	201110154621.1	4/29/2015	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	ISSUED	201010584292.X	12/7/2010	201010584292.X	7/30/2014	Liquid Precursor for Depositing Group 4 Metal Containing Films
China P.R.	ISSUED	201010593330.8	12/14/2010	201010593330.8	4/6/2016	Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
China P.R.	ISSUED	201010606153.2	12/23/2010	201010606153.2	12/11/2013	Low K Precursors Providing Superior Integration Attributes
China P.R.	ISSUED	201310378617.2	12/23/2010	201310378617.2	3/2/2016	Low K Precursors Providing Superior Integration Attributes
China P.R.	ISSUED	201110034896.1	1/28/2011	201110034896.1	9/17/2014	Method and Equipment for Selectively Collecting Process Effluent
China P.R.	PENDING	201410407628.3	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
China P.R.	ISSUED	201110348515.7	9/30/2011	201110348515.7	1/14/2015	Recovering of Xenon by Adsorption Process
China P.R.	PENDING	201410773660.3	9/30/2011			Recovering of Xenon by Adsorption Process
China P.R.	ISSUED	201110399585.5	11/30/2011	201110399585.5	7/29/2015	Metal-Enolate Precursors for Depositing Metal-Containing Films
China P.R.	ISSUED	201110163108.9	6/10/2011	201110163108.9	9/3/2014	A Container Containing Monochlorosilane having an Internal Surface
China P.R.	ISSUED	201110197916.7	7/11/2011	201110197916.7	6/24/2015	Method for Wafer Dicing and Composition Useful Thereof
China P.R.	PENDING	201110423964.3	12/9/2011			Aminovinylsilane for CVD and ALD SiO2 Films
China P.R.	PENDING	2015105806131.0	12/9/2011			Aminovinylsilane for CVD and ALD SiO2 Films
China P.R.	ISSUED	201110179928.7	6/24/2011	201110179928.7	6/3/2015	Chemical Mechanical Planarization Composition and Method with Low Corrosiveness
China P.R.	ISSUED	201210080410.2	3/16/2012	201210080410.2	12/17/2014	Cleaning Formulations and Method of Using the Cleaning Formulations
China P.R.	INACTIVE	201110394202.5	11/24/2011			Compositions and Methods for Texturing of Silicon Wafers
China P.R.	INACTIVE	201210039182.4	2/17/2012			Fluorine Based Chamber Clean with Nitrogen Trifluoride Backup
China P.R.	PENDING	2012800303959.0	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
China P.R.	ISSUED	2012800272683.0	6/1/2012	2012800272683.0	8/31/2016	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
China P.R.	PENDING	201610536821.6	6/1/2012			Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
China P.R.	ISSUED	201210288836.7	5/24/2012	201210288836.7	2/17/2016	Organoaminosilane Precursors and Methods for Making and Using Same\r
China P.R.	ISSUED	201310332542.4	7/30/2013	201310332542.4	8/24/2016	Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
China P.R.	ISSUED	201210380156.8	9/26/2012	201210380156.8	10/29/2014	Solenoid Bypass for Continuous Operation of Pneumatic Valve
China P.R.	INACTIVE	201210347224.0	9/7/2012			Precursors for Photovoltaic Passivation
China P.R.	PENDING	201210392207.9	9/27/2012			Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	ISSUED	201210478641.9	9/20/2012	201210478641.9	3/2/2016	Oxygen Containing Precursors for Photovoltaic Passivation
China P.R.	INACTIVE	201310194957.X	5/20/2013			Compositions and Methods for Texturing of Silicon Wafers
China P.R.	PENDING	201310164475.X	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
China P.R.	PENDING	201310032372.8	1/17/2013			Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
China P.R.	ISSUED	201310051550.1	1/28/2013	201310051550.1	8/3/2016	Alkoxyaminosilane Compounds and Applications Thereof
China P.R.	INACTIVE	201310086430.5	3/18/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
China P.R.	INACTIVE	200980129372.1	5/28/2009			Fixture Drying Apparatus and Method
China P.R.	PENDING	201610289209.3	5/28/2009			Fixture Drying Apparatus and Method
China P.R.	ISSUED	99803710.9	1/8/1999	99803710.9	9/8/2004	An Apparatus and a Method for Cleaning a Wafer Carrier
China P.R.	ISSUED	2013800245322.0	3/8/2013	2013800245322.0	8/17/2016	Methods for Making Silicon Containing Films on Thin Film Transistor Devices
China P.R.	PENDING	2013800242945.0	3/8/2013			Barrier Materials for Display Devices
China P.R.	INACTIVE	201310133103.0	4/1/2013			Group 2 Imidazolate Formulations for Direct Liquid Injection
China P.R.	PENDING	201310220939.4	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	ISSUED	201310220937.5	6/3/2013	201310220937.5	4/13/2016	Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	INACTIVE					Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
China P.R.	PENDING	201610141031.8	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	ISSUED	201310177805.9	5/10/2013	201310177805.9	8/12/2015	Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
China P.R.	PENDING	201310399699.9	5/27/2013			Vessel with Filter
China P.R.	INACTIVE	201310257739.6	6/21/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
China P.R.	PENDING	2013105049912.0	10/23/2013			Cleaning Formulations
China P.R.	DOCKETED					Cleaning Formulations
China P.R.	PENDING	201310680095.1	10/8/2013			Stripping and Cleaning Compositions for Removal of Thick Film Resist
China P.R.	INACTIVE	201410265586.4	3/12/2014	201410265586.4	6/15/2016	Chemical Mechanical Planarization for Tungsten-Containing Substrates
China P.R.	ISSUED	2013104954245.0	10/21/2013	2013104954245.0	6/1/2016	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
China P.R.	INACTIVE	2013104958496.0	10/21/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorine
China P.R.	PENDING	201310698533.7	12/11/2013			Alkoxysilylamine Compounds and Applications Thereof
China P.R.	PENDING	201610162014.2	12/11/2013			Alkoxysilylamine Compounds and Applications Thereof
China P.R.	PENDING	2014104188467.0	8/22/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
China P.R.	PENDING	2013800703250.0	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
China P.R.	ISSUED	2014100991042.0	3/17/2014	2014100991042.0	6/15/2016	Onsite Ultra High Purity Chemicals or Gas Purification
China P.R.	INACTIVE	201410113811.2	1/16/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
China P.R.	PENDING	2014103636625.0	7/28/2014			Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
China P.R.	PENDING	2014101466901.0	4/11/2014			Method of Making a Multicomponent Film
China P.R.	INACTIVE	2014101602484.0	4/21/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
China P.R.	PENDING	2014103028615.0	6/27/2014			Process for Making Trisilylamine
China P.R.	PENDING	201610074112.0	6/27/2014			Process for Making Trisilylamine
China P.R.	PENDING	201310262637.3	6/18/2013			Recovery and Purification of Nitrous Oxide
China P.R.	ISSUED	201320375675.5	6/18/2013	201320375675.5	6/11/2014	Recovery and Purification of Nitrous Oxide
China P.R.	PENDING	2014102956217.0	6/26/2014			Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
China P.R.	PENDING	2014102066179.0	5/15/2014			Ultrasonic Liquid Level Sensing Systems
China P.R.	PENDING	2015104509373.0	5/15/2014			Ultrasonic Liquid Level Sensing Systems
China P.R.	PENDING	2014102955784.0	6/26/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	PENDING	2014104866747.0	9/22/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
China P.R.	PENDING	201410857912.0	10/8/2014			Methods for Depositing Silicon Nitride Films
China P.R.	PENDING	2015104351393.0	7/22/2015			Titanium Nitride Hard Mask and Etch Residue Remova
China P.R.	PENDING	2014108069170.0	12/22/2014			Composition for Titanium Nitride Hard Mask and Etch Residue Remova
China P.R.	PENDING	201410831734.4	10/8/2014			System and Method for Xenon Recovery
China P.R.	PENDING	2015100916506.0	2/28/2015			Organoaminosilanes and Methods for Making Same
China P.R.	PENDING	2015100889015.0	2/26/2015			Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluoride
China P.R.	PENDING	2015100176982.0	1/13/2015			System and Method for Gas Recovery and Reuse
China P.R.	PENDING	2015107026399.0	8/14/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
China P.R.	PENDING	2015101371164.0	3/26/2015			Compositions and Methods for the Deposition of Silicon Oxide Films
China P.R.	PENDING	201610170305.6	3/23/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\n
China P.R.	PENDING	2015104138975.0	7/14/2015			Copper Corrosion Inhibition System
China P.R.	PENDING	2015105240523.0	8/24/2015			Purification of Nitrogen Trifluoride by Pressure Swing Adsorption
China P.R.	PENDING	2015103351860.0	6/16/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
China P.R.	PENDING	2015104470227.0	7/27/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
China P.R.	PENDING	2015105491875.0	8/31/2015			Ultrasonic Liquid Level Sensing Systems
China P.R.	PENDING	2015107379032.0	11/3/2015			Silicon-Based Films and Methods of Forming the Same
China P.R.	PENDING	201511020997.8	12/30/2015			Stripping Compositions Having High WN/W Etching Selectivity
China P.R.	PENDING	201510981707.X	12/23/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
China P.R.	PENDING	201610084856.0	2/14/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
China P.R.	PENDING	201511009473.9	12/29/2015			Etchant Solutions and Method of Use Thereof
China P.R.	PENDING	201610256473.7	2/14/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
China P.R.	PENDING	201610061517.0	1/28/2016			Method and Precursors for Manufacturing 3D Devices
China P.R.	PENDING	201610555724.1	5/3/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
China P.R.	PENDING	201610202293.0	3/31/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
China P.R.	PENDING	201610244829.5	4/18/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
China P.R.	PENDING	201610244852.4	4/18/2016			High Purity Tungsten Hexachloride and Method for Making Same
China P.R.	PENDING	201610049633.0	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
China P.R.	PENDING	201610320197.6	5/13/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
China P.R.	PENDING	201610394296.9	6/6/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n

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China P.R.	PENDING	201610847724.9	9/23/2016			CLEANING FORMULATIONS
China P.R.	PENDING	201610853254.7	9/26/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
China P.R.	PENDING	201610592097.9	7/25/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
China P.R.	PENDING	201611054153.X	11/25/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
China P.R.	PENDING	201710047967.9	1/20/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
Denmark	INACTIVE	240/87	5/17/1985			SEPTUM CLOSURE
Denmark	INACTIVE	882/87	6/21/1985			CHEMICAL REFILL SYSTEM
Denmark	INACTIVE	241/87	5/17/1985			ION BEAM INPLANT SYSTEM
Denmark	INACTIVE	243/87	5/17/1985			METALIZED VALVE
Denmark	INACTIVE	242/87	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Denmark	INACTIVE	244/87	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Denmark	INACTIVE	2406/87	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Denmark	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Denmark	INACTIVE	3642/89	7/24/1989			ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Denmark	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Denmark	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Denmark	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Denmark	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Denmark	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Denmark	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Denmark	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Denmark	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Denmark	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Denmark	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Denmark	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Denmark	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
European Patent Convention	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
European Patent Convention	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
European Patent Convention	INACTIVE	86111222.5	8/13/1986	222075.0	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
European Patent Convention	INACTIVE	88115338.1	9/19/1988	308854.0		DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
European Patent Convention	INACTIVE	88115327.4	9/19/1988	308851.0		PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
European Patent Convention	INACTIVE	81302204.3	5/19/1981	40540.0	1/21/1987	VAPOR MASS FLOW CONTROL SYSTEM
European Patent Convention	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
European Patent Convention	INACTIVE	85903147.8	6/21/1985	229050.0	3/7/1990	CHEMICAL REFILL SYSTEM
European Patent Convention	INACTIVE	85902838.3	5/17/1985	221056.0		ION BEAM INPLANT SYSTEM
European Patent Convention	INACTIVE	85902840.9	5/17/1985	221896.0		METALIZED VALVE
European Patent Convention	INACTIVE	85902839.1	5/17/1985	221057.0		DISPOSABLE CHEMICAL CONTAINER
European Patent Convention	INACTIVE	85902841.7	5/17/1985	221897.0		ION IMPLANT USING TETRAFLUOROB ORATES
European Patent Convention	INACTIVE	85904752.4	9/16/1985	236308.0		VACUUM VAPOR TRANSPORT CONTROL
European Patent Convention	INACTIVE	86902697.1	4/9/1986	263815.0		SEMICONDUCTOR DOPANT VAPORIZER
European Patent Convention	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
European Patent Convention	INACTIVE	89119523.2	10/20/1989	387403.0	10/6/1993	DEPOSITION OF SILICON OXIDE FI LMS USING ALKYLSILANE LIQUID S OURCES
European Patent Convention	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
European Patent Convention	INACTIVE	89120616.1	11/7/1989	369297.0	8/4/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
European Patent Convention	INACTIVE	89121546.9	11/21/1989	370480.0	12/23/1992	PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
European Patent Convention	INACTIVE	89122601.1	12/7/1989	373513.0	5/10/1995	FLUORINATED BETA-KETOIMINES AN D BETA-KETOIMINATO METAL COMPL EXES
European Patent Convention	INACTIVE	90116701.5	8/30/1990	416472.0		PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
European Patent Convention	INACTIVE	91108809.4	5/29/1991	461476.0	9/13/1995	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
European Patent Convention	INACTIVE	91109170.0	6/5/1991	460627.0	8/21/1996	VOLATILE CROWN LIGAND BETA-DIK ETONATE ALKALINE EARTH METAL COMPLEXES
European Patent Convention	INACTIVE	91103405.6	3/6/1991	446772.0		FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
European Patent Convention	INACTIVE	91119282.1	11/12/1991	486926.0		DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
European Patent Convention	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
European Patent Convention	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
European Patent Convention	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
European Patent Convention	INACTIVE	93117586.3	10/29/1993	596425.0		CHEMICAL STORAGE AND DISPENSIN G SYSTEM

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European Patent Convention	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
European Patent Convention	INACTIVE	92115830.9	9/16/1992	533129.0		DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
European Patent Convention	INACTIVE	92102672.0	2/18/1992	500040.0		PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
European Patent Convention	INACTIVE	92304012.5	5/5/1992	515054.0	7/17/1996	METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
European Patent Convention	INACTIVE	92103203.3	2/25/1992	507074.0	1/3/1996	CLEANING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
European Patent Convention	INACTIVE	93105865.5	4/8/1993	566040.0		PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
European Patent Convention	INACTIVE	92122054.7	12/28/1992	550045.0		DIFFUSION GAS DILUTER
European Patent Convention	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
European Patent Convention	INACTIVE	93105827.5	4/8/1993	569708.0	10/15/2003	APPARATUS TO CLEAN SOLID SURFACES USING A CRYOGENIC AEROSOL
European Patent Convention	INACTIVE	92117207.8	10/8/1992	536752.0	12/20/1995	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
European Patent Convention	INACTIVE	92117198.9	10/8/1992	536747.0	5/7/1997	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
European Patent Convention	INACTIVE	93109191.2	6/8/1993	574809.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CHLORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CLEANING
European Patent Convention	INACTIVE	93108567.4	5/27/1993	572918.0	8/5/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
European Patent Convention	INACTIVE	93109130.0	6/7/1993	573943.0	10/9/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
European Patent Convention	INACTIVE	93118915.3	11/24/1993	605785.0		GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
European Patent Convention	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
European Patent Convention	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
European Patent Convention	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
European Patent Convention	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
European Patent Convention	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
European Patent Convention	INACTIVE	94111234.4	7/19/1994	636707.0	10/14/1998	NITROGEN TRIFLUORIDE THERMAL CLEANING APPARATUS AND PROCESS
European Patent Convention	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
European Patent Convention	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
European Patent Convention	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
European Patent Convention	INACTIVE	92916109.9	7/28/1992			METHOD OF DEPOSITION OF METAL
European Patent Convention	INACTIVE	93915834.1	7/2/1993	648215.0		PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
European Patent Convention	INACTIVE	96100018.9	1/2/1996	721019.0		LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
European Patent Convention	INACTIVE	95118528.9	11/24/1995	713927.0		FLUORINE DOPED SILICON OXIDE P ROCESS
European Patent Convention	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
European Patent Convention	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
European Patent Convention	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
European Patent Convention	INACTIVE	96101984.1	2/12/1996	731497.0		DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
European Patent Convention	INACTIVE	96108490.2	5/28/1996	745707.0	7/11/2001	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
European Patent Convention	INACTIVE	97101356.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
European Patent Convention	INACTIVE	96304229.6	6/6/1996	747118.0	10/20/1999	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
European Patent Convention	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
European Patent Convention	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
European Patent Convention	INACTIVE	96308192.2	11/13/1996	774778.0		PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
European Patent Convention	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
European Patent Convention	INACTIVE	98108806.5	5/14/1998	879821.0	7/7/2004	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
European Patent Convention	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
European Patent Convention	INACTIVE	99303319.0	4/28/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIES
European Patent Convention	INACTIVE	99303318.2	4/28/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS WITH RECYCLE OF VACUUM PUMP DILUENT
European Patent Convention	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
European Patent Convention	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
European Patent Convention	INACTIVE	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
European Patent Convention	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
European Patent Convention	INACTIVE	2023096.7	10/17/2002	1275631.0	7/19/2006	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
European Patent Convention	INACTIVE	98120605.5	10/30/1998	914863.0	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
European Patent Convention	INACTIVE	99100825.1	1/18/1999	930346.0	10/20/2004	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
European Patent Convention	INACTIVE	98118461.7	9/30/1998	906965.0	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
European Patent Convention	INACTIVE	99116133.2	8/19/1999	992735.0	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
European Patent Convention	INACTIVE	307232.9	8/22/2000	1078881.0		STORAGE AND SAFE DELIVERY OF HAZARDOUS SPECIALTY GASES BY ACID/BASE REACTIONS WITH IONIC POLYMERS
European Patent Convention	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFUR DIFLUORIDES
European Patent Convention	INACTIVE	99123238.0	11/26/1999	1006219.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
European Patent Convention	INACTIVE	109194.1	5/9/2000	1052689.0		METHOD FOR ANISOTROPIC ETCHING OF COPPER THIN FILMS WITH A A BETA-DIKETONE, A BETA-KETOIMINE, OR A BREAKDOWN PRODUCT THEREOF
European Patent Convention	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
European Patent Convention	INACTIVE	99102777.2	2/23/1999	939096.0	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
European Patent Convention	INACTIVE	2026960.1	12/4/2002	1291375.0	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
European Patent Convention	INACTIVE	99113563.3	7/7/1999			PREPARATION OF 1,4-BIS-(DIFLUOROMETHYL)BENZENE
European Patent Convention	INACTIVE	99112759.8	7/1/1999			CHEMICAL GENERATOR WITH CONTROLLED MIXING AND CONCENTRATION FEEDBACK AND ADJUSTMENT
European Patent Convention	INACTIVE	99118052.2	9/22/1999	992494.0		PACKAGE FOR SAFE STORAGE OF ELECTROPHILIC FLUORINATING AGENT
European Patent Convention	INACTIVE	99109396.4	6/2/1999	964441.0	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
European Patent Convention	INACTIVE	99123287.7	11/30/1999			PURIFICATION OF GASES
European Patent Convention	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
European Patent Convention	INACTIVE	99122008.8	11/11/1999	1002830.0		NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
European Patent Convention	INACTIVE	98950725.9	9/25/1998			ORDERED MESOPOROUS THIN FILMS
European Patent Convention	INACTIVE	304898.0	6/9/2000	1060774.0		PURIFICATION OF GASES
European Patent Convention	INACTIVE	1106457.3	3/23/2001	1138657.0		PROCESS FOR GENERATING USEFUL ELECTROPHILES FROM COMMON ANIONS, AND THEIR APPLICATION IN ELECTROPHILIC REACTIONS WITH ORGANIC SUBSTRATES
European Patent Convention	INACTIVE	111836.3	6/7/2000	60004439.4-08	8/13/2003	Production of Metal Complexes by Comproportionation
European Patent Convention	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
European Patent Convention	INACTIVE	309605.4	10/31/2000	1095934.0	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
European Patent Convention	INACTIVE	114321.3	7/4/2000	1067595.0		Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
European Patent Convention	INACTIVE	1107777.3	4/4/2001			Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
European Patent Convention	INACTIVE	309606.2	10/31/2000	1095928.0	2/4/2004	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
European Patent Convention	INACTIVE	121382.6	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
European Patent Convention	INACTIVE	1119547.6	8/14/2001	1180553.0		Improving CVD Copper Adhesion to Barrier Layer
European Patent Convention	INACTIVE	122208.2	10/13/2000	1092474.0	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
European Patent Convention	INACTIVE	1117027.1	7/12/2001	1174415.0	10/22/2003	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
European Patent Convention	INACTIVE	1110168.0	5/7/2001			Method for Operating an Ion Mobility Spectrometer Used to Detect Traces of Atmospheric Impurities in Gases
European Patent Convention	INACTIVE	6005055.6	5/7/2001	1672363.0	7/23/2008	Method for Improving the Performance of an Ion Mobility Spectrometer Used to Detect Trace Atmospheric Impurities in Gases
European Patent Convention	INACTIVE	1105786.6	3/8/2001	1132494.0	6/7/2006	Deposition And Annealing of Multicomponent ZrSnTi And HfSnTi Oxide Thin Films Using Solventless Liquid Mixture of Precursor
European Patent Convention	INACTIVE	121284.4	10/6/2000	1091018.0		Purification, Analysis and Deposition of Titanium Amides
European Patent Convention	INACTIVE	4028410.1	10/6/2000			Purification, Analysis and Deposition of Titanium Amides
European Patent Convention	INACTIVE	1100010.6	1/3/2001	1115033.0		Use of Alkylated Polyamines in Photoresist Developers
European Patent Convention	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
European Patent Convention	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
European Patent Convention	INACTIVE	126445.6	12/6/2000	1123753.0	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
European Patent Convention	INACTIVE	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
European Patent Convention	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
European Patent Convention	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
European Patent Convention	INACTIVE	1107778.1	4/4/2001	1146140.0	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
European Patent Convention	INACTIVE	1121864.1	9/11/2001	1188918.0	4/9/2008	Self-Cleaning Vacuum Purge System
European Patent Convention	INACTIVE	1125787.0	10/29/2001	1201291.0		Removing Fluorine From Semiconductor Processing Exhaust Gas
European Patent Convention	INACTIVE	1108053.8	3/29/2001	1142894.0	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
European Patent Convention	INACTIVE	1119548.4	8/14/2001			Sub-Atmospheric Gas Delivery Method and Apparatus
European Patent Convention	INACTIVE	1114678.4	6/19/2001	1166900.0	3/31/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
European Patent Convention	INACTIVE	1115797.1	7/11/2001	1172369.0	9/22/2010	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
European Patent Convention	INACTIVE	2028800.7	12/27/2002	1323720.0	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
European Patent Convention	INACTIVE	1124377.1	10/24/2001	1201603.0	4/14/2004	Method to Remove Metal and Silicon Oxide During Gas-Phase Sacrificial Oxide Etch
European Patent Convention	INACTIVE	3000077.2	1/8/2003	1327652.0	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
European Patent Convention	INACTIVE	2000299.4	1/16/2002			Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
European Patent Convention	INACTIVE	2001014.6	1/17/2002	1225194.0	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
European Patent Convention	INACTIVE	1122661.0	9/28/2001	1193309.0	11/3/2004	Solvent Blend for Use in High Purity Precursor Remova
European Patent Convention	INACTIVE	1121865.8	9/11/2001	1188691.0	11/16/2005	Chemical Delivery System with Spill Containment Door
European Patent Convention	INACTIVE	2002049.1	2/8/2002	1232791.0	7/27/2011	A Method of Preparing Active Fluroide Catalysts for Fluorination Reactions
European Patent Convention	INACTIVE	2012486.3	6/12/2002	1271046.0		Adsorbent Based Gas Delivery System with Integrated Purifier
European Patent Convention	INACTIVE	98967050.0	8/1/2000			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
European Patent Convention	INACTIVE	2001040.1	1/18/2002	1225162.0	3/16/2005	Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
European Patent Convention	INACTIVE	4001919.2	1/29/2004			Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
European Patent Convention	INACTIVE	1308933.9	10/19/2001	1201658.0	8/3/2005	N-Fluorotriazinium Fluorinating Agents
European Patent Convention	INACTIVE	2010229.9	5/16/2002			Low Dielectric Constant Material and Method of Processing By CVD
European Patent Convention	INACTIVE	2021730.3	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	PENDING	10186265.4	9/25/2002			High Flow Rate Transportable UHP Gas Supply System
European Patent Convention	INACTIVE	3000652.2	1/16/2003	1329418.0	6/14/2006	Purification of Group IVb Metal Halides
European Patent Convention	INACTIVE	02027518.6-2425	12/6/2002	1319887.0		Vapor Delivery From a Low Vapor Pressure Liquefied Compressed Gas
European Patent Convention	INACTIVE	3018791.8	8/28/2003	1432018.0	10/17/2007	Single Source Mixtures of Metal Siloxides
European Patent Convention	INACTIVE	2018166.5	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
European Patent Convention	INACTIVE	2022992.8	10/15/2002			Gel-Free Colloidal Abrasive and Polishing Compositions and Associated Methods
European Patent Convention	INACTIVE	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
European Patent Convention	INACTIVE	4014368.7	6/18/2004	1491655.0	1/5/2011	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
European Patent Convention	INACTIVE	8017679.5	10/8/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
European Patent Convention	INACTIVE	3000511.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
European Patent Convention	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
European Patent Convention	INACTIVE	3005338.3	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
European Patent Convention	INACTIVE	10186210.0	3/12/2003			Product Delivery System for Stationary or Portable Bulk Containers
European Patent Convention	PENDING	14183300.4	3/12/2003			Product Delivery System for Stationary or Portable Bulk Containers
European Patent Convention	ISSUED	3005337.5	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
European Patent Convention	ISSUED	4023326.4	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
European Patent Convention	INACTIVE	3000047.5	1/7/2003	1327603.0	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
European Patent Convention	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
European Patent Convention	INACTIVE	3014474.5	7/2/2003	1382549.0		Fluid Containment Vessels with Chemically Resistant Coatings and a Method of Making the Same
European Patent Convention	INACTIVE	3006214.5	3/20/2003	1346996.0	12/15/2004	Sulfurpentafluoride Compounds and Methods for Making and Using Same
European Patent Convention	INACTIVE	3021036.3	9/17/2003			Novel Light Emitting Layers for LED Devices Based on High Tg Polymer Matrix Compositions
European Patent Convention	INACTIVE	3011009.2	5/16/2003	1365041.0	10/30/2013	Purgeable Manifold
European Patent Convention	INACTIVE	4022387.7	9/21/2004	1519101.0	12/3/2014	Purgeable Container
European Patent Convention	INACTIVE	3008723.3	4/16/2003	1354980.0	2/23/2011	Method for Forming a Porous SiOCH Layer
European Patent Convention	INACTIVE	9159354.1	5/4/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
European Patent Convention	INACTIVE	3011179.3	5/27/2003			Low Dielectric Materials and Methods for Making Same
European Patent Convention	INACTIVE	3017570.7	8/7/2003			Process Solutions Containing Surfactants
European Patent Convention	INACTIVE	5005646.4	3/15/2005	1580607.0	10/22/2014	Process Solutions Containing Surfactants
European Patent Convention	INACTIVE	3012119.8	5/30/2003	1376671.0	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
European Patent Convention	INACTIVE	7109359.5	5/30/2003			Compositions For Preparing Materials with a Low Dielectric Constant
European Patent Convention	INACTIVE	3015605.3	7/15/2003			Method for Etching High Dielectric Constant Materials and for Cleaning Deposition Chambers for High Dielectric Constant Materials
European Patent Convention	INACTIVE	4027638.8	11/22/2004			Method For Etching High Dielectric Constant Materials And For Cleaning Deposition Chambers for High Dielectric Constant Materials
European Patent Convention	INACTIVE					Method for Nitrogen Trifluoride Production
European Patent Convention	INACTIVE	3026257.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
European Patent Convention	INACTIVE	4001370.8	1/22/2004			Process for the Synthesis of BrSF5
European Patent Convention	INACTIVE	3025374.4	11/4/2003	1426463.0	12/19/2007	Process for Atomic Layer Deposition of Metal Films
European Patent Convention	INACTIVE	4008503.7	4/7/2004			Reactive Liquid Based Gas Storage and Delivery Systems
European Patent Convention	INACTIVE	7024835.6	4/7/2004			Reactive Liquid Based Gas Storage and Delivery Systems
European Patent Convention	INACTIVE	4001246.0	1/21/2004	1442779.0	5/21/2008	Process for Purifying Fluoroxy Compounds
European Patent Convention	INACTIVE	4020328.3	8/26/2004			Process for Production of Isotopes
European Patent Convention	INACTIVE					Non-Thermal Process for Forming Porous Low Dielectric Constant Films
European Patent Convention	INACTIVE	3025722.4	11/10/2003	1420439.0	8/29/2012	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
European Patent Convention	INACTIVE	11151731.4	11/10/2003			Non-Thermal Process for Forming Porous Low Dielectric Constant Films
European Patent Convention	INACTIVE	4000455.8	1/12/2004	1439180.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
European Patent Convention	INACTIVE	4003810.1	2/19/2004	1449839.0	8/21/2005	Fluorinated Acrylic Compounds, Methods for Preparation of the Compounds and Photoresist Compositions Containg Same
European Patent Convention	INACTIVE					Diffusion Barrier Layers and Methods Comprising Same for Depositing Metal Films by CVD or ALD Processes
European Patent Convention	INACTIVE	4010352.5	4/30/2004			Diffusion Barrier Layers and Methods Comprising for Depositing Metal Films by CVD or ALD Processes
European Patent Convention	INACTIVE	8150392.2	4/30/2004			Method for Depositing Metal Films by CVD on Diffusion Barrier Layers
European Patent Convention	INACTIVE	8150390.6	4/30/2004			Diffusion Barrier Layers and Methods Comprising for Depositing Metal Films by CVD or ALD Processes
European Patent Convention	INACTIVE	4000912.8	1/16/2004			Precursors for Depositing Silicon Containing Films and Processes Thereof
European Patent Convention	PENDING	4004877.9	3/2/2004			Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
European Patent Convention	INACTIVE	4028960.5	12/7/2004			Purification Of Hydride Gases
European Patent Convention	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
European Patent Convention	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
European Patent Convention	INACTIVE	4011822.6	5/18/2004	1479790.0	10/26/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
European Patent Convention	INACTIVE	4016115.0	7/8/2004	1498467.0	10/18/2006	Alkyl and Aryl Trifluoromethoxytetrafluorosulfuranes
European Patent Convention	INACTIVE	4012308.5	5/25/2004	1482070.0	11/11/2015	Mechanical Enhancer Additives for Low Dielectric Films

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	INACTIVE	10183364.8	5/25/2004			Mechanical Enhancer Additives for Low Dielectric Films
European Patent Convention	INACTIVE	4024854.4	10/19/2004			Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
European Patent Convention	INACTIVE	4018479.8	8/4/2004			Processing of Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
European Patent Convention	INACTIVE	4009212.4	4/19/2004			Use of Complex Metal Oxides in the Autothermal Generation of Hydrogen
European Patent Convention	INACTIVE	4018304.8	8/2/2004			Bridged Carbocyclic Compounds and Methods of Making and Using Same
European Patent Convention	INACTIVE	4014365.3	6/18/2004	1491492.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
European Patent Convention	INACTIVE	4019503.4	8/17/2004	1508631.0	5/5/2010	Method and Apparatus for the Delivery of Precursor Materials
European Patent Convention	INACTIVE	4016213.3	7/9/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
European Patent Convention	INACTIVE	4028959.7	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
European Patent Convention	INACTIVE	5009316.0	4/28/2005			Method for Removing a Substance From a Substrate Using Electron Attachment
European Patent Convention	INACTIVE	5012660.6	6/13/2005			Liquid Media Containing Lewis Acidic Reactive Compounds for Storage and Delivery of Lewis Basic Gases
European Patent Convention	INACTIVE	4027074.6	11/15/2004	1533329.0	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
European Patent Convention	INACTIVE	7117900.6	11/15/2004			Aqueous Polyurethane Dispersion And Method For Making And Using Same
European Patent Convention	INACTIVE	5003377.8	2/17/2005			Transmission of Ultrasonic Energy Into Pressurized Fluids
European Patent Convention	INACTIVE	5004343.9	2/28/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
European Patent Convention	INACTIVE	4026854.2	11/11/2004			Synthesis of Pentafluorosulfuranyl Arylenes
European Patent Convention	INACTIVE	5000895.2	1/18/2005			Process For Producing 1,1-Difluorovinyl Cycloaliphatic Compounds
European Patent Convention	INACTIVE	5014547.3	7/5/2005			Storage and Delivery Systems for Gases Held in Liquid Medium
European Patent Convention	INACTIVE	8155307.5	4/28/2008	1988326.0	4/28/2010	Wick Systems for Complexed Gas Technology
European Patent Convention	INACTIVE	5000280.7	1/7/2005			Dispersions and Films Comprising Conducting Polymer for Optoelectronic Devices
European Patent Convention	INACTIVE	5000894.5	1/18/2005			Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
European Patent Convention	INACTIVE	5020515.2	9/20/2005	1640654.0	10/19/2016	Ionic Liquid Based Mixtures for Gas Storage and Delivery
European Patent Convention	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
European Patent Convention	INACTIVE	5005599.5	3/15/2005	1577934.0	8/8/2007	Alkaline Post-Chemical Mechanical Planarization Cleaning Compositions
European Patent Convention	INACTIVE	5011871.0	6/1/2005			Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
European Patent Convention	INACTIVE	5020514.5	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
European Patent Convention	INACTIVE	94850217.4	11/30/1994	656405.0	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
European Patent Convention	INACTIVE	97916842.4	3/20/1997			Photoresist Stripping Compositions
European Patent Convention	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
European Patent Convention	INACTIVE	97951629.1	7/9/1999			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
European Patent Convention	INACTIVE	98953431.8	10/13/1998	1023129.0	1/31/2007	Aqueous Stripping And Cleaning Compositions
European Patent Convention	INACTIVE	98951057.3	10/13/1998	1066123.0	11/16/2011	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
European Patent Convention	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
European Patent Convention	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
European Patent Convention	INACTIVE	904197.1	1/4/2000	1066365.0	8/5/2009	Acidic Compostiion Containing Fluoride for Removal of Photoresists and Etch Residue
European Patent Convention	INACTIVE	936223.7	5/23/2000			Process For Removing Contaminant From A Surface And Compositon Useful Therefor
European Patent Convention	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
European Patent Convention	INACTIVE	2742116.3	6/17/2002	1412453.0	6/8/2016	Process For Removing Contaminant From A Surface And Composition Useful Therefor
European Patent Convention	INACTIVE	1999625.5	12/3/2001			Method For Cleaning Etcher Parts
European Patent Convention	INACTIVE	3729578.9	1/6/2003	1470207.0	7/27/2011	Aqueous Stripping and Cleaning Composition
European Patent Convention	INACTIVE	1272456.3	11/27/2001	1353877.0	6/23/2004	Process For Producing Ammonia With Ultra-Low Metals Content
European Patent Convention	INACTIVE	2739636.5	6/4/2002			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
European Patent Convention	INACTIVE	3754886.4	9/26/2003	1552342.0	4/25/2012	Compositions Substrate For Removing Etching Residue And Use Thereof
European Patent Convention	INACTIVE	9166509.1	9/26/2003			Compositions Substrate For Removing Etching Residue And Use Thereof
European Patent Convention	INACTIVE	3763377.3	7/10/2003			Composition For Removing Etching Residue and Use Thereof
European Patent Convention	INACTIVE	5015627.2	7/19/2005	1619557.0	3/25/2015	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
European Patent Convention	INACTIVE	4753146.2	5/24/2004	1627259.0	7/1/2015	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
European Patent Convention	INACTIVE	4023717.4	10/5/2004			Polishing Composition and Use Thereof
European Patent Convention	INACTIVE	1271916.7	12/21/2001	1345848.0	7/12/2006	Composition Comprising an Oxidizing and Complexing Compound
European Patent Convention	INACTIVE	5016010.0	7/22/2005			Method for Enhancing Fluorine Utilization
European Patent Convention	INACTIVE	4011792.1	2/8/2002	1457550.0	7/5/2006	Process and Apparatus for Removing Residues From the Microstructure of an Object
European Patent Convention	INACTIVE	04010688.2-1221	5/22/2003	1453080.0	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
European Patent Convention	INACTIVE	5018682.4	8/29/2005			Silicon Nitride from Aminosilane Using PECVD
European Patent Convention	INACTIVE	5014089.6	6/29/2005	1612858.0	1/12/2011	Composition for Stripping and Cleaning and Use Thereof
European Patent Convention	INACTIVE	4737678.5	6/28/2004	1648991.0	10/17/2007	Semiconductor Cleaning Solution
European Patent Convention	INACTIVE	5026028.0	11/29/2005			Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
European Patent Convention	INACTIVE	5022213.2	10/12/2005	1647761.0	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	INACTIVE	5021056.6	9/27/2005	1666632.0	4/24/2013	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
European Patent Convention	INACTIVE	10010948.7	9/27/2005			Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
European Patent Convention	INACTIVE	4758361.2	3/26/2004	1616217.0	10/20/2010	Electro-Optic Assemblies and Materials for Use Therein
European Patent Convention	INACTIVE	5026611.3	12/6/2005	1669361.0	5/21/2008	Precursors for Silica or Metal Silicate Films
European Patent Convention	INACTIVE	6009447.1	5/8/2006	1722155.0	1/9/2008	Enhanced Purge Effect in Gas Conduit
European Patent Convention	INACTIVE	5024304.7	11/8/2005	1655355.0	3/3/2010	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
European Patent Convention	INACTIVE	6002182.1	2/2/2006			System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
European Patent Convention	INACTIVE	6001761.3	1/27/2006	1688798.0	2/22/2017	Aqueous Based Residue Removers Comprising Fluoride
European Patent Convention	INACTIVE	6001991.6	1/31/2006	1688426.0	7/23/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
European Patent Convention	INACTIVE	5028247.4	12/22/2005	1676850.0	9/2/2009	Volatile Beta-Ketoiminate and Metal Beta-Diiminate Complexes
European Patent Convention	INACTIVE	5028216.9	12/22/2005	1676849.0	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
European Patent Convention	INACTIVE	7005946.4	12/22/2005			Volatile Metal Beta-Ketoiminate Complexes
European Patent Convention	INACTIVE	7005945.6	12/22/2005			Volatile Metal Beta-Ketoiminate Complexes
European Patent Convention	INACTIVE	6002371.0	2/6/2006	1691400.0	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
European Patent Convention	INACTIVE	6003024.4	2/15/2006			Method for Defining a Feature on a Substrate
European Patent Convention	INACTIVE	6009536.1	5/9/2006			Method and Process for Reactive Gas Cleaning of Tool Parts
European Patent Convention	INACTIVE	6252488.9	5/11/2006	1724373.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
European Patent Convention	INACTIVE	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
European Patent Convention	INACTIVE	10181347.5	5/11/2006	2264218.0	11/14/2012	CVD Precursors for Silicon Containing Films
European Patent Convention	PENDING	10181351.7	5/11/2006			Precursors for CVD Silicon Carbo-Nitride Films
European Patent Convention	INACTIVE	7250546.4	2/12/2007			Seal Installation Tool
European Patent Convention	PENDING	6008011.6	4/18/2006			Dual-Flow Valve and Internal Processing Vessel Isolation System
European Patent Convention	INACTIVE	6014078.7	7/6/2006			Free Radical Initiator in Remote Plasma Chamber Clean
European Patent Convention	INACTIVE	7108284.6	5/15/2007	1857165.0	8/3/2011	Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
European Patent Convention	INACTIVE	6020949.1	10/5/2006	1775339.0	11/16/2011	Aqueous Cleaning Composition and Method for Using Same
European Patent Convention	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
European Patent Convention	INACTIVE	7250846.8	2/28/2007	1829599.0	12/18/2013	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
European Patent Convention	INACTIVE	6021137.2	10/9/2006			Aqueous Cleaning Composition for Removing Residues and Method Using Same
European Patent Convention	INACTIVE	6254363.2	8/18/2006	1757581.0	10/1/2008	Preparation of High Purity Fluorinated Peroxides
European Patent Convention	INACTIVE	6023931.6	11/17/2006	1788119.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
European Patent Convention	INACTIVE	7251419.3	3/30/2007			Turbomolecular Pump System for Gas Separation
European Patent Convention	INACTIVE	7251586.9	4/13/2007			Cleaning of Contaminated Articles by Aqueous Supercritical Oxidation
European Patent Convention	INACTIVE	6255881.2	11/17/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
European Patent Convention	INACTIVE	7250069.7	1/9/2007	1808480.0	10/7/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
European Patent Convention	INACTIVE	6255104.9	10/3/2006	1772460.0	3/25/2009	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
European Patent Convention	INACTIVE	7250386.5	1/30/2007	1813667.0	9/30/2009	Cleaning Formulations
European Patent Convention	INACTIVE	7109934.5	6/8/2007			Process for Separating Components of a Multi-Component Feed Stream
European Patent Convention	INACTIVE	6256468.7	12/20/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
European Patent Convention	INACTIVE	7251583.6	4/13/2007	1845172.0	7/14/2010	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
European Patent Convention	INACTIVE	7003658.7	2/22/2007			Top Coat for Lithography Processes
European Patent Convention	INACTIVE	8151133.9	2/6/2008			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbon
European Patent Convention	PENDING	7108782.9	5/23/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
European Patent Convention	PENDING	12190450.2	5/23/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
European Patent Convention	PENDING	12190454.4	5/23/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
European Patent Convention	PENDING	7251624.8	4/18/2007			Materials and Methods of Forming Controlled Void
European Patent Convention	INACTIVE					Materials and Methods of Forming Controlled Void
European Patent Convention	INACTIVE	8151135.4	2/6/2008			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
European Patent Convention	INACTIVE	7112144.6	7/27/2007			Route to Prepare 4-Bromo-1-Oxypentafluorosulfanylbenzene
European Patent Convention	INACTIVE	7251747.7	4/25/2007	1849789.0	4/9/2014	Metal Complexes of Polydentate Beta-Ketoiminates
European Patent Convention	INACTIVE	7120803.7	11/15/2007			Method and Composition for Restoring Dielectric Properties of Porous Dielectric Materials
European Patent Convention	INACTIVE	7119579.6	10/30/2007	1918631.0	5/8/2013	Leak Containment Apparatus for Reactive Gases
European Patent Convention	INACTIVE	7113123.9	7/25/2007			Component Heater
European Patent Convention	INACTIVE	8100095.2	1/4/2008	1944355.0	10/7/2009	Cleaning Composition for Semiconductor Substrates
European Patent Convention	INACTIVE	7108882.7	5/24/2007	1860508.0	12/5/2012	Composition and Method for Photoresist Removal
European Patent Convention	INACTIVE	7109886.7	6/8/2007			High Flow GaCl3 Delivery
European Patent Convention	INACTIVE	7109341.3	5/31/2007			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
European Patent Convention	INACTIVE	7115415.7	8/31/2007	1894934.0	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	INACTIVE	7110150.5	6/13/2007	1867653.0	4/14/2010	Low-Impurity Organosilicon Product as Precursor for CVD
European Patent Convention	INACTIVE	7111064.7	6/26/2007			Curing Dielectric Films Under a Reducing Atmosphere
European Patent Convention	INACTIVE	7118852.8	10/19/2007	1914296.0	3/16/2011	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
European Patent Convention	INACTIVE	7123150.0	12/13/2007	1939323.0	4/23/2014	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
European Patent Convention	INACTIVE	7814732.9	9/7/2007			Electro-Optic Display and Materials for Use Therein
European Patent Convention	INACTIVE					Electro-Optic Display and Materials for Use Therein
European Patent Convention	INACTIVE					Adhesives and Binders for Electro-Optic Displays
European Patent Convention	INACTIVE	7121751.7	11/28/2007			Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
European Patent Convention	PENDING	7123198.9	12/14/2007			Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
European Patent Convention	INACTIVE	7123952.9	12/21/2007			Method and Slurry for Tuning Low-K Versus Copper Removal Rates During Chemical Mechanical Polishing
European Patent Convention	INACTIVE	7123953.7	12/21/2007			Compositions for Chemical Mechanical Planarization of Copper
European Patent Convention	INACTIVE	8153137.8	3/20/2008			Synthesis of Pentahalosulfur Peroxides and Monoxides
European Patent Convention	INACTIVE	8151076.0	2/5/2008	1953168.0	7/1/2009	Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
European Patent Convention	INACTIVE	8158056.5	6/11/2008			Oxopentafluorosulfanyl-Substituted Alicyclic Compounds
European Patent Convention	INACTIVE	8151518.1	2/15/2008			Activated Chemical Process for Enhancing Material Properties of Dielectric Films
European Patent Convention	INACTIVE	8151950.6	2/26/2008	1967609.0	7/15/2015	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
European Patent Convention	INACTIVE	8154630.1	4/16/2008			Metal Precursor Solutions for Chemical Vapor Deposition
European Patent Convention	INACTIVE	8158575.4	6/19/2008			Plasma-Enhanced ALD for TiSiN Film Deposition With TDMAT, BTBAS and NH3
European Patent Convention	INACTIVE	8155034.5	4/23/2008	1995236.0	12/26/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
European Patent Convention	INACTIVE	8158670.3	6/20/2008			Process for Forming Continuous Copper Thin Films Via Vapor Deposition
European Patent Convention	INACTIVE	8169165.1	11/14/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
European Patent Convention	INACTIVE	8156411.4	5/16/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
European Patent Convention	INACTIVE					Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
European Patent Convention	PENDING	PCT/US08/68323	6/26/2008			Electro-Optic Displays, and Materials for Use Therein
European Patent Convention	INACTIVE	8019539.9	11/7/2008			Preparation of Metal-Containing Film Via ALD or CVD Processes
European Patent Convention	INACTIVE	8165127.5	9/25/2008			Cyclopentene as a Precursor for Carbon-Based Films
European Patent Convention	INACTIVE	8171783.7	12/16/2008	2072640.0	6/18/2014	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
European Patent Convention	INACTIVE	8020445.6	11/25/2008	2062659.0	6/17/2015	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
European Patent Convention	PENDING	14003508.0	11/25/2008			Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
European Patent Convention	PENDING	8020444.9	11/25/2008			Vessels With Personnel Access Provisions
European Patent Convention	INACTIVE	9167403.6	8/6/2009	2154141.0	6/15/2016	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
European Patent Convention	INACTIVE	13173925.2	8/6/2009	2644609.0	7/8/2015	Precursors for Depositing Silicon-Containing Films and Methods of Using Same
European Patent Convention	INACTIVE	8166504.4	10/13/2008			Antireflective Coatings
European Patent Convention	INACTIVE	8166488.0	10/13/2008			Antireflective Coatings for Photovoltaic Applications
European Patent Convention	INACTIVE	8019191.9	11/3/2008	2060577.0	8/21/2013	Copper Precursors for Thin Film Deposition
European Patent Convention	INACTIVE	8170145.0	11/27/2008	2067876.0	9/21/2011	ALD or CVD Process for Producing Germanium-Antimony-Tellurium Films
European Patent Convention	INACTIVE					Metal Complexes of Tridentate Beta-Ketoiminates
European Patent Convention	INACTIVE	8170027.0	11/26/2008	2065364.0	8/1/2012	Metal Complexes of Tridentate Beta-Ketoiminates
European Patent Convention	INACTIVE	8172315.7	12/19/2008	2072485.0	6/20/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
European Patent Convention	INACTIVE	9151404.2	1/27/2009	2083096.0	1/2/2013	Antimony Precursors for GST Films in ALD/CVD Processes
European Patent Convention	PENDING	13180256.3	8/13/2013			Precursors for GST Films in ALD/CVD Processes
European Patent Convention	DOCKETED					Precursors for GST Films in ALD/CVD Processes
European Patent Convention	INACTIVE	9154573.1	3/6/2009	2098911.0	9/11/2013	Stripper for Dry Film Removal
European Patent Convention	INACTIVE	9003683.1	3/13/2009			Stripper for Copper/Low K BEOL Clean
European Patent Convention	PENDING	9155899.9	3/23/2009			Improved Adhesion to Copper and Copper Electromigration Resistance
European Patent Convention	INACTIVE	9005251.5	4/9/2009	2116633.0	6/19/2013	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
European Patent Convention	INACTIVE	9167949.8	8/14/2009			Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
European Patent Convention	PENDING	9178272.2	12/8/2009			Method for Removal of Carbon from an Organosilicate Materia
European Patent Convention	INACTIVE	13177963.9	12/8/2009	2657365.0	1/18/2017	Method for Removal of Carbon from an Organosilicate Materia
European Patent Convention	PENDING	16188717.9	12/8/2009			Method for Removal of Carbon from an Organosilicate Materia
European Patent Convention	PENDING	9159766.6	5/8/2009			Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
European Patent Convention	PENDING	12171360.6	6/8/2012			Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
European Patent Convention	INACTIVE	9759326.3	6/3/2009	2289093.0	8/21/2013	Low Temperature Deposition of Silicon-Containing Films
European Patent Convention	INACTIVE	9161363.8	5/28/2009	2141141.0	9/28/2016	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
European Patent Convention	PENDING	16184210.9	5/28/2009			Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
European Patent Convention	INACTIVE	9165101.8	7/9/2009			Aminosilanes for Shallow Trench Isolation Films
European Patent Convention	INACTIVE	9791323.0	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	INACTIVE	9168843.2	8/27/2009			Selective Etching of Silicon Dioxide Compositions
European Patent Convention	INACTIVE	9168248.4	8/20/2009	2157341.0	10/9/2013	Cross Purge Valve and Container Assembly
European Patent Convention	INACTIVE	9174738.6	11/2/2009			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
European Patent Convention	INACTIVE	9178772.1	12/10/2009	2196557.0	8/24/2011	Precursors for Depositing Group 4 Metal-Containing Films
European Patent Convention	INACTIVE	9171493.1	9/28/2009			Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
European Patent Convention	PENDING	9764148.4	11/25/2009			Dielectric Barrier Deposition Using Oxygen Containing Precursor
European Patent Convention	INACTIVE	9175806.0	11/12/2009	2192207.0	6/20/2012	Method Using Amino Vinylsilane Precursors for the Deposition of Intrinsically Compressively Stressed SiN Films
European Patent Convention	INACTIVE	12159248.9	11/12/2009			Amino Vinylsilane Precursors for Stressed SiN Films
European Patent Convention	PENDING	10172069.6	8/5/2010			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
European Patent Convention	PENDING	11153416.0	2/4/2011			Methods to Prepare Silicon-Containing Films
European Patent Convention	PENDING	10156553.9	3/15/2010			Dielectric Films Comprising Silicon and Methods for Making Same
European Patent Convention	INACTIVE	9179603.7	12/17/2009	2199379.0	7/17/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
European Patent Convention	PENDING	10159887.8	4/14/2010			Method for Making a Chlorosilane
European Patent Convention	PENDING	10174406.8	8/27/2010			Water-Rich Stripping and Cleaning Formulation and Method for Using Same
European Patent Convention	INACTIVE	97933430.7	7/21/1997	852615.0	12/14/2005	Chemical Mechanical Polishing Composition and Process
European Patent Convention	PENDING	10162780.0	5/13/2010			Dielectric Barrier Deposition Using Nitrogen Containing Precursor
European Patent Convention	INACTIVE	3716012.4	2/11/2003	1485440.0	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
European Patent Convention	INACTIVE	8015822.3	2/11/2003			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
European Patent Convention	INACTIVE	6827264.0	11/1/2006			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
European Patent Convention	INACTIVE	6748744.7	3/24/2006	1871855.0	3/24/2010	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
European Patent Convention	INACTIVE	10168784.6	7/7/2010	2284250.0	4/20/2016	Formulations and Method for Post-CMP Cleaning
European Patent Convention	PENDING	11179721.3	9/1/2011			Electrodes for Electrolytic Germane Process
European Patent Convention	INACTIVE	2723099.4	2/8/2002			Chemical-Mechanical Planarization Using Ozone
European Patent Convention	INACTIVE	10164359.1	5/28/2010			Volatile Group 2 Metal Precursors
European Patent Convention	PENDING	12186256.9	5/28/2010			Volatile Group 2 Metal Precursors
European Patent Convention	PENDING	11155620.5	2/23/2011			Method of Making a Multicomponent Film
European Patent Convention	INACTIVE	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
European Patent Convention	INACTIVE	2728144.3	5/24/2002			Cerium Oxide Slurry, and Method of Manufacturing Substrate
European Patent Convention	INACTIVE	11153608.2	2/7/2011	2371821.0	6/18/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
European Patent Convention	INACTIVE	10188585.3	10/22/2010	2322530.0	4/6/2016	Group 4 Metal Precursors for Metal-Containing Films
European Patent Convention	INACTIVE	10188627.3	10/22/2010			Methods for Deposition of Group 4 Metal Containing Films
European Patent Convention	INACTIVE	11168589.7	6/2/2011	2392691.0	9/3/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	INACTIVE	10193948.6	12/7/2010	2330109.0	1/16/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
European Patent Convention	INACTIVE	930248.0	5/1/2000	1190006.0	2/18/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
European Patent Convention	PENDING	10195029.3	12/14/2010			Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
European Patent Convention	PENDING	10196872.5	12/23/2010			Low K Precursors Providing Superior Integration Attributes
European Patent Convention	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
European Patent Convention	PENDING	12158815.6	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
European Patent Convention	INACTIVE	11183540.1	9/30/2011	2436646.0	11/2/2016	Recovering of Xenon by Adsorption Process
European Patent Convention	PENDING	11154526.5	2/15/2011			Method for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
European Patent Convention	INACTIVE	11191340.6	11/30/2011	2460807.0	9/16/2015	Metal-Enolate Precursors for Depositing Metal-Containing Films
European Patent Convention	PENDING	11169596.1	6/10/2011			Cylinder Surface Treatment for Monochlorosilane
European Patent Convention	INACTIVE	11793233.5	6/10/2011	2580223.0	2/8/2017	Complexes of Imidazole Ligands
European Patent Convention	INACTIVE					Complexes of Imidazole Ligands
European Patent Convention	INACTIVE	11173298.8	7/8/2011	2404989.0	11/16/2016	Method for Wafer Dicing and Composition Useful Thereof
European Patent Convention	PENDING	11192787.7	12/9/2011			Aminovinylsilane for CVD and ALD SiO2 Films
European Patent Convention	PENDING	12159327.1	3/13/2012			Cleaning Formulations and Method of Using the Cleaning Formulations
European Patent Convention	INACTIVE	11190545.1	11/24/2011			Compositions and Methods for Texturing of Silicon Wafers
European Patent Convention	PENDING	12776905.7	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
European Patent Convention	INACTIVE	3752426.1	9/18/2003			Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
European Patent Convention	PENDING	12727508.9	6/1/2012			Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
European Patent Convention	INACTIVE	12169229.7	5/24/2012	2535343.0	3/30/2016	Organoaminosilane Precursors and Methods for Making and Using Same\r
European Patent Convention	PENDING	13178623.8	7/30/2013			Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
European Patent Convention	PENDING	12185709.8	9/24/2012			Solenoid Bypass for Continuous Operation of Pneumatic Valve
European Patent Convention	INACTIVE	12185977.1	9/25/2012	2574611.0	3/23/2016	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	13163586.4	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
European Patent Convention	INACTIVE	13151735.1	1/17/2013			Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	PENDING	13152729.3	1/25/2013			Alkoxyaminosilane Compounds and Applications Thereof
European Patent Convention	INACTIVE	13159800.5	3/18/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
European Patent Convention	PENDING	9767384.2	5/28/2009			Fixture Drying Apparatus and Method
European Patent Convention	INACTIVE	99901383.2	1/8/1999	1075337.0	11/18/2015	Container Washing Apparatus
European Patent Convention	PENDING	13711521.8	3/8/2013			Compositions and Methods for Making Silicon Containing Films
European Patent Convention	PENDING	13711231.4	3/8/2013			Barrier Materials for Display Devices
European Patent Convention	INACTIVE	13161953.8	4/2/2013	2644284.0	6/3/2015	Group 2 Imidazolate Formulations for Direct Liquid Injection
European Patent Convention	PENDING	13170299.5	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	13170300.1	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	INACTIVE					Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	15164099.2	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	13170299.5	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	13167334.5	5/10/2013			Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
European Patent Convention	PENDING	13169271.7	5/24/2013			Vessel with Filter
European Patent Convention	INACTIVE	13173220.8	6/21/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
European Patent Convention	INACTIVE	14158825.1	3/11/2014			Chemical Mechanical Planarization for Tungsten-Containing Substrates
European Patent Convention	PENDING	13189440.4	10/18/2013			Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
European Patent Convention	INACTIVE	13196621.0	12/11/2013	2743272.0	11/2/2016	Alkoxysilylamine Compounds and Applications Thereof
European Patent Convention	INACTIVE	14181693.4	8/20/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
European Patent Convention	PENDING	13854888.8	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
European Patent Convention	INACTIVE	14151667.4	1/17/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
European Patent Convention	INACTIVE	14178304.3	7/24/2014	2910665.0	12/14/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
European Patent Convention	INACTIVE	14164386.6	4/11/2014	2789712.0	1/25/2017	Method of Making a Multicomponent Film
European Patent Convention	DOCKETED					Method of Making a Multicomponent Film
European Patent Convention	INACTIVE	14164676.0	4/15/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
European Patent Convention	INACTIVE	14173395.6	6/23/2014	2818448.0	1/6/2016	Process for Making Trisilylamine
European Patent Convention	PENDING	15193282.9	6/23/2014			Process for Making Trisilylamine
European Patent Convention	INACTIVE	14174709.7	6/27/2014	2818526.0	6/22/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
European Patent Convention	PENDING	14168052.0	5/13/2014			Ultrasonic Liquid Level Sensing Systems
European Patent Convention	PENDING	14174252.8	6/26/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	14185776.3	9/22/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	16174045.1	9/22/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
European Patent Convention	PENDING	14187593.0	10/3/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereo
European Patent Convention	PENDING	14187603.7	10/3/2014			Methods for Depositing Silicon Nitride Films
European Patent Convention	PENDING	15177205.0	7/17/2015			Titanium Nitride Hard Mask and Etch Residue Remova
European Patent Convention	PENDING	14198123.3	12/16/2014			Composition for Titanium Nitride Hard Mask and Etch Residue Remova
European Patent Convention	PENDING	14187651.6	10/3/2014			System and Method for Xenon Recovery
European Patent Convention	PENDING	15157000.9	2/27/2015			Organoaminosilanes and Methods for Making Same
European Patent Convention	PENDING	15150696.1	1/9/2015			System and Method for Gas Recovery and Reuse
European Patent Convention	PENDING	15181146.0	8/14/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
European Patent Convention	PENDING	15161057.3	3/26/2015			Compositions and Methods for the Deposition of Silicon Oxide Films
European Patent Convention	PENDING	16161728.7	3/22/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\
European Patent Convention	PENDING	15176104.6	7/9/2015			Copper Corrosion Inhibition System
European Patent Convention	PENDING	15172307.9	6/16/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
European Patent Convention	PENDING	15178273.7	7/24/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
European Patent Convention	PENDING	15183041.1	8/28/2015			Ultrasonic Liquid Level Sensing Systems
European Patent Convention	PENDING	15192843.9	11/3/2015			Silicon-Based Films and Methods of Forming the Same
European Patent Convention	PENDING	15202819.7	12/28/2015			Stripping Compositions Having High WN/W Etching Selectivity
European Patent Convention	PENDING	15201559.0	12/21/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
European Patent Convention	PENDING	16155489.4	2/12/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
European Patent Convention	PENDING	15202875.9	12/29/2015			Etchant Solutions and Method of Use Thereof
European Patent Convention	PENDING	16155509.9	2/12/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
European Patent Convention	PENDING	16153514.1	1/29/2016			Method and Precursors for Manufacturing 3D Devices
European Patent Convention	PENDING	16167813.1	4/29/2016			TITANIUM NITRIDE HARD MASK AND ETCH RESIDUE REMOVAL
European Patent Convention	PENDING	16162624.7	3/29/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
European Patent Convention	PENDING	16165879.4	4/18/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
European Patent Convention	PENDING	16165675.6	4/15/2016			High Purity Tungsten Hexachloride and Method for Making Same

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
European Patent Convention	PENDING	16152648.8	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
European Patent Convention	PENDING	16169058.1	5/10/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
European Patent Convention	PENDING	16172991.8	6/3/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
European Patent Convention	PENDING	16190495.8	9/23/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
European Patent Convention	PENDING	16181088.2	7/25/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
European Patent Convention	PENDING	17152346.7	1/20/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
Finland	INACTIVE	870177.0	5/17/1985			SEPTUM CLOSURE
Finland	INACTIVE	870727.0	6/21/1985			CHEMICAL REFILL SYSTEM
Finland	INACTIVE	870178.0	5/17/1985			ION BEAM INPLANT SYSTEM
Finland	INACTIVE	870180.0	5/17/1985			METALIZED VALVE
Finland	INACTIVE	870179.0	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Finland	INACTIVE	870181.0	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Finland	INACTIVE	872150.0	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Finland	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Finland	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Finland	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Finland	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Finland	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Finland	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Finland	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Finland	ISSUED	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Finland	ISSUED	10181347.5	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Finland	ISSUED	11168589.7	6/2/2011	2392691.0	9/3/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
France	INACTIVE	78/22744	8/1/1978	78/22744	3/30/1984	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL S
France	INACTIVE	78/11618	4/19/1978	78/11618	7/15/1981	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
France	INACTIVE	78/24282	8/21/1978	78/24282	12/8/1980	PROCESS FOR MAKING IODINE PENT AFLUORIDE
France	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
France	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
France	INACTIVE	80302671.5	8/5/1980			CRYOGENIC FREEZER
France	INACTIVE	86111222.5	8/13/1986	222075.0	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
France	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
France	INACTIVE	88115327.4	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
France	INACTIVE	81302204.3	5/19/1981	40540.0	1/21/1987	VAPOR MASS FLOW CONTROL SYSTEM
France	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
France	INACTIVE	85903147.8	6/21/1985	229050.0	3/7/1990	CHEMICAL REFILL SYSTEM
France	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
France	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
France	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
France	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
France	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
France	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
France	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
France	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
France	INACTIVE	89120616.1	11/7/1989	369297.0	8/4/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
France	INACTIVE	89121546.9	11/21/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
France	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
France	INACTIVE	91108809.4	5/29/1991	461476.0	9/13/1995	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
France	INACTIVE	91109170.0	6/5/1991	460627.0	8/21/1996	VOLATILE CROWN LIGAND BETA-DIK ETONATE ALKALINE EARTH METAL C OMPLEXES
France	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
France	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
France	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
France	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
France	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
France	INACTIVE	93117586.3	10/29/1993			CHEMICAL STORAGE AND DISPENSIN G SYSTEM
France	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
France	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
France	INACTIVE	92102672.0	2/18/1992			PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
France	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
France	INACTIVE	92103203.3	2/25/1992	507074.0	1/3/1996	CLEANING AGENTS COMPRISING BET A-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USIN G THE SAME
France	INACTIVE	93309732.1	12/3/1993	600752.0	3/27/1996	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
France	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
France	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
France	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
France	INACTIVE	92117207.8	10/8/1992	536752.0	12/20/1995	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
France	INACTIVE	92117198.9	10/8/1992	536747.0	5/7/1997	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
France	INACTIVE	93109191.2	6/8/1993	574809.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
France	INACTIVE	93108567.4	5/27/1993	572918.0	8/5/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
France	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
France	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
France	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
France	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
France	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
France	INACTIVE	97307831.4	10/3/1997			REGENERATION OF ADSORBENT BEDS
France	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
France	INACTIVE	94111234.4	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
France	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
France	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
France	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
France	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
France	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
France	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
France	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
France	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
France	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
France	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
France	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
France	INACTIVE	96108490.2	5/28/1996			METHOD FOR THE GROWTH OF INDUS TRIAL CRYSTALS
France	ISSUED	97101356.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORI DE SYNTHESIS
France	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
France	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
France	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
France	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
France	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
France	INACTIVE	98108806.5	5/14/1998	879821.0	7/7/2004	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
France	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
France	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
France	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
France	ISSUED	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
France	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
France	INACTIVE	2023096.7	10/17/2002	1275631.0	7/19/2006	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
France	ISSUED	98120605.5	10/30/1998	914863.0	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
France	INACTIVE	99100825.1	1/18/1999	930346.0	10/20/2004	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
France	ISSUED	98118461.7	9/30/1998	906965.0	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
France	INACTIVE	99116133.2	8/19/1999	992735.0	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
France	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
France	ISSUED	99123238.0	11/26/1999	1006219.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
France	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
France	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
France	INACTIVE	99102777.2	2/23/1999	939096.0	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
France	INACTIVE	2026960.1	12/4/2002	1291375.0	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
France	ISSUED	99109396.4	6/2/1999	964441.0	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
France	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
France	INACTIVE	PCT/US98/20252	9/25/1998			ORDERED MESOPOROUS THIN FILMS
France	INACTIVE	111836.3	6/7/2000	1059295.0	8/13/2003	Production of Metal-Ligand Complexes
France	INACTIVE	95.0	4/10/1995	95.0	4/10/1995	Apparatus for Containment and Scrubbing of Toxic Gas from a Leakage Location and Method Therefo
France	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
France	ISSUED	309605.4	10/31/2000	1095934.0	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
France	INACTIVE	309606.2	10/31/2000	1095928.0	2/4/2004	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
France	ISSUED	121382.6	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
France	ISSUED	122208.2	10/13/2000	1092474.0	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
France	INACTIVE	1117027.1	7/12/2001	1174415.0	10/22/2003	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
France	INACTIVE	126445.6	12/6/2000	1123753.0	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
France	ISSUED	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
France	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
France	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
France	INACTIVE	1107778.1	4/4/2001	1146140.0	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
France	INACTIVE	1108053.8	3/29/2001	1142894.0	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
France	INACTIVE	1114678.4	6/19/2001	1166900.0	3/31/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
France	INACTIVE	1115797.1	7/11/2001	1172369.0	9/22/2010	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
France	INACTIVE	2028800.7	12/27/2002	1323720.0	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
France	INACTIVE	3000077.2	1/8/2003	1327652.0	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
France	ISSUED	2001014.6	1/17/2002	1225194.0	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
France	ISSUED	2002049.1	2/8/2002	1232791.0	7/27/2011	Active Fluroide Catalysts for Fluorination Reactions
France	ISSUED	2021730.3	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
France	INACTIVE	3000652.2	1/16/2003	1329418.0	6/14/2006	Purification of Group IVb Metal Halides
France	INACTIVE	3018791.8	8/28/2003	1432018.0	10/17/2007	Single Source Mixtures of Metal Siloxides
France	ISSUED	2018166.5	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
France	ISSUED	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
France	ISSUED	4014368.7	6/18/2004	1491655.0	1/5/2011	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
France	INACTIVE	3000511.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
France	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
France	ISSUED	3005338.3	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
France	ISSUED	3005337.5	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
France	ISSUED	4023326.4	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
France	ISSUED	3000047.5	1/7/2003	1327603.0	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
France	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
France	INACTIVE	3006214.5	3/20/2003	1346996.0	12/15/2004	Sulfurpentafluoride Compounds and Methods for Making and Using Same
France	ISSUED	3011009.2	5/16/2003	1365041.0	10/30/2013	Purgeable Manifold
France	ISSUED	4022387.7	9/21/2004	1519101.0	12/3/2014	Purgeable Container
France	ISSUED	3008723.3	4/16/2003	1354980.0	2/23/2011	Method for Forming a Porous SiOCH Layer
France	INACTIVE	5005646.4	3/15/2005	1580607.0	10/22/2014	Process Solutions Containing Surfactants
France	INACTIVE	3012119.8	5/30/2003	1376671.0	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
France	INACTIVE	3026257.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
France	INACTIVE	4001246.0	1/21/2004	1442779.0	5/21/2008	Process for Purifying Fluoroxy Compounds
France	ISSUED	3025722.4	11/10/2003	1420439.0	8/29/2012	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
France	INACTIVE	4000455.8	1/12/2004	1439180.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
France	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
France	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
France	INACTIVE	4011822.6	5/18/2004	1479790.0	10/26/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
France	ISSUED	4012308.5	5/25/2004	1482070.0	11/11/2015	Mechanical Enhancer Additives for Low Dielectric Films
France	INACTIVE	4014365.3	6/18/2004	1491492.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
France	ISSUED	4019503.4	8/17/2004	1508631.0	5/5/2010	Method and Vessel for the Delivery of Precursor Materials
France	ISSUED	4028959.7	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
France	ISSUED	4027074.6	11/15/2004	1533329.0	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
France	INACTIVE	8155307.5	4/28/2008	1988326.0	4/28/2010	Wick Systems for Complexed Gas Technology
France	INACTIVE	5020514.5	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
France	INACTIVE	94850217.4	11/30/1994	656405.0	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
France	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
France	INACTIVE	98953431.8	10/13/1998	1023129.0	1/31/2007	Aqueous Stripping And Cleaning Compositions

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
France	ISSUED	98951057.3	10/13/1998	1066123.0	11/16/2011	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
France	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
France	ISSUED	904197.1	1/4/2000	1066365.0	8/5/2009	Acidic Compostiion Containing Fluoride for Removal of Photoresists and Etch Residue
France	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
France	ISSUED	2742116.3	6/17/2002	1412453.0	6/8/2016	Process For Removing Contaminant From A Surface And Composition Useful Therefor
France	ISSUED	3729578.9	1/6/2003	1470207.0	7/27/2011	Aqueous Stripping and Cleaning Composition
France	ISSUED	3754886.4	9/26/2003	1552342.0	4/25/2012	Compositions Substrate For Removing Etching Residue And Use Thereof
France	ISSUED	4753146.2	5/24/2004	1627259.0	7/1/2015	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
France	INACTIVE	1271916.7	12/21/2001	1345848.0	7/12/2006	Composition Comprising an Oxidizing and Complexing Compound
France	INACTIVE	4737678.5	6/28/2004	1648991.0	10/17/2007	Semiconductor Cleaning Solution
France	ISSUED	5022213.2	10/12/2005	1647761.0	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
France	ISSUED	5021056.6	9/27/2005	1666632.0	4/24/2013	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
France	ISSUED	4758361.2	3/26/2004	1616217.0	10/20/2010	Electro-Optic Assemblies and Materials for Use Therein
France	INACTIVE	5026611.3	12/6/2005	1669361.0	5/21/2008	Precursors for Silica or Metal Silicate Films
France	INACTIVE	6009447.1	5/8/2006	1722155.0	1/9/2008	Enhanced Purge Effect in Gas Conduit
France	ISSUED	5024304.7	11/8/2005	1655355.0	3/3/2010	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
France	ISSUED	6001761.3	1/27/2006	1688798.0	2/22/2017	Aqueous Based Residue Removers Comprising Fluoride
France	INACTIVE	6001991.6	1/31/2006	1688426.0	7/23/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
France	ISSUED	5028247.4	12/22/2005	1676850.0	9/2/2009	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
France	ISSUED	5028216.9	12/22/2005	1676849.0	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
France	INACTIVE	6002371.0	2/6/2006	1691400.0	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
France	ISSUED	6252488.9	5/11/2006	1724373.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
France	ISSUED	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
France	ISSUED	10181347.5	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
France	INACTIVE	7108284.6	5/15/2007	1857165.0	8/3/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
France	ISSUED	6020949.1	10/5/2006	1775339.0	11/16/2011	Aqueous Cleaning Composition and Method for Using Same
France	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
France	ISSUED	7250846.8	2/28/2007	1829599.0	12/18/2013	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
France	INACTIVE	6023931.6	11/17/2006	1788119.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
France	ISSUED	7250069.7	1/9/2007	1808480.0	10/7/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
France	ISSUED	6255104.9	10/3/2006	1772460.0	3/25/2009	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
France	INACTIVE	7250386.5	1/30/2007	1813667.0	9/30/2009	Cleaning Formulations
France	ISSUED	7251583.6	4/13/2007	1845172.0	7/14/2010	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
France	PENDING	7251624.8	4/18/2007			Materials and Methods of Forming Controlled Void
France	ISSUED	7251747.7	4/25/2007	1849789.0	4/9/2014	Metal Complexes of Polydentate Beta-Ketoiminates
France	ISSUED	7119579.6	10/30/2007	1918631.0	5/8/2013	Leak Containment Apparatus for Reactive Gases
France	ISSUED	8100095.2	1/4/2008	1944355.0	10/7/2009	Cleaning Composition for Semiconductor Substrates
France	ISSUED	7108882.7	5/24/2007	1860508.0	12/5/2012	Composition and Method for Photoresist Removal
France	ISSUED	7115415.7	8/31/2007	1894934.0	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
France	ISSUED	7110150.5	6/13/2007	1867653.0	4/14/2010	Low-Impurity Organosilicon Product as Precursor for CVD
France	ISSUED	7118852.8	10/19/2007	1914296.0	3/16/2011	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
France	ISSUED	7123150.0	12/13/2007	1939323.0	4/23/2014	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
France	INACTIVE	8151076.0	2/5/2008	1953168.0	7/1/2009	Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
France	ISSUED	8151950.6	2/26/2008	1967609.0	7/15/2015	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
France	INACTIVE	8155034.5	4/23/2008	1995236.0	12/26/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
France	ISSUED	9167403.6	8/6/2009	2154141.0	6/15/2016	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
France	ISSUED	13173925.2	8/6/2009	2644609.0	7/8/2015	Precursors for Depositing Silicon-Containing Films and Methods of Using Same
France	ISSUED	8019191.9	11/3/2008	2060577.0	8/21/2013	Copper Precursors for Thin Film Deposition
France	ISSUED	8170145.0	11/27/2008	2067876.0	9/21/2011	Tellurium Precursors for GST Films in an ALD or CVD Process
France	ISSUED	8170027.0	11/26/2008	2065364.0	8/1/2012	Metal Complexes of Tridentate Beta-Ketoiminates
France	ISSUED	8172315.7	12/19/2008	2072485.0	6/20/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
France	ISSUED	9151404.2	1/27/2009	2083096.0	1/2/2013	Antimony Precursors for GST Films in ALD/CVD Processes
France	ISSUED	9154573.1	3/6/2009	2098911.0	9/11/2013	Stripper for Dry Film Removal
France	ISSUED	9005251.5	4/9/2009	2116633.0	6/19/2013	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
France	ISSUED	13177963.9	12/8/2009	2657365.0	1/18/2017	Method for Removal of Carbon from an Organosilicate Material
France	PENDING	12171360.6	6/8/2012			Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
France	ISSUED	9759326.3	6/3/2009	2289093.0	8/21/2013	Low Temperature Deposition of Silicon-Containing Films

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France	ISSUED	9161363.8	5/28/2009	2141141.0	9/28/2016	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
France	ISSUED	9168248.4	8/20/2009	2157341.0	10/9/2013	Cross Purge Valve and Container Assembly
France	ISSUED	9175806.0	11/12/2009	2192207.0	6/20/2012	Amino Vinylsilane Precursors for Stressed SiN Films
France	PENDING	10172069.6	8/5/2010			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
France	ISSUED	9179603.7	12/17/2009	2199379.0	7/17/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
France	PENDING	10174406.8	8/27/2010			Water-Rich Stripping and Cleaning Formulation and Method for Using Same
France	INACTIVE	97933430.7	7/21/1997	852615.0	12/14/2005	Chemical Mechanical Polishing Composition and Process
France	INACTIVE	3716012.4	2/11/2003	1485440.0	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
France	ISSUED	6748744.7	3/24/2006	1871855.0	3/24/2010	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
France	ISSUED	10168784.6	7/7/2010	2284250.0	4/20/2016	Formulations and Method for Post-CMP Cleaning
France	PENDING	11155620.5	2/23/2011			Method of Making a Multicomponent Film
France	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
France	ISSUED	11153608.2	2/7/2011	2371821.0	6/18/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
France	ISSUED	10188585.3	10/22/2010	2322530.0	4/6/2016	Group 4 Metal Precursors for Metal-Containing Films
France	ISSUED	11168589.7	6/2/2011	2392691.0	9/3/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
France	ISSUED	10193948.6	12/7/2010	2330109.0	1/16/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
France	INACTIVE	930248.0	5/1/2000	1190006.0	2/18/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
France	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
France	ISSUED	11183540.1	9/30/2011	2436646.0	11/2/2016	Recovering of Xenon by Adsorption Process
France	ISSUED	11191340.6	11/30/2011	2460807.0	9/16/2015	Metal-Enolate Precursors for Depositing Metal-Containing Films
France	ISSUED	11793233.5	6/10/2011	2580223.0	2/8/2017	Complexes of Imidazole Ligands
France	ISSUED	12169229.7	5/24/2012	2535343.0	3/30/2016	Organoaminosilane Precursors and Methods for Making and Using Same\r
France	ISSUED	12185977.1	9/25/2012	2574611.0	3/23/2016	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
France	ISSUED	99901383.2	1/8/1999	1075337.0	11/18/2015	Container Washing Apparatus
France	INACTIVE	13161953.8	4/2/2013	2644284.0	6/3/2015	Group 2 Imidazolate Formulations for Direct Liquid Injection
France	PENDING	13170299.5	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
France	ISSUED	13196621.0	12/11/2013	2743272.0	11/2/2016	Alkoxysilylamine Compounds and Applications Thereof
France	ISSUED	14178304.3	7/24/2014	2910665.0	12/14/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
France	ISSUED	14164386.6	4/11/2014	2789712.0	1/25/2017	Method of Making a Multicomponent Film
France	ISSUED	14173395.6	6/23/2014	2818448.0	1/6/2016	Process for Making Trisilylamine
France	PENDING	1455523.0	6/17/2014			Process for Recovery and Purification of Nitrous Oxide
France	ISSUED	14174709.7	6/27/2014	2818526.0	6/22/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
France	PENDING	14187593.0	10/3/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereof
Germany	INACTIVE	P2833760.2	8/1/1978	P2833760.2	5/14/1980	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL S
Germany	INACTIVE	P2817117.7	4/19/1978	P2817117.7	5/3/1984	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Germany	INACTIVE	P2836499.0	8/21/1978	P2836499.0	6/13/1980	PROCESS FOR MAKING IODINE PENT AFLUORIDE
Germany	INACTIVE	79300543.0	4/3/1979	P2961532.5	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Germany	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Germany	INACTIVE	80302671.5	8/5/1980	P3065771.7		CRYOGENIC FREEZER
Germany	INACTIVE	86111222.5	8/13/1986	P3682568.9	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Germany	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Germany	INACTIVE	88115327.4	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Germany	INACTIVE	P2751568.0-22	11/18/1977	P2751568.0	1/14/1982	LIQUID SOURCE MATERIAL CONTAIN ER AND METHOD OF USE FOR SEMIC ONDUCTOR DEVICE MANUFACTURING
Germany	INACTIVE	81302204.3	5/19/1981	P3175862.2	1/21/1987	VAPOR MASS FLOW CONTROL SYSTEM
Germany	INACTIVE	85902834.2	5/17/1985	P3573592.9	10/11/1989	SEPTUM CLOSURE
Germany	INACTIVE	85903147.8	6/21/1985	P3576372.8	3/7/1990	CHEMICAL REFILL SYSTEM
Germany	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Germany	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Germany	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Germany	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Germany	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Germany	INACTIVE	86092697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Germany	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Germany	INACTIVE	89120616.1	11/7/1989	P68908090.5	8/4/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
Germany	INACTIVE	89121546.9	11/21/1989	P68904052.0	12/23/1992	PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLUORIDE AND OTHER FLUORIDES
Germany	INACTIVE	89122601.1	12/7/1989	68922593.8	5/10/1995	FLUORINATED BETA-KETOIMINES AN D BETA-KETOIMINATO METAL COMPL EXES

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Germany	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES USING CONDENSATION NUCLEUS COUNTING
Germany	INACTIVE	91108809.4	5/29/1991	69112913.4	9/13/1995	SURFACE CLEANING USING A CRYOGENIC AEROSOL
Germany	INACTIVE	91109170.0	6/5/1991	69121477.8	8/21/1996	VOLATILE CROWN LIGAND BETA-DIKETONATE ALKALINE EARTH METAL COMPLEXES
Germany	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO METAL COMPLEXES
Germany	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS FROM MIXTURES OF TUNGSTEN HEXAFLUORIDE, ORGANOHYDROSILANES AND HYDROGEN
Germany	INACTIVE	91113871.7	8/19/1991	69113929.6	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Germany	INACTIVE	91308500.7	9/18/1991	69114654.3	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Germany	INACTIVE	91121887.3	12/20/1991	69111587.7	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Germany	INACTIVE	93117586.3	10/29/1993			CHEMICAL STORAGE AND DISPENSING SYSTEM
Germany	INACTIVE	92101359.5	1/28/1992	69218478.3	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Germany	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW AS 100 DEG.C. BY LPCVD USING ORGANODISILANE SOURCES
Germany	INACTIVE	92102672.0	2/18/1992			PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
Germany	INACTIVE	92304012.5	5/5/1992	69212233.8	7/17/1996	METHOD AND APPARATUS FOR TESTING CONTAINERS FOR CORROSION
Germany	INACTIVE	92103203.3	2/25/1992	69207247.0	1/3/1996	CLEANING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
Germany	INACTIVE	93309732.1	12/3/1993	69302000.8	3/27/1996	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINERS
Germany	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSITING COPPER ALUMINUM ALLOY ONTO A SUBSTRATE
Germany	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
Germany	INACTIVE	92115593.3	9/11/1992	69216021.3	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
Germany	INACTIVE	92117207.8	10/8/1992	69206944.5	12/20/1995	CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
Germany	INACTIVE	92117198.9	10/8/1992	69219547.5	5/7/1997	HALOGENATED CARBOXYLIC ACID CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
Germany	INACTIVE	93109191.2	6/8/1993	69300544.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CHLORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CLEANING
Germany	INACTIVE	93108567.4	5/27/1993	69320111.8	8/5/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMATIC COMPOUNDS
Germany	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONTAMINANTS FROM INTEGRATED CIRCUIT ASSEMBLIES AND A PROCESS FOR USING THE SAME
Germany	INACTIVE					SURFACE CLEANING USING AN ARGON OR NITROGEN AEROSOL
Germany	INACTIVE	94105564.2	4/11/1994	69400458.8	9/4/1996	HIGH PURITY BULK CHEMICAL DELIVERY SYSTEM
Germany	INACTIVE	94107352.0	5/11/1994	69404564.0	7/30/1997	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Germany	INACTIVE	94308967.2	12/2/1994	69425117.8	7/5/2000	NOVEL FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Germany	INACTIVE	97307831.4	10/3/1997			REGENERATION OF ADSORBENT BEDS REGENERATION OF ADSORBENT BEDS
Germany	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USING OXYGEN-SILICON SOURCE REACTANTS AND A FREE RADICAL PROMOTER
Germany	INACTIVE	94111234.4	7/19/1994			NITROGEN TRIFLUORIDE THERMAL CLEANING APPARATUS AND PROCESS
Germany	INACTIVE	19705512.5	2/13/1997			ENHANCED SENSITIVITY FOR OXYGEN AND OTHER INTERACTIVE GASES IN SAMPLE GASES USING GAS CHROMATOGRAPHY
Germany	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMPOUNDS OF GROUP 3A METALS
Germany	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Germany	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2B METALS
Germany	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Germany	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3A METALS
Germany	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSILANES
Germany	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE PROCESS
Germany	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SALTS AND THEIR USE A FLUORINATING AGENTS
Germany	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORINATING AGENTS
Germany	INACTIVE	19603282.2	1/30/1996			PROCESS FOR USING CHEMICAL VAPOR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Germany	INACTIVE					PROCESS FOR USING CHEMICAL VAPOR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Germany	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Germany	INACTIVE	96108490.2	5/28/1996			METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
Germany	ISSUED	97101356.0	1/29/1997	69708711.5	12/5/2001	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Germany	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Germany	INACTIVE	96305118.0	7/11/1996	69602318.0-08	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Germany	INACTIVE	96305114.9	7/11/1996	69610674.4-08	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Germany	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Germany	INACTIVE					PROCESS FOR PRODUCING PERMEATION RESISTANT CONTAINERS
Germany	INACTIVE	98108806.5	5/14/1998	69824917.8	7/7/2004	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
Germany	INACTIVE					HYDROGEN-FREE SIO2 USING PLASMA-ENHANCED CVD
Germany	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Germany	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
Germany	ISSUED	98118306.4	9/25/1998	69802489.3	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Germany	INACTIVE	98118025.0	9/23/1998	69835304.8		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Germany	INACTIVE	2023096.7	10/17/2002	69835304.8	7/19/2006	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES

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Germany	ISSUED	98120605.5	10/30/1998	69813449.4	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Germany	INACTIVE	99100825.1	1/18/1999	69921208.1	10/20/2004	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
Germany	ISSUED	98118461.7	9/30/1998	69834609.2	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Germany	INACTIVE	99116133.2	8/19/1999	69937279.8	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Germany	INACTIVE	99101503.3	1/27/1999	69901354.2-08	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Germany	ISSUED	99123238.0	11/26/1999	69934565.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Germany	INACTIVE	99124854.3	12/15/1999	69938813.9	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Germany	INACTIVE	99 120 002.3	10/14/1999	69934646.0-08	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Germany	INACTIVE	99102777.2	2/23/1999	69913011.5	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Germany	INACTIVE	2026960.1	12/4/2002	69918473.8-08	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Germany	ISSUED	99109396.4	6/2/1999	69901367.4	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Germany	INACTIVE	99123943.5	12/3/1999	69902217.7-08	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
Germany	INACTIVE	PCT/US98/20252	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Germany	INACTIVE	111836.3	6/7/2000	60004439.4	8/13/2003	Production of Metal-Ligand Complexes
Germany	INACTIVE	29506246.0	4/11/1995	29506246.0	4/11/1995	Apparatus for Containment and Scrubbing of Toxic Gas from a Leakage Location and Method Therefo
Germany	INACTIVE	309588.2	10/31/2000	60033616.6	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Germany	ISSUED	309605.4	10/31/2000	60008666.6	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluoride
Germany	INACTIVE	309606.2	10/31/2000	60008059.5	2/4/2004	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
Germany	ISSUED	121382.6	10/12/2000	60046782.1	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
Germany	ISSUED	122208.2	10/13/2000	60029894.9	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
Germany	INACTIVE	1117027.1	7/12/2001	60101024.8-08	10/22/2003	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
Germany	INACTIVE	126445.6	12/6/2000	60036191.8	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
Germany	ISSUED	1110115.1	5/3/2001	60108801.8	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillatio
Germany	INACTIVE	1110134.2	5/4/2001	60117635.9	3/8/2006	A Process for Concentrating Fluorine Compounds
Germany	INACTIVE	1113640.5	6/18/2001	60117639.1	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
Germany	INACTIVE	1107778.1	4/4/2001	60127486.5	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
Germany	INACTIVE	1108053.8	3/29/2001	60108289.3	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Germany	INACTIVE	1114678.4	6/19/2001	60102518.0	3/31/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
Germany	INACTIVE	1115797.1	7/11/2001	1172369.0	9/22/2010	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
Germany	INACTIVE	2028800.7	12/27/2002	60209294.9-08	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
Germany	INACTIVE	3000077.2	1/8/2003	60310618.8	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Germany	ISSUED	2001014.6	1/17/2002	60229077.5	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
Germany	ISSUED	1121865.8	9/11/2001	60114958.0	11/16/2005	Chemical Delivery System with Spill Containment Door
Germany	ISSUED	2002049.1	2/8/2002	60240587.4	7/27/2011	Active Fluroide Catalysts for Fluorination Reactions
Germany	ISSUED	2021730.3	9/25/2002	60248075.2	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
Germany	INACTIVE	3000652.2	1/16/2003	60305986.4-08	6/14/2006	Purification of Group IVb Metal Halides
Germany	INACTIVE	3018791.8	8/28/2003	60316903.1	10/17/2007	Single Source Mixtures of Metal Siloxides
Germany	ISSUED	2018166.5	8/19/2002	60236564.3	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
Germany	ISSUED	2028017.8	12/13/2002	60209990.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Germany	ISSUED	4014368.7	6/18/2004	602004030859.5	1/5/2011	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Germany	ISSUED	3000511.0	1/9/2003	60307908.3	8/30/2006	Purification of Hexafluoro-1,3-butandiene
Germany	INACTIVE	3006215.2	3/20/2003	60320477.5	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
Germany	ISSUED	3005338.3	3/12/2003	60347032.7	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
Germany	ISSUED	3005337.5	3/12/2003	60327278.9	4/22/2009	Transportation and Storage of Ultra-High Purity Products
Germany	ISSUED	4023326.4	9/30/2004	602004034887.2	10/19/2011	Tank Comprising a Valve-Box
Germany	ISSUED	3000047.5	1/7/2003	60334749.5	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
Germany	INACTIVE	3014475.2	7/2/2003	60312778.9	3/28/2007	Adsorbent for Water Removal from Ammonia
Germany	INACTIVE	3006214.5	3/20/2003	60300207.2	12/15/2004	Sulfurpentafluoride Compounds and Methods for Making and Using Same
Germany	ISSUED	3011009.2	5/16/2003	60345177.2	10/30/2013	Purgeable Manifold
Germany	ISSUED	4022387.7	9/21/2004	602004046244.6	12/3/2014	Purgeable Container
Germany	ISSUED	3008723.3	4/16/2003	60336095.5	2/23/2011	Method for Forming a Porous SiOCH Layer
Germany	INACTIVE	5005646.4	3/15/2005	602005044975.2	10/22/2014	Process Solutions Containing Surfactants
Germany	INACTIVE	3012119.8	5/30/2003	60314475.6	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
Germany	INACTIVE	3026257.0	11/14/2003	60337142.6	5/18/2011	Method for Nitrogen Trifluoride Productio
Germany	INACTIVE	4001246.0	1/21/2004	602004013853.3	5/21/2008	Process for Purifying Fluoroxy Compounds
Germany	ISSUED	3025722.4	11/10/2003	60341934.8	8/29/2012	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
Germany	INACTIVE	10255988.0	11/30/2002			Method for Cleaning a Process Chamber

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Germany	INACTIVE	4000455.8	1/12/2004	602004005505.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Germany	INACTIVE	4008355.2	4/6/2004	602004002018.4	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Germany	INACTIVE	4027072.0	11/15/2004	602004004042.8	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Germany	INACTIVE	4011822.6	5/18/2004	602004000157.0	10/26/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
Germany	ISSUED	4012308.5	5/25/2004	602004048196.3	11/11/2015	Mechanical Enhancer Additives for Low Dielectric Films
Germany	ISSUED	4014365.3	6/18/2004	602004003866.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Germany	ISSUED	4019503.4	8/17/2004	602004026968.9	5/5/2010	Method and Vessel for the Delivery of Precursor Materials
Germany	ISSUED	4028959.7	12/7/2004	602004001838.4	8/9/2006	Process For Removing Water From Ammonia
Germany	ISSUED	4027074.6	11/15/2004	602004021761.1	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Germany	INACTIVE	8155307.5	4/28/2008	602008001070.8	4/28/2010	Wick Systems for Complexed Gas Technology
Germany	ISSUED	5020515.2	9/20/2005	602005050456.7	10/19/2016	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Germany	INACTIVE	5020514.5	9/20/2005	602005019819.9	3/10/2010	Process for the Production of Nitrogen Trifluoride
Germany	INACTIVE	94850217.4	11/30/1994	69433895.8	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Germany	INACTIVE	96106847.5	4/30/1996	69601657.5	3/10/1999	Integrated Container Moulding and Filling Facility
Germany	ISSUED	98953431.8	10/13/1998	69837011.2	1/31/2007	Aqueous Stripping And Cleaning Compositions
Germany	ISSUED	98951057.3	10/13/1998	69842498.0	11/16/2011	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
Germany	INACTIVE	99116743.8	8/27/1999	69912712.2-08	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Germany	ISSUED	904197.1	1/4/2000	60042673.4	8/5/2009	Acidic Compostiion Containing Fluoride for Removal of Photoresists and Etch Residue
Germany	INACTIVE	1973159.5	9/18/2001	60118015.1-08	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Germany	ISSUED	2742116.3	6/17/2002	60248126.0	6/8/2016	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Germany	ISSUED	3729578.9	1/6/2003	60337819.6	7/27/2011	Aqueous Stripping and Cleaning Composition
Germany	INACTIVE	1272456.3	11/27/2001	60104023.6	6/23/2004	
Germany	ISSUED	3754886.4	9/26/2003	60340736.6	4/25/2012	Compositions Substrate For Removing Etching Residue And Use Thereof
Germany	ISSUED	5015627.2	7/19/2005	602005046118.3	3/25/2015	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Germany	ISSUED	4753146.2	5/24/2004	602004047440.1	7/1/2015	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
Germany	INACTIVE	1271916.7	12/21/2001	1345848.0	7/12/2006	Composition Comprising an Oxidizing and Complexing Compound
Germany	INACTIVE	04010688.2-1221	5/22/2003	60306617.8-08	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Germany	ISSUED	5014089.6	6/29/2005	602005025830.2	1/12/2011	Composition for Stripping and Cleaning and Use Thereof
Germany	INACTIVE	4737678.5	6/28/2004	1648991.0	10/17/2007	Semiconductor Cleaning Solution
Germany	ISSUED	5022213.2	10/12/2005	602005047929.5	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Germany	ISSUED	5021056.6	9/27/2005	602005039213.0	4/24/2013	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Germany	ISSUED	4758361.2	3/26/2004	1616217.0	10/20/2010	Electro-Optic Assemblies and Materials for Use Therein
Germany	INACTIVE	5026611.3	12/6/2005	602005006948.8	5/21/2008	Precursors for Silica or Metal Silicate Films
Germany	INACTIVE	6009447.1	5/8/2006	602006000412.5	1/9/2008	Enhanced Purge Effect in Gas Conduit
Germany	ISSUED	5024304.7	11/8/2005	602005019669.2	3/3/2010	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
Germany	ISSUED	6001761.3	1/27/2006	1688798.0	2/22/2017	Aqueous Based Residue Removers Comprising Fluoride
Germany	INACTIVE	6001991.6	1/31/2006	602006001873.8	7/23/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
Germany	ISSUED	5028247.4	12/22/2005	602005016361.1	9/2/2009	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Germany	ISSUED	5028216.9	12/22/2005	602005010041.5	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
Germany	INACTIVE	6002371.0	2/6/2006	602006004779.7	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Germany	ISSUED	6252488.9	5/11/2006	602006007906.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
Germany	ISSUED	9161603.7	5/11/2006	602006031369.1	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Germany	ISSUED	10181347.5	5/11/2006	602006033148.7	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Germany	INACTIVE	7108284.6	5/15/2007	602007016220.3	8/3/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Germany	ISSUED	6020949.1	10/5/2006	602006025811.9	11/16/2011	Aqueous Cleaning Composition and Method for Using Same
Germany	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Germany	ISSUED	7250846.8	2/28/2007	602007034295.3	12/18/2013	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Germany	INACTIVE	6023931.6	11/17/2006	602006028576.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Germany	ISSUED	7250069.7	1/9/2007	602007002643.1	10/7/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Germany	ISSUED	6255104.9	10/3/2006	602006005877.2	3/25/2009	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Germany	INACTIVE	7250386.5	1/30/2007	602007002572.9	9/30/2009	Cleaning Formulations
Germany	ISSUED	7251583.6	4/13/2007	602007007684.6	7/14/2010	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Germany	PENDING	7251624.8	4/18/2007			Materials and Methods of Forming Controlled Void
Germany	ISSUED	7251747.7	4/25/2007	602007036000.5	4/9/2014	Metal Complexes of Polydentate Beta-Ketoiminates
Germany	ISSUED	7119579.6	10/30/2007	602007030295.1	5/8/2013	Leak Containment Apparatus for Reactive Gases
Germany	ISSUED	8100095.2	1/4/2008	602008000181.4	10/7/2009	Cleaning Composition for Semiconductor Substrates
Germany	ISSUED	7108882.7	5/24/2007	602007027098.7	12/5/2012	Composition and Method for Photoresist Removal

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Germany	ISSUED	7115415.7	8/31/2007	602007007160.7	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Germany	ISSUED	7110150.5	6/13/2007	602007005870.8	4/14/2010	Low-Impurity Organosilicon Product as Precursor for CVD
Germany	ISSUED	7118852.8	10/19/2007	602007013161.8	3/16/2011	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Germany	ISSUED	7123150.0	12/13/2007	602007036215.6	4/23/2014	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Germany	ISSUED	8151950.6	2/26/2008	602008039006.3	7/15/2015	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
Germany	INACTIVE	8155034.5	4/23/2008	602008021099.5	12/26/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Germany	ISSUED	8171783.7	12/16/2008	602008032807.4	6/18/2014	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
Germany	ISSUED	8020445.6	11/25/2008	602008038569.8	6/17/2015	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Germany	ISSUED	9167403.6	8/6/2009	602009039209.3	6/15/2016	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Germany	ISSUED	13173925.2	8/6/2009	602009032181.1	7/8/2015	Precursors for Depositing Silicon-Containing Films and Methods of Using Same
Germany	ISSUED	8019191.9	11/3/2008	602008026897.7	8/21/2013	Copper Precursors for Thin Film Deposition
Germany	ISSUED	8170145.0	11/27/2008	602008009948.2	9/21/2011	Tellurium Precursors for GST Films in an ALD or CVD Process
Germany	ISSUED	8170027.0	11/26/2008	602008017544.8	8/1/2012	Metal Complexes of Tridentate Beta-Ketoiminates
Germany	ISSUED	8172315.7	12/19/2008	602008016417.9	6/20/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Germany	ISSUED	9151404.2	1/27/2009	602009012369.6	1/2/2013	Antimony Precursors for GST Films in ALD/CVD Processes
Germany	ISSUED	9154573.1	3/6/2009	602009018670.1	9/11/2013	Stripper for Dry Film Removal
Germany	ISSUED	9005251.5	4/9/2009	602009016457.0	6/19/2013	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Germany	ISSUED	13177963.9	12/8/2009	602009043913.8	1/18/2017	Method for Removal of Carbon from an Organosilicate Material
Germany	PENDING	12171360.6	6/8/2012			Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Germany	ISSUED	9759326.3	6/3/2009	602009018193.9	8/21/2013	Low Temperature Deposition of Silicon-Containing Films
Germany	ISSUED	9161363.8	5/28/2009	602009041363.5	9/28/2016	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
Germany	ISSUED	9168248.4	8/20/2009	602009019311.2	10/9/2013	Cross Purge Valve and Container Assembly
Germany	ISSUED	9178772.1	12/10/2009	602009002264.4	8/24/2011	Precursors for Depositing Group 4 Metal-Containing Films
Germany	ISSUED	9175806.0	11/12/2009	602009007664.7	6/20/2012	Amino Vinylsilane Precursors for Stressed SiN Films
Germany	PENDING	10172069.6	8/5/2010			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
Germany	ISSUED	9179603.7	12/17/2009	602009017187.9	7/17/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
Germany	PENDING	10174406.8	8/27/2010			Water-Rich Stripping and Cleaning Formulation and Method for Using Same
Germany	INACTIVE	P69734868.7	7/21/1997	852615.0	12/14/2005	Chemical Mechanical Polishing Composition and Process
Germany	INACTIVE	3716012.4	2/11/2003	60323733.9	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Germany	ISSUED	6748744.7	3/24/2006	602006013110.0	3/24/2010	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
Germany	ISSUED	10168784.6	7/7/2010	602010032404.4	4/20/2016	Formulations and Method for Post-CMP Cleaning
Germany	PENDING	11155620.5	2/23/2011			Method of Making a Multicomponent Film
Germany	ISSUED	10176489.2	9/13/2010	602010019524.4	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Germany	ISSUED	11153608.2	2/7/2011	602011007693.0	6/18/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
Germany	ISSUED	10188585.3	10/22/2010	602010032003.0	4/6/2016	Group 4 Metal Precursors for Metal-Containing Films
Germany	ISSUED	11168589.7	6/2/2011	602011009560.9	9/3/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Germany	ISSUED	10193948.6	12/7/2010	602010004630.3	1/16/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
Germany	INACTIVE	930248.0	5/1/2000	60008376.4	2/18/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Germany	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
Germany	ISSUED	11183540.1	9/30/2011	602011031840.3	11/2/2016	Recovering of Xenon by Adsorption Process
Germany	ISSUED	11191340.6	11/30/2011	602011019781.9	9/16/2015	Metal-Enolate Precursors for Depositing Metal-Containing Films
Germany	ISSUED	11793233.5	6/10/2011	2580223.0	2/8/2017	Complexes of Imidazole Ligands
Germany	ISSUED	11173298.8	7/8/2011	602011021396.5	11/16/2016	Method for Wafer Dicing and Composition Useful Thereof
Germany	ISSUED	12169229.7	5/24/2012	602012016188.4	3/30/2016	Organoaminosilane Precursors and Methods for Making and Using Same\r
Germany	ISSUED	12185977.1	9/25/2012	602012015880.8	3/23/2016	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Germany	ISSUED	99901383.2	1/8/1999	69945435.2	11/18/2015	Container Washing Apparatus
Germany	INACTIVE	13161953.8	4/2/2013	602013001881.2	6/3/2015	Group 2 Imidazolate Formulations for Direct Liquid Injection
Germany	PENDING	13170299.5	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Germany	ISSUED	13196621.0	12/11/2013	602013013428.6	11/2/2016	Alkoxysilylamine Compounds and Applications Thereof
Germany	ISSUED	14178304.3	7/24/2014	2910665.0	12/14/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
Germany	ISSUED	14164386.6	4/11/2014	2789712.0	1/25/2017	Method of Making a Multicomponent Film
Germany	ISSUED	14173395.6	6/23/2014	602014000689.2	1/6/2016	Process for Making Trisilylamine
Germany	PENDING	102014008921.5	6/17/2014			Process for Recovery and Purification of Nitrous Oxide
Germany	ISSUED	14174709.7	6/27/2014	602014002380.0	6/22/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
Germany	PENDING	14187593.0	10/3/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereof
Great Britain	INACTIVE	31865/78	8/1/1978	2001656.0	2/17/1982	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIALS

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Great Britain	INACTIVE	15344/78	4/19/1978	1570253.0	8/27/1980	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Great Britain	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Great Britain	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Great Britain	INACTIVE	8234737.0	12/6/1982	2111173.0		TEMPERATURE ACTUATED VALVE AND PHASE SEPARATION METHOD
Great Britain	INACTIVE	86111222.5	8/13/1986	222075.0	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Great Britain	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Great Britain	INACTIVE	881153274.0	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Great Britain	INACTIVE	50002/77	12/1/1977	1592400.0	9/9/1981	LIQUID SOURCE MATERIAL CONTAIN ER AND METHOD OF USE FOR SEMIC ONDUCTOR DEVICE MANUFACTURING
Great Britain	INACTIVE	81302204.3	5/19/1981	40540.0	1/21/1987	VAPOR MASS FLOW CONTROL SYSTEM
Great Britain	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Great Britain	INACTIVE	85903147.8	6/21/1985	229050.0	3/7/1990	CHEMICAL REFILL SYSTEM
Great Britain	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Great Britain	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Great Britain	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Great Britain	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Great Britain	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Great Britain	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Great Britain	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Great Britain	INACTIVE	89119523.2	10/20/1989	387403.0	10/6/1993	DEPOSITION OF SILICON OXIDE FI LMS USING ALKYLSILANE LIQUID S OURCES
Great Britain	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Great Britain	INACTIVE	89120616.1	11/7/1989	369297.0	8/4/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
Great Britain	INACTIVE	89121546.9	11/21/1989	370480.0	12/23/1992	PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
Great Britain	INACTIVE	89122601.1	12/7/1989	373513.0	5/10/1995	FLUORINATED BETA-KETOIMINES AN D BETA-KETOIMINATO METAL COMPL EXES
Great Britain	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Great Britain	INACTIVE	91108809.4	5/29/1991	461476.0	9/13/1995	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
Great Britain	INACTIVE	91109170.0	6/5/1991	460627.0	8/21/1996	VOLATILE CROWN LIGAND BETA-DIK ETONATE ALKALINE EARTH METAL C OMPLEXES
Great Britain	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Great Britain	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Great Britain	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Great Britain	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Great Britain	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Great Britain	INACTIVE	93117586.3	10/29/1993			CHEMICAL STORAGE AND DISPENSIN G SYSTEM
Great Britain	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Great Britain	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Great Britain	INACTIVE	92102672.0	2/18/1992			PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
Great Britain	INACTIVE	9109597.6	5/3/1991			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Great Britain	INACTIVE	92304012.5	5/5/1992	515054.0	7/17/1996	METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Great Britain	INACTIVE	92103203.3	2/25/1992	507074.0	1/3/1996	CLEANING AGENTS COMPRISING BET A-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USIN G THE SAME
Great Britain	INACTIVE	93309732.1	12/3/1993	600752.0	3/27/1996	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Great Britain	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
Great Britain	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
Great Britain	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
Great Britain	INACTIVE	92117207.8	10/8/1992	536752.0	12/20/1995	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
Great Britain	INACTIVE	92117198.9	10/8/1992	536747.0	5/7/1997	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
Great Britain	INACTIVE	93109191.2	6/8/1993	574809.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Great Britain	INACTIVE	93108567.4	5/27/1993	572918.0	8/5/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
Great Britain	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Great Britain	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Great Britain	INACTIVE	9420133.2	10/5/1994	2282871.0	7/9/1997	INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Great Britain	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Great Britain	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Great Britain	INACTIVE					METHOD OF PLANARIZATION AND VI A FORMATION
Great Britain	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
Great Britain	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
Great Britain	INACTIVE	94111234.4	7/19/1994	636707.0	10/14/1998	NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Great Britain	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Great Britain	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Great Britain	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Great Britain	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Great Britain	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Great Britain	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Great Britain	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Great Britain	INACTIVE	9702334.5	2/5/1997	2310713.0	10/13/1999	METHOD AND APPARATUS FOR TRANSPORTING, STORING AND DELIVERING DANGEROUS CHEMICALS
Great Britain	INACTIVE	9426072.6	12/23/1994			ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Great Britain	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Great Britain	INACTIVE	9426083.3	12/23/1994			ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Great Britain	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Great Britain	INACTIVE	9602980.6	2/1/1996	2297560.0	5/13/1998	PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Great Britain	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Great Britain	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Great Britain	INACTIVE	96108490.2	5/28/1996	745707.0	7/11/2001	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
Great Britain	ISSUED	97101356.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Great Britain	INACTIVE	96304229.6	6/6/1996	747118.0	10/20/1999	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Great Britain	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Great Britain	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Great Britain	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACET IC ACID AND DERIVATIVES
Great Britain	INACTIVE	9516557.7	8/12/1995			PROCESS FOR PRODUCING BORON TR ICHLORIDE
Great Britain	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Great Britain	INACTIVE	9719127.4	9/9/1997	2317231.0	1/26/2000	DYNAMIC DILUTION SYSTEM
Great Britain	INACTIVE	98108806.5	5/14/1998	879821.0	7/7/2004	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
Great Britain	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Great Britain	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Great Britain	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Great Britain	ISSUED	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Great Britain	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Great Britain	INACTIVE	2023096.7	10/17/2002	1275631.0	7/19/2006	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Great Britain	ISSUED	98120605.5	10/30/1998	914863.0	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Great Britain	INACTIVE	99100825.1	1/18/1999	930346.0	10/20/2004	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
Great Britain	ISSUED	98118461.7	9/30/1998	906965.0	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Great Britain	INACTIVE	99116133.2	8/19/1999	992735.0	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Great Britain	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Great Britain	ISSUED	99123238.0	11/26/1999	1006219.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Great Britain	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Great Britain	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Great Britain	INACTIVE	99102777.2	2/23/1999	939096.0	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Great Britain	INACTIVE	2026960.1	12/4/2002	1291375.0	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Great Britain	ISSUED	99109396.4	6/2/1999	964441.0	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Great Britain	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
Great Britain	INACTIVE	PCT/US98/20252	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Great Britain	INACTIVE	111836.3	6/7/2000	1059295.0	8/13/2003	Production of Metal-Ligand Complexes
Great Britain	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Great Britain	ISSUED	309605.4	10/31/2000	1095934.0	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
Great Britain	ISSUED	121382.6	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
Great Britain	ISSUED	122208.2	10/13/2000	1092474.0	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
Great Britain	INACTIVE	1117027.1	7/12/2001	1174415.0	10/22/2003	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
Great Britain	INACTIVE	126445.6	12/6/2000	1123753.0	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
Great Britain	ISSUED	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Great Britain	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
Great Britain	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
Great Britain	INACTIVE	1107778.1	4/4/2001	1146140.0	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
Great Britain	INACTIVE	1108053.8	3/29/2001	1142894.0	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Great Britain	INACTIVE	1114678.4	6/19/2001	1166900.0	3/31/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
Great Britain	INACTIVE	1115797.1	7/11/2001	1172369.0	9/22/2010	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
Great Britain	INACTIVE	2028800.7	12/27/2002	1323720.0	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Great Britain	INACTIVE	3000077.2	1/8/2003	1327652.0	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Great Britain	ISSUED	2001014.6	1/17/2002	1225194.0	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
Great Britain	ISSUED	2002049.1	2/8/2002	1232791.0	7/27/2011	Active Fluroide Catalysts for Fluorination Reactions
Great Britain	ISSUED	2021730.3	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
Great Britain	INACTIVE	3000652.2	1/16/2003	1329418.0	6/14/2006	Purification of Group IVb Metal Halides
Great Britain	INACTIVE	211410.6	5/17/2002			Intra-Cylinder Tubular Diaphragm Regulator
Great Britain	INACTIVE	3018791.8	8/28/2003	1432018.0	10/17/2007	Single Source Mixtures of Metal Siloxides
Great Britain	ISSUED	2018166.5	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
Great Britain	INACTIVE	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Great Britain	INACTIVE	3000511.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
Great Britain	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
Great Britain	ISSUED	3005338.3	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
Great Britain	ISSUED	3005337.5	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
Great Britain	ISSUED	4023326.4	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
Great Britain	ISSUED	3000047.5	1/7/2003	1327603.0	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
Great Britain	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
Great Britain	INACTIVE	3006214.5	3/20/2003	1346996.0	12/15/2004	Sulfurpentafluoride Compounds and Methods for Making and Using Same
Great Britain	ISSUED	4022387.7	9/21/2004	1519101.0	12/3/2014	Purgeable Container
Great Britain	ISSUED	3008723.3	4/16/2003	1354980.0	2/23/2011	Method for Forming a Porous SiOCH Layer
Great Britain	INACTIVE	3012119.8	5/30/2003	1376671.0	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
Great Britain	INACTIVE	3026257.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
Great Britain	INACTIVE	4001246.0	1/21/2004	1442779.0	5/21/2008	Process for Purifying Fluoroxy Compounds
Great Britain	INACTIVE	4000455.8	1/12/2004	1439180.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Great Britain	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Great Britain	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Great Britain	INACTIVE	4011822.6	5/18/2004	1479790.0	10/26/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
Great Britain	INACTIVE	4014365.3	6/18/2004	1491492.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Great Britain	ISSUED	4028959.7	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
Great Britain	ISSUED	4027074.6	11/15/2004	1533329.0	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Great Britain	INACTIVE	8155307.5	4/28/2008	1988326.0	4/28/2010	Wick Systems for Complexed Gas Technology
Great Britain	ISSUED	5020515.2	9/20/2005	1640654.0	10/19/2016	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Great Britain	INACTIVE	5020514.5	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
Great Britain	INACTIVE	8728587.0	12/7/1987	2199587.0	3/27/1991	Stripping Compositions Containing An Alkylamide And An Alkanolamine And Use Thereof
Great Britain	INACTIVE	94850217.4	11/30/1994	656405.0	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Great Britain	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
Great Britain	INACTIVE	98953431.8	10/13/1998	1023129.0	1/31/2007	Aqueous Stripping And Cleaning Compositions
Great Britain	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Great Britain	INACTIVE	904197.1	1/4/2000			Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Great Britain	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Great Britain	INACTIVE	1271916.7	12/21/2001	1345848.0	7/12/2006	Composition Comprising an Oxidizing and Complexing Compound
Great Britain	INACTIVE	04010688.2-1221	5/22/2003	1453080.0	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Great Britain	INACTIVE	4737678.5	6/28/2004	1648991.0	10/17/2007	Semiconductor Cleaning Solution
Great Britain	ISSUED	5022213.2	10/12/2005	1647761.0	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Great Britain	ISSUED	4758361.2	3/26/2004	1616217.0	10/20/2010	Electro-Optic Assemblies and Materials for Use Therein
Great Britain	INACTIVE	5026611.3	12/6/2005	1669361.0	5/21/2008	Precursors for Silica or Metal Silicate Films
Great Britain	INACTIVE	6009447.1	5/8/2006	1722155.0	1/9/2008	Enhanced Purge Effect in Gas Conduit
Great Britain	ISSUED	6001761.3	1/27/2006	1688798.0	2/22/2017	Aqueous Based Residue Removers Comprising Fluoride
Great Britain	INACTIVE	5028216.9	12/22/2005	1676849.0	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
Great Britain	INACTIVE	6002371.0	2/6/2006	1691400.0	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Great Britain	ISSUED	6252488.9	5/11/2006	1724373.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
Great Britain	ISSUED	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Great Britain	ISSUED	10181347.5	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Great Britain	INACTIVE	7108284.6	5/15/2007	1857165.0	8/3/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Great Britain	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Great Britain	ISSUED	7250846.8	2/28/2007	1829599.0	12/18/2013	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Great Britain	INACTIVE	6023931.6	11/17/2006	1788119.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Great Britain	ISSUED	7251583.6	4/13/2007	1845172.0	7/14/2010	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride

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Great Britain	ISSUED	7119579.6	10/30/2007	1918631.0	5/8/2013	Leak Containment Apparatus for Reactive Gases
Great Britain	ISSUED	7115415.7	8/31/2007	1894934.0	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Great Britain	INACTIVE	852615.0	7/21/1997	852615.0	12/14/2005	Chemical Mechanical Polishing Composition and Process
Great Britain	INACTIVE	3716012.4	2/11/2003	1485440.0	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Great Britain	INACTIVE	6748744.7	3/24/2006	1871855.0	3/24/2010	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
Great Britain	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Great Britain	INACTIVE	930248.0	5/1/2000	1190006.0	2/18/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Greece	INACTIVE	87.2	11/16/1987	87.2	11/16/1987	SEMICONDUCTOR DOPANT VAPORIZER
Greece	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Greece	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Greece	INACTIVE					ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Greece	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Greece	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Greece	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Greece	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Greece	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Greece	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Greece	INACTIVE	98922472.0	5/21/1998	3046164.0	10/31/2003	
Hong Kong	INACTIVE					PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Hong Kong	INACTIVE	98101336.4	2/20/1998	1002325.0	8/14/1998	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Hong Kong	INACTIVE					FLUORINE DOPED SILICON OXIDE P ROCESS
Hong Kong	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Hong Kong	INACTIVE	98112855.2	12/4/1998	1011700.0	3/24/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Hong Kong	INACTIVE	98112854.3	12/4/1999			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Hong Kong	ISSUED	99102541.2	6/11/1999	1017390.0	11/10/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Hong Kong	INACTIVE	99104913.8	11/1/1999	HK1019758	3/5/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Hong Kong	INACTIVE	106293.1	12/3/1999	HK1027133	12/13/2002	REGENERATION OF METAL CVD PRECURSORS
Hong Kong	INACTIVE	2101197.7	2/19/2002			Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Hong Kong	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Hong Kong	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Hong Kong	INACTIVE	1108532.7	11/30/2007	1037564B	6/6/2008	Mesoporous Films Having Reduced Dielectric Constants
Hong Kong	INACTIVE	2101201.1	2/19/2002	HK1039967	9/14/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
Hong Kong	INACTIVE	2101237.9	2/20/2002	HK1039944	8/5/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Hong Kong	INACTIVE	2000-7006287	6/9/2000			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
Hong Kong	ISSUED	6100163.5	1/4/2006	HK1080097	9/14/2007	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Hong Kong	INACTIVE	5109634.8	10/28/2005	HK1078102	11/30/2007	Aqueous Stripping and Cleaning Composition
Hong Kong	INACTIVE	7108029.1	7/24/2007			Aqueous Stripping and Cleaning Composition
Hong Kong	INACTIVE	6108305.7	7/26/2006			Electro-Optic Assemblies and Materials for Use Therein
Hong Kong	INACTIVE	99100151.7	7/21/1997	852615.0	12/14/2005	Chemical Mechanical Polishing Composition and Process
Hong Kong	PENDING	12103881.2	4/19/2012			Electrodes for Electrolytic Germane Process
Hong Kong	INACTIVE	2728144.3	5/24/2002			Cerium Oxide Slurry, and Method of Manufacturing Substrate
Hong Kong	INACTIVE	2104352.2	11/6/2002	H1042723	10/8/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Hong Kong	ISSUED	2108130.2	1/8/1999	HK1046660	9/8/2004	An Apparatus and a Method for Cleaning a Wafer Carrier
India	ISSUED	833/CHE/2007	4/18/2007	246995.0	3/24/2011	Materials and Methods of Forming Controlled Void
India	INACTIVE	315/CHE/2008	2/6/2008			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
India	INACTIVE	1482/CHE/2007	7/9/2007			Route to Prepare 4-Bromo-1-Oxypentafluorosulfanylbenzene
India	INACTIVE	1148/CHE/2007	6/1/2007			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
India	ISSUED	2959/CHE/2008	11/26/2008	264492.0	12/31/2014	Vessels With Personnel Access Provisions
India	ISSUED	2045/CHE/2009	8/26/2009	270989.0	1/29/2016	Selective Etching of Silicon Dioxide Compositions
India	INACTIVE	2627/CHE/2010	9/8/2010			Additives to Silane for Thin Film Silicon Photovoltaic Devices
India	PENDING	2790/CHE/2014	6/6/2014			Recovery and Purification of Nitrous Oxide
Indonesia	INACTIVE	P-0013061	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Indonesia	INACTIVE	W-20001483	10/13/1998	ID0011530	8/27/2003	Improvement in Aqueous Stripping and Cleaning Compositions

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Indonesia	INACTIVE	P-980999	7/14/1998	ID0008481	8/5/2002	Purification Of Hydroxylamine
Indonesia	INACTIVE	200102864.0	5/23/2000	ID0015824	5/20/2005	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Indonesia	PENDING	P-00201100404	7/8/2011			Method for Wafer Dicing and Composition Useful Thereof
Indonesia	PENDING	P-00201608246	7/8/2011			Method for Wafer Dicing and Composition Useful Thereof
Indonesia	PENDING	W-00201305464	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Indonesia	PENDING	P002015008813	12/29/2015			Stripping Compositions Having High WN/W Etching Selectivity
Indonesia	PENDING	P00201508718	12/22/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
Indonesia	PENDING	P00201508812	12/29/2015			Etchant Solutions and Method of Use Thereof
Indonesia	PENDING	P00201602973	5/2/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Indonesia	PENDING	P00201602115	3/30/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Indonesia	PENDING	P00201606353	9/22/2016			CLEANING FORMULATIONS
Ireland	INACTIVE					PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Ireland	INACTIVE	1891/91	6/4/1991	70238.0	10/24/1996	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
Ireland	INACTIVE	4016/91	11/19/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Ireland	INACTIVE	4565/91	12/30/1991	73257.0	4/29/1997	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Ireland	INACTIVE	921424.0	7/1/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Ireland	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
Ireland	INACTIVE	922720.0	10/9/1992	74958.0	7/28/1997	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
Ireland	INACTIVE	922721.0	10/9/1992	80688.0	11/10/1998	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
Ireland	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Ireland	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Ireland	INACTIVE	94105564.2	4/11/1994			HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Ireland	INACTIVE	94107352.0	5/31/1994	E 75456	7/30/1997	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Ireland	INACTIVE	97307831.4	10/3/1997			REGENERATION OF ADSORBENT BEDS
Ireland	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
Ireland	INACTIVE	94111234.4	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Ireland	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Ireland	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Ireland	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Ireland	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Ireland	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Ireland	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Ireland	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Ireland	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Ireland	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Ireland	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Ireland	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Ireland	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Ireland	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACET IC ACID AND DERIVATIVES
Ireland	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Ireland	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Ireland	ISSUED	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Ireland	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Ireland	INACTIVE	98120605.5	10/30/1998			ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Ireland	ISSUED	98118461.7	9/30/1998	906965.0	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Ireland	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Ireland	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Ireland	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
Ireland	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Ireland	ISSUED	121382.6	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
Ireland	INACTIVE	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Ireland	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
Ireland	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
Ireland	ISSUED	1121865.8	9/11/2001	1188691.0	11/16/2005	Chemical Delivery System with Spill Containment Door
Ireland	ISSUED	2021730.3	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
Ireland	ISSUED	2018166.5	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals

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Ireland	INACTIVE	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Ireland	INACTIVE	3000511.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
Ireland	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
Ireland	ISSUED	3005338.3	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
Ireland	ISSUED	3005337.5	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
Ireland	ISSUED	4023326.4	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
Ireland	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
Ireland	ISSUED	3011009.2	5/16/2003	1365041.0	10/30/2013	Purgeable Manifold
Ireland	INACTIVE	3026257.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
Ireland	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Ireland	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Ireland	INACTIVE	4011822.6	5/18/2004	1479790.0	10/26/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
Ireland	INACTIVE	4012308.5	5/25/2004	1482070.0	11/11/2015	Mechanical Enhancer Additives for Low Dielectric Films
Ireland	ISSUED	4019503.4	8/17/2004	1508631.0	5/5/2010	Method and Vessel for the Delivery of Precursor Materials
Ireland	ISSUED	4028959.7	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
Ireland	ISSUED	5020515.2	9/20/2005	1640654.0	10/19/2016	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Ireland	INACTIVE	5020514.5	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
Ireland	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Ireland	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Ireland	INACTIVE	04010688.2-1221	5/22/2003	1453080.0	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Ireland	ISSUED	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Ireland	ISSUED	10181347.5	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Ireland	INACTIVE	7108284.6	5/15/2007	1857165.0	8/3/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Ireland	PENDING	7251624.8	4/18/2007			Materials and Methods of Forming Controlled Void
Ireland	ISSUED	8151950.6	2/26/2008	1967609.0	7/15/2015	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
Ireland	ISSUED	9168248.4	8/20/2009	2157341.0	10/9/2013	Cross Purge Valve and Container Assembly
Ireland	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Ireland	ISSUED	11168589.7	6/2/2011	2392691.0	9/3/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Ireland	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
Ireland	INACTIVE	13161953.8	4/2/2013	2644284.0	6/3/2015	Group 2 Imidazolate Formulations for Direct Liquid Injection
Ireland	PENDING	14187593.0	10/3/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereof
Israel	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Israel	INACTIVE	91032.0	7/19/1989			ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Israel	INACTIVE	95552.0	8/31/1990	95552.0	6/16/1993	PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Israel	INACTIVE	97502.0	3/11/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Israel	INACTIVE	100050.0	11/14/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Israel	INACTIVE	116620.0	12/29/1995			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Israel	INACTIVE	116098.0	11/22/1995			FLUORINE DOPED SILICON OXIDE PROCESS
Israel	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Israel	INACTIVE	118521.0	5/31/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Israel	INACTIVE	118812.0	7/8/1996	118812.0	2/22/2001	Poly(arylene ether)compounds and their preparation
Israel	INACTIVE	118813.0	7/8/1996	118813.0	2/1/2001	DIELECTRIC MATERIAL CONTAINING POLY(ARYLENE ETHER) AND ITS USE IN INTEGRATED CIRCUITS
Israel	INACTIVE	119598.0	11/11/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Israel	INACTIVE	129628.0	4/27/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIES
Israel	INACTIVE	133102.0	11/24/1999			ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Israel	ISSUED	150315.0	6/19/2002	150315.0	3/31/2011	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Israel	INACTIVE	128622.0	2/19/1999	128622.0	12/1/2005	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYST EMS
Israel	ISSUED	130310.0	6/4/1999	130310.0	4/13/2003	DEPOSITIONS OF SILICON DIOXIDE AND SILICON OXYNITRIDE FILMS USING BIS(TERTIARYBUTYLAMINO)SILANE
Israel	INACTIVE	133245.0	12/1/1999	133245.0	9/2/2004	REGENERATION OF METAL CVD PRECURSORS
Israel	INACTIVE	132907.0	11/12/1999			NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
Israel	INACTIVE	135228.0	9/25/1998	135228.0	9/25/2003	ORDERED MESOPOROUS THIN FILMS
Israel	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Israel	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Israel	INACTIVE	140057.0	12/4/2000	140057.0	4/25/2005	Mesoporous Films Having Reduced Dielectric Constants
Israel	INACTIVE	144880.0	8/13/2001	144880.0	7/11/2006	Sub-Atmospheric Gas Delivery Method and Apparatus
Israel	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Israel	ISSUED	147609.0	1/14/2002	147609.0	3/11/2007	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Israel	INACTIVE	UNKNOWN	12/9/1998			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
Israel	INACTIVE	157559.0	8/25/2003			Single Source Mixtures of Metal Siloxides
Israel	INACTIVE	153467.0	12/16/2002	153467.0	3/11/2007	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Israel	ISSUED	153844.0	1/8/2003	153844.0	11/2/2006	Cabinet for Chemical Delivery with Solvent Purge
Israel	ISSUED	155973.0	5/19/2003	155973.0	4/16/2006	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
Israel	INACTIVE	156107.0	5/26/2003			Low Dielectric Materials and Methods for Making Same
Israel	INACTIVE	183716.0	5/26/2003			Low Dielectric Materials and Methods for Making Same
Israel	INACTIVE	156231.0	6/1/2003			Low Dielectric Materials and Methods for Making Same
Israel	INACTIVE	188790.0	6/1/2003			Low Dielectric Materials and Methods for Making Same
Israel	ISSUED	159769.0	1/8/2004	159769.0	6/21/2008	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Israel	ISSUED	163536.0	8/12/2004	163536.0	2/1/2011	Method and Vessel for the Delivery of Precursor Materials
Israel	INACTIVE	167135.0	2/27/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
Israel	INACTIVE	168911.0	6/1/2005	168911.0	3/4/2008	Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
Israel	INACTIVE	138706.0	1/4/2000	138706.0	5/9/2004	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Israel	INACTIVE	146733.0	5/23/2000	146733.0	10/26/2005	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Israel	INACTIVE	159596.0	6/17/2002			Process For Removing Contaminant From A Surface And Composition Useful Therefor
Israel	INACTIVE	181553.0	6/17/2002			Process For Removing Contaminant From A Surface And Composition Useful Therefor
Israel	INACTIVE	159359.0	6/4/2002	159359.0	5/12/2007	Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Israel	INACTIVE	169681.0	7/14/2005			Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Israel	INACTIVE	169682.0	7/14/2005			Method for Enhancing Fluorine Utilization
Israel	INACTIVE	170744.0	9/8/2005			Silicon Nitride from Aminosilane Using PECVD
Israel	INACTIVE	169438.0	6/28/2005			Composition for Stripping and Cleaning and Use Thereof
Israel	INACTIVE	172155.0	11/24/2005			Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
Israel	ISSUED	175454.0	5/4/2006	175454.0	3/25/2010	Enhanced Purge Effect in Gas Conduit
Israel	INACTIVE	181227.0	2/8/2007			Seal Installation Tool
Israel	INACTIVE	176489.0	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Israel	INACTIVE	203480.0	1/24/2010			Selective Etching and Formation of Xenon Difluoride
Israel	INACTIVE	180944.0	1/25/2007			Cleaning Formulations
Israel	ISSUED	186905.0	10/25/2007	186905.0	7/29/2011	Leak Containment Apparatus for Reactive Gases
Israel	INACTIVE	188077.0	12/12/2007			Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Israel	ISSUED	210911.0	1/27/2011	210911.0	12/31/2014	Method and Equipment for Selectively Collecting Process Effluent
Israel	ISSUED	222007.0	9/20/2012	222007.0	4/1/2016	Solenoid Bypass for Continuous Operation of Pneumatic Valve
Israel	INACTIVE	231408.0	3/9/2014			Chemical Mechanical Planarization for Tungsten-Containing Substrates
Israel	PENDING	238770.0	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
Israel	INACTIVE	232096.0	4/13/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
Israel	PENDING	235028.0	10/7/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereof
Israel	PENDING	240022.0	7/20/2015			Titanium Nitride Hard Mask and Etch Residue Remova
Israel	PENDING	236316.0	12/17/2014			Composition for Titanium Nitride Hard Mask and Etch Residue Remova
Israel	PENDING	244674.0	3/20/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\n
Israel	PENDING	239853.0	7/9/2015			Copper Corrosion Inhibition System
Israel	PENDING	244015.0	2/8/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
Israel	PENDING	243755.0	1/24/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
Israel	PENDING	246004.0	6/2/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
Israel	PENDING	248020.0	9/25/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
Italy	INACTIVE	26369A/78	8/1/1978	1097590.0	8/31/1985	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL S
Italy	INACTIVE	22464A/78	4/19/1978	1094706.0	8/2/1986	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Italy	INACTIVE	26892A/78	8/21/1978	1098290.0	9/7/1985	PROCESS FOR MAKING IODINE PENT AFLUORIDE BY DIRECT FLOURINATI ON OF MOLTEN IODINE
Italy	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Italy	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Italy	INACTIVE	86111222.5	8/13/1986	222075.0	11/21/1991	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Italy	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Italy	INACTIVE	88115327.4	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Italy	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Italy	INACTIVE	85903147.8	6/21/1985	229050.0	3/7/1990	CHEMICAL REFILL SYSTEM
Italy	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM

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Italy	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Italy	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Italy	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Italy	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Italy	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Italy	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Italy	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Italy	INACTIVE	89121546.9	11/21/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
Italy	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Italy	INACTIVE	91108809.4	5/29/1991	461476.0	9/13/1995	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
Italy	INACTIVE	91109170.0	6/5/1991	460627.0	8/21/1996	VOLATILE CROWN LIGAND BETA-DIK ETONATE ALKALINE EARTH METAL C OMPLEXES
Italy	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Italy	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Italy	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Italy	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Italy	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Italy	INACTIVE	93117586.3	10/29/1993			CHEMICAL STORAGE AND DISPENSIN G SYSTEM
Italy	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Italy	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Italy	INACTIVE	92102672.0	2/18/1992			PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
Italy	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Italy	INACTIVE	92103203.3	2/25/1992	507074.0	1/3/1996	CLEANING AGENTS COMPRISING BET A-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USIN G THE SAME
Italy	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
Italy	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
Italy	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
Italy	INACTIVE	92117207.8	10/8/1992	536752.0	12/20/1995	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
Italy	INACTIVE	92117198.9	10/8/1992	536747.0	5/7/1997	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
Italy	INACTIVE	93109191.2	6/8/1993	574809.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Italy	INACTIVE	93108567.4	5/27/1993	572918.0	8/5/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
Italy	INACTIVE	93109130.0	6/7/1993	573943.0	10/9/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Italy	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Italy	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Italy	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Italy	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Italy	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
Italy	INACTIVE	97307831.4	10/3/1997			REGENERATION OF ADSORBENT BEDS
Italy	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
Italy	INACTIVE	94111234.4	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Italy	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Italy	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Italy	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Italy	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Italy	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Italy	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Italy	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Italy	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Italy	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Italy	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Italy	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Italy	INACTIVE	96108490.2	5/28/1996			METHOD FOR THE GROWTH OF INDUS TRIAL CRYSTALS
Italy	ISSUED	502002900994730.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORI DE SYNTHESIS
Italy	INACTIVE	96306186.6	8/23/1996			PRODUCTION OF ULTRA-HIGH PURIT Y OXYGEN FROM CRYOGENIC AIR SE PARATION PLANTS
Italy	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Italy	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Italy	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Italy	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Italy	INACTIVE	MI97A000422	2/27/1997	1289983.0	10/19/1998	ARGON RECOVERY FROM SILICON CR YSTAL FURNACE

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Italy	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Italy	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Italy	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Italy	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Italy	ISSUED	502001900970282.0	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Italy	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Italy	INACTIVE	2023096.7	10/17/2002	1275631.0	7/19/2006	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Italy	INACTIVE	98120605.5	10/30/1998			ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Italy	INACTIVE	99100825.1	1/18/1999	930346.0	10/20/2004	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
Italy	ISSUED	502006901439570.0	9/30/1998	906965.0	5/24/2006	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Italy	INACTIVE	99116133.2	8/19/1999	992735.0	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Italy	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Italy	ISSUED	502007901501777.0	11/26/1999	1006219.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Italy	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Italy	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Italy	INACTIVE	99102777.2	2/23/1999	939096.0	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Italy	INACTIVE	2026960.1	12/4/2002	1291375.0	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Italy	ISSUED	502002901023045.0	6/2/1999	964441.0	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Italy	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
Italy	INACTIVE	PCT/US98/20252	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Italy	INACTIVE	111836.3	6/7/2000	1059295.0	8/13/2003	Production of Metal-Ligand Complexes
Italy	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Italy	ISSUED	502004901209346.0	10/31/2000	1095934.0	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
Italy	ISSUED	502012902032626.0	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
Italy	ISSUED	502006901464279.0	10/13/2000	1092474.0	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
Italy	INACTIVE	1117027.1	7/12/2001	1174415.0	10/22/2003	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
Italy	INACTIVE	126445.6	12/6/2000	1123753.0	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
Italy	ISSUED	502005901305637.0	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Italy	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
Italy	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
Italy	INACTIVE	1107778.1	4/4/2001	1146140.0	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients
Italy	INACTIVE	1108053.8	3/29/2001	1142894.0	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Italy	INACTIVE	502004901222506.0	6/19/2001	1166900.0	3/31/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
Italy	INACTIVE	1115797.1	7/11/2001	1172369.0	9/22/2010	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
Italy	INACTIVE	2028800.7	12/27/2002	1323720.0	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
Italy	INACTIVE	3000077.2	1/8/2003	1327652.0	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Italy	ISSUED	502013902202104.0	1/17/2002	1225194.0	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
Italy	ISSUED	502006901386271.0	9/11/2001	1188691.0	11/16/2005	Chemical Delivery System with Spill Containment Door
Italy	ISSUED	502011901979990.0	2/8/2002	1232791.0	7/27/2011	Active Fluroide Catalysts for Fluorination Reactions
Italy	ISSUED	502016000077727.0	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
Italy	INACTIVE	3000652.2	1/16/2003	1329418.0	6/14/2006	Purification of Group IVb Metal Halides
Italy	INACTIVE	3018791.8	8/28/2003	1432018.0	10/17/2007	Single Source Mixtures of Metal Siloxides
Italy	ISSUED	502010901867935.0	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
Italy	INACTIVE	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Italy	ISSUED	502006901464755.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
Italy	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
Italy	ISSUED	502015000005685.0	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
Italy	ISSUED	502009901752052.0	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
Italy	ISSUED	502011902008287.0	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
Italy	ISSUED	502011901910828.0	1/7/2003	1327603.0	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
Italy	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
Italy	INACTIVE	3006214.5	3/20/2003	1346996.0	12/15/2004	Sulfurpentafluoride Compounds and Methods for Making and Using Same
Italy	ISSUED	502014000003187.0	9/21/2004	1519101.0	12/3/2014	Purgeable Container
Italy	ISSUED	502011901945277.0	4/16/2003	1354980.0	2/23/2011	Method for Forming a Porous SiOCH Layer
Italy	INACTIVE	3012119.8	5/30/2003	1376671.0	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
Italy	INACTIVE	502011901966692.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
Italy	INACTIVE	4001246.0	1/21/2004	1442779.0	5/21/2008	Process for Purifying Fluoroxy Compounds

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Italy	INACTIVE	4000455.8	1/12/2004	1439180.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Italy	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Italy	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Italy	INACTIVE	4014365.3	6/18/2004	1491492.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Italy	ISSUED	502010901856591.0	8/17/2004	1508631.0	5/5/2010	Method and Vessel for the Delivery of Precursor Materials
Italy	ISSUED	502006901463176.0	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
Italy	ISSUED	502009901768495.0	11/15/2004	1533329.0	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Italy	INACTIVE	8155307.5	4/28/2008	1988326.0	4/28/2010	Wick Systems for Complexed Gas Technology
Italy	ISSUED	5020515.2	9/20/2005	50201600012305.0	10/19/2016	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Italy	INACTIVE	502010901835297.0	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
Italy	INACTIVE	94850217.4	11/30/1994	656405.0	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Italy	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
Italy	INACTIVE	98953431.8	10/13/1998	1023129.0	1/31/2007	Aqueous Stripping And Cleaning Compositions
Italy	INACTIVE	98951057.3	10/13/1998	1066123.0	11/16/2011	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Copper
Italy	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Italy	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Italy	INACTIVE	904197.1	1/4/2000	1066365.0	8/5/2009	Acidic Compostiion Containing Fluoride for Removal of Photoresists and Etch Residue
Italy	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Italy	ISSUED	502016000087449.0	6/17/2002	1412453.0	6/8/2016	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Italy	ISSUED	502012902062708.0	9/26/2003	1552342.0	4/25/2012	Compositions Substrate For Removing Etching Residue And Use Thereof
Italy	INACTIVE	04010688.2-1221	5/22/2003	1453080.0	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Italy	ISSUED	502016000013171.0	10/12/2005	1647761.0	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Italy	INACTIVE	5026611.3	12/6/2005	1669361.0	5/21/2008	Precursors for Silica or Metal Silicate Films
Italy	INACTIVE	502008901615110.0	5/8/2006	1722155.0	1/9/2008	Enhanced Purge Effect in Gas Conduit
Italy	ISSUED	502010901834908.0	11/8/2005	1655355.0	3/3/2010	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
Italy	ISSUED	6001761.3	1/27/2006	1688798.0	2/22/2017	Aqueous Based Residue Removers Comprising Fluoride
Italy	INACTIVE	6001991.6	1/31/2006	1688426.0	7/23/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
Italy	INACTIVE	5028216.9	12/22/2005	1676849.0	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
Italy	INACTIVE	6002371.0	2/6/2006	1691400.0	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Italy	ISSUED	502009901760670.0	5/11/2006	1724373.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
Italy	ISSUED	502012902094118.0	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Italy	ISSUED	502013902119249.0	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Italy	INACTIVE	7108284.6	5/15/2007	1857165.0	8/3/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Italy	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Italy	INACTIVE	502012902060634.0	11/17/2006	1788119.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Italy	INACTIVE	7250069.7	1/9/2007	1808480.0	10/7/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Italy	ISSUED	502009901734391.0	10/3/2006	1772460.0	3/25/2009	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Italy	INACTIVE	7250386.5	1/30/2007	1813667.0	9/30/2009	Cleaning Formulations
Italy	ISSUED	502010901867577.0	4/13/2007	1845172.0	7/14/2010	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Italy	ISSUED	502014902256177.0	4/25/2007	1849789.0	4/9/2014	Metal Complexes of Polydentate Beta-Ketoiminates
Italy	ISSUED	502013902176811.0	10/30/2007	1918631.0	5/8/2013	Leak Containment Apparatus for Reactive Gases
Italy	INACTIVE	8100095.2	1/4/2008	1944355.0	10/7/2009	Cleaning Composition for Semiconductor Substrates
Italy	INACTIVE	7108882.7	5/24/2007	1860508.0	12/5/2012	Composition and Method for Photoresist Removal
Italy	ISSUED	502010901867579.0	8/31/2007	1894934.0	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Italy	ISSUED	502014902264867.0	12/13/2007	1939323.0	4/23/2014	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Italy	INACTIVE	8155034.5	4/23/2008	1995236.0	12/26/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Italy	ISSUED	502011901989695.0	11/27/2008	2067876.0	9/21/2011	Tellurium Precursors for GST Films in an ALD or CVD Process
Italy	ISSUED	502012902091986.0	11/26/2008	2065364.0	8/1/2012	Metal Complexes of Tridentate Beta-Ketoiminates
Italy	ISSUED	502013902125978.0	1/27/2009	2083096.0	1/2/2013	Antimony Precursors for GST Films in ALD/CVD Processes
Italy	ISSUED	502013902179779.0	4/9/2009	2116633.0	6/19/2013	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Italy	INACTIVE	9179603.7	12/17/2009	2199379.0	7/17/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
Italy	INACTIVE	3716012.4	2/11/2003	1485440.0	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Italy	ISSUED	502015000004298.0	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Italy	INACTIVE	502004901206748.0	5/1/2000	1190006.0	2/18/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Italy	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
Italy	ISSUED	502016000014629.0	1/8/1999	1075337.0	11/18/2015	Container Washing Apparatus

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Japan	INACTIVE	52-027685	3/15/1977			REFRIGERATION SYSTEM FOR SHIPPING CONTAINER
Japan	INACTIVE	44116/53	4/14/1978	1017267.0	10/28/1980	NITROGEN FLUORIDE BY DIRECT FLUORINATION OF AMMONIUM BIFLUORIDE
Japan	INACTIVE	98975/53	8/14/1978	1074336.0	11/30/1981	PREPARATION OF IODINE PENTAFLUORIDE BY DIRECT FLOURINATION OF MOLTEN IODINE
Japan	INACTIVE	21765/54	2/26/1979	1238485.0	10/31/1984	PROCESS FOR THE REMOVAL OF DINITROGEN DIFLUORIDE FROM NITROGEN TRIFLUORIDE
Japan	INACTIVE	18266/54	2/19/1979	1446989.0	6/30/1988	PURIFICATION OF NITROGEN TRIFLUORIDE ATMOSPHERE
Japan	INACTIVE	202608/61	8/28/1986	1762585.0	5/28/1993	PROCESS FOR MANUFACTURING THICK-FILM ELECTRICAL COMPONENTS
Japan	INACTIVE	240597/63	9/26/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Japan	INACTIVE	65545/63	3/18/1988			CONCENTRATED STABLE FLUOROCHEMICAL AQUEOUS EMULSIONS
Japan	INACTIVE	239552/63	9/24/1988	1809587.0	12/10/1993	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Japan	INACTIVE	60188/63	3/14/1988			STABLE FLUOROCARBON AQUEOUS EMULSIONS
Japan	INACTIVE	144597/1977	12/2/1977	1174845.0	1/24/1983	LIQUID SOURCE MATERIAL CONTAINER AND METHOD OF USE FOR SEMICONDUCTOR DEVICE MANUFACTURING
Japan	INACTIVE	076377/1981	5/20/1981	1270780.0	5/11/1985	VAPOR MASS FLOW CONTROL SYSTEM
Japan	INACTIVE	502522/1985	5/17/1985			SEPTUM CLOSURE
Japan	INACTIVE	502819/1985	6/21/1985	1843973.0	5/12/1994	CHEMICAL REFILL SYSTEM
Japan	INACTIVE	502506/85	5/17/1985			ION BEAM INPLANT SYSTEM
Japan	INACTIVE	502526/1985	5/17/1985			METALIZED VALVE
Japan	INACTIVE	502294/1985	5/17/1985	1964164.0	8/25/1995	DISPOSABLE CHEMICAL CONTAINER
Japan	INACTIVE	502507/87	5/17/1985			ION IMPLANT USING TETRAFLUOROBORATES
Japan	INACTIVE	504170/1985	5/14/1987			VACUUM VAPOR TRANSPORT CONTROL
Japan	INACTIVE	502351/1986	11/21/1987	1896460.0	1/23/1995	SEMICONDUCTOR DOPANT VAPORIZER
Japan	INACTIVE	273637/1	10/20/1989	2048123.0	4/25/1996	DEPOSITION OF SILICON OXIDE FILMS USING ALKYLSILANE LIQUID SOURCES
Japan	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Japan	INACTIVE	188664/1	7/20/1989			ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Japan	INACTIVE	295985/1	11/14/1989	1871210.0	9/6/1994	VOLATILE FLUORINATED BETA-KETOIMINES AND ASSOCIATED METAL COMPLEXES
Japan	INACTIVE	304565/1	11/22/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLUORIDE AND OTHER FLUORIDES
Japan	INACTIVE	317428/1	12/6/1989	1930287.0	5/12/1995	FLUORINATED BETA-KETOIMINES AND BETA-KETOIMINATO METAL COMPLEXES
Japan	INACTIVE	235459/2	9/5/1990			PROCESS FOR SIZING PARTICLES USING CONDENSATION NUCLEUS COUNTING
Japan	INACTIVE	155683/3	5/30/1991	2109794.0	11/21/1996	SURFACE CLEANING USING A CRYOGENIC AEROSOL
Japan	INACTIVE	131546/1991	6/4/1991	2111150.0	11/21/1996	VOLATILE CROWN LIGAND BETA-DIKETONATE ALKALINE EARTH METAL COMPLEXES
Japan	INACTIVE	72552/3	3/12/1991			FLUORINATED BETA-KETOIMINATO METAL COMPLEXES
Japan	INACTIVE	331378/3	11/20/1991			DEPOSITION OF TUNGSTEN FILMS FROM MIXTURES OF TUNGSTEN HEXAFLUORIDE, ORGANOHYDROSILANES AND HYDROGEN
Japan	INACTIVE	262768/3	9/13/1991	2074363.0	7/25/1996	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Japan	INACTIVE	19526/4	1/8/1992			GAS PISTON LIQUID FLOW CONTROLLER
Japan	INACTIVE	03-357099	12/25/1991	2139833.0	1/8/1999	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Japan	INACTIVE	10-057182	3/9/1998	3262271.0	12/21/2001	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Japan	INACTIVE					PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Japan	INACTIVE	5-296032	11/1/1993			CHEMICAL STORAGE AND DISPENSING SYSTEM
Japan	INACTIVE	04-038556	1/29/1992	2132693.0	10/9/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Japan	INACTIVE	4-273600	9/17/1992	2634743.0	4/25/1997	DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW AS 100 DEG.C. BY LPCVD USING ORGANODISILANE SOURCES
Japan	INACTIVE	61104/4	2/17/1992	2115749.0	12/6/1996	PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
Japan	INACTIVE	86361/4	3/10/1992	2519625.0	5/17/1996	CLEANING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
Japan	INACTIVE	108586/4	4/1/1992	2068808.0	7/10/1996	ETCHING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
Japan	INACTIVE	5-339491	12/3/1993	2643818.0	5/2/1997	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINERS
Japan	INACTIVE	109913/5	4/13/1993	2554306.0	8/22/1996	PROCESS FOR SELECTIVELY DEPOSITING COPPER ALUMINUM ALLOY ONTO A SUBSTRATE
Japan	INACTIVE	361182/4	12/28/1992			DIFFUSION GAS DILUTER
Japan	INACTIVE	04-275200	9/18/1992	2132694.0	10/9/1997	VOLATILE PRECURSORS FOR COPPER CVD
Japan	INACTIVE	225238/5	8/18/1993			APPARATUS TO CLEAN SOLID SURFACES USING A CRYOGENIC AEROSOL
Japan	INACTIVE	4-293720	10/7/1992	2688311.0	8/22/1997	CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
Japan	INACTIVE	4-293721	10/7/1992	2804870.0	7/17/1998	HALOGENATED CARBOXYLIC ACID CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
Japan	INACTIVE	164044/5	6/8/1993	2068826.0	7/10/1996	LOW OZONE DEPLETING ORGANIC CHLORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CLEANING
Japan	INACTIVE	128568/1993	5/31/1993	2535719.0	7/8/1996	PROCESS FOR SELECTIVELY ORTHO-FLUORINATING SUBSTITUTED AROMATIC COMPOUNDS
Japan	INACTIVE	319104/5	11/25/1993	2533834.0	6/27/1996	GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONTAMINANTS FROM INTEGRATED CIRCUIT ASSEMBLIES AND A PROCESS FOR USING THE SAME
Japan	INACTIVE	290011/5	10/26/1993	2567341.0	10/3/1996	SURFACE CLEANING USING AN ARGON OR NITROGEN AEROSOL
Japan	INACTIVE	6-121810	5/11/1994	2641700.0	5/2/1997	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Japan	INACTIVE	6-175918	7/5/1994	2690460.0	8/29/1997	METHOD FOR PLASMA ETCHING OR CLEANING WITH DILUTED NF3
Japan	INACTIVE	6-329327	12/2/1994	2693126.0	9/5/1997	NOVEL FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Japan	INACTIVE	9-277381	10/9/1997			REGENERATION OF ADSORBENT BEDS

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Japan	INACTIVE	8-116697	5/10/1996	3077119.0	6/16/2000	CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USING OXYGEN-SILICON SOURCE REACTANTS AND A FREE RADICAL PROMOTER
Japan	INACTIVE	6-188911	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Japan	INACTIVE	9-29161	2/13/1997			ENHANCED SENSITIVITY FOR OXYGE N AND OTHER INTERACTIVE GASES IN SAMPLE GASES USING GAS CHRO MATOGRAPHY
Japan	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Japan	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Japan	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Japan	INACTIVE	503263/93	7/28/1992			METHOD OF DEPOSITION OF METAL
Japan	INACTIVE	06-502957	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Japan	INACTIVE	7-354280	12/29/1995	2769307.0	4/10/1998	LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Japan	INACTIVE	7-328164	11/22/1995	2790439.0	6/12/1998	FLUORINE DOPED SILICON OXIDE P ROCESS
Japan	INACTIVE	8-141086	5/10/1996			DESTRUCTION OF HAZARDOUS GASES WITH CORONA PRODUCING REACTIO NS
Japan	INACTIVE	9-23858	2/6/1997	3285194.0	3/8/2002	METHOD FOR TRANSPORTING, STORING AND DELIVERING DANGEROUS CHEMICALS
Japan	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Japan	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Japan	INACTIVE	8-44302	2/6/1996			PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Japan	INACTIVE	8-55505	2/19/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Japan	INACTIVE	8-159032	5/30/1996	2955231.0	7/16/1999	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
Japan	INACTIVE	10-263217	9/17/1998	3128065.0	11/10/2000	VENTILATED ENCLOSURE FOR GAS CYLINDERS AND MANIFOLDS
Japan	ISSUED	09-015379	1/29/1997	2929577.0	5/21/1999	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Japan	INACTIVE	8-144554	6/6/1996	2751958.0	2/27/1998	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Japan	INACTIVE	8-184980	7/15/1996	2933125.0	5/28/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Japan	INACTIVE	8-184973	7/15/1996	2933124.0	5/28/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Japan	INACTIVE	8-306838	11/18/1996	2692707.0	9/5/1997	PLASMA ETCH WITH TRIFLUOROACET IC ACID AND DERIVATIVES
Japan	INACTIVE	9-247313	9/11/1997	2918035.0	4/23/1999	DYNAMIC DILUTION SYSTEM
Japan	ISSUED	10-29540	2/12/1998	2953513.0	7/16/1999	PURIFICATION OF NF3 BY DRYING AND ADSORPTION WITH HIGH SI/AL RATIO ADSORBENT
Japan	INACTIVE	10-130217	5/13/1998	3104872.0	9/1/2000	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
Japan	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Japan	INACTIVE	11-144534	5/25/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIE
Japan	INACTIVE	11-143140	5/24/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS WITH RECYCLE OF VACUUM PUMP DILUENT
Japan	INACTIVE	10-231820	8/18/1998	3047371.0	3/24/2000	ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Japan	INACTIVE	9-298809	10/30/1997	3152389.0	1/26/2001	FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
Japan	ISSUED	10-275235	9/29/1998	3357609.0	10/4/2002	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Japan	INACTIVE	10-272867	9/28/1998	3357608.0	10/4/2002	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Japan	INACTIVE	10320/1999	1/19/1999	3734374.0	10/28/2005	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
Japan	ISSUED	10-281036	10/2/1998	2962417.0	8/6/1999	SILICON NITRIDE FROM BIS(TERTI ARYBUTYLAMINO)SILANE
Japan	INACTIVE	10-311726	11/2/1998	3123020.0	10/27/2000	ULTRA HIGH PRESSURE GASES
Japan	INACTIVE	11-236303	8/24/1999	3104206.0	9/1/2000	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Japan	INACTIVE	2000-252619	8/23/2000	3440232.0	6/13/2003	STORAGE AND SAFE DELIVERY OF HAZARDOUS SPECIALTY GASES BY ACID/BASE REACTIONS WITH IONIC POLYMERS
Japan	INACTIVE	11-19319	1/28/1999	2988629.0	10/8/1999	IMIDAZOLATE SULFURYL DIFLUORIDES
Japan	INACTIVE	11-339864	11/30/1999			ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Japan	INACTIVE	11-358998	12/17/1999	3795718.0	4/21/2006	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Japan	INACTIVE	11-295495	10/18/1999	3329775.0	7/19/2002	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Japan	INACTIVE	11-45839	2/24/1999	3092104.0	7/28/2000	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Japan	INACTIVE	2000-148640	5/16/2000			FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Japan	INACTIVE	11-194368	7/8/1999			PREPARATION OF 1,4-BIS-(DIFLUOROMETHYL)BENZENE
Japan	INACTIVE	11-191180	7/6/1999	3210646.0	7/13/2001	CHEMICAL GENERATOR WITH CONTROLLED MIXING AND CONCENTRATION FEEDBACK AND ADJUSTMENT
Japan	INACTIVE	11-274761	9/28/1999			PACKAGE FOR SAFE STORAGE OF ELECTROPHILIC FLUORINATING AGENT
Japan	ISSUED	11-163791	6/10/1999	3055123.0	4/14/2000	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Japan	INACTIVE	11-346389	12/6/1999			PURIFICATION OF GASES
Japan	INACTIVE	11-341678	12/1/1999	3373826.0	11/22/2002	REGENERATION OF METAL CVD PRECURSORS
Japan	INACTIVE	11-329794	11/19/1999			NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
Japan	INACTIVE	2000-512640	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Japan	INACTIVE	2000-182327	6/13/2000			PURIFICATION OF GASES
Japan	INACTIVE	2000-38046	2/9/2000	3639172.0	1/21/2005	Abatement of F2 using small particle fluidized bed
Japan	INACTIVE	2000-179381	6/9/2000			Production of Metal-Ligand Complexes
Japan	INACTIVE	2009-261178	6/9/2000			Production of Metal-Ligand Complexes
Japan	INACTIVE	2013-249521	6/9/2000			Production of Metal-Ligand Complexes

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Japan	INACTIVE	2000-335944	11/2/2000	3282148.0	3/1/2002	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Japan	INACTIVE	2000-334163	11/1/2000			Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
Japan	INACTIVE	2000-212008	7/7/2000	3576934.0	7/16/2004	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Japan	INACTIVE	2001-111498	4/10/2001	3677218.0	5/13/2005	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Japan	INACTIVE	2000-331935	10/31/2000	4022041.0	10/5/2007	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
Japan	INACTIVE	2007-040121	10/31/2000			Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
Japan	ISSUED	2000-310441	10/11/2000	3511003.0	1/9/2004	Vacuum Preparation of Hydrogen Halide Drier
Japan	INACTIVE	2001-246679	8/15/2001			Improving CVD Copper Adhesion to Barrier Layer
Japan	ISSUED	2000-315585	10/16/2000	3527470.0	2/27/2004	Chemical Delivery System With Ultrasonic Fluid Sensors
Japan	INACTIVE	2001-220276	7/19/2001	3535482.0	3/19/2004	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxydifluoromethane
Japan	INACTIVE	2000-308288	10/6/2000	3977586.0	6/29/2007	Purification, Analysis and Deposition of Titanium Amides
Japan	INACTIVE	2004-076682	10/6/2000			Purification, Analysis and Deposition of Titanium Amides
Japan	INACTIVE	2001-1755	1/9/2001	3433187.0	5/23/2003	Use of Alkylated Polyamines in Photoresist Developers
Japan	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Japan	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Japan	INACTIVE	2000-372712	12/7/2000	3668126.0	4/15/2005	Mesoporous Films Having Reduced Dielectric Constants
Japan	ISSUED	2001-137222	5/8/2001	3653006.0	3/4/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Japan	INACTIVE	2001-136964	5/8/2001	3481920.0	10/10/2003	A Process for Concentrating Fluorine Compounds
Japan	INACTIVE	2002-165522	6/6/2002			High Purity Chemical Container with External Level Sensor and Liquid Sump
Japan	INACTIVE	2001-191314	6/25/2001	3704061.0	7/29/2005	Process and Apparatus for Removing Particles from High Purity Gas Systems
Japan	INACTIVE	2001-111503	4/10/2001	3588334.0	8/20/2004	Process for Metal Metalloid Oxides and Nitrides with Compositional Gradients
Japan	INACTIVE	2001-333691	10/31/2001	3848128.0	9/1/2006	Removing Fluorine From Semiconductor Processing Exhaust Gas
Japan	INACTIVE	2001-104544	4/3/2001	3593051.0	9/3/2004	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Japan	INACTIVE	2001-246162	8/14/2001	3980849.0	7/6/2007	Sub-Atmospheric Gas Delivery Method and Apparatus
Japan	INACTIVE	2001-187767	6/21/2001	3554294.0	5/14/2004	Multiple Contents Container Assembly for Ultrapure Solvent Purging
Japan	INACTIVE	2001-214168	7/13/2001	3987306.0	7/20/2007	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
Japan	INACTIVE	2002-380469	12/27/2002	3825404.0	7/7/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
Japan	INACTIVE	2005-23788	1/31/2005	4125728.0	5/16/2008	Copper CVD Precursors With Enhanced Adhesion Properties
Japan	INACTIVE	2001-330335	10/29/2001			Method to Remove Metal and Silicon Oxide During Gas-Phase Sacrificial Oxide Etch
Japan	INACTIVE	2003-4526	1/10/2003			Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Japan	INACTIVE	2006-114964	4/18/2006			Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Japan	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Japan	ISSUED	2002-008476	1/17/2002	3762304.0	1/20/2006	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Japan	INACTIVE	2001-300498	9/28/2001			Solvent Blend for Use in High Purity Precursor Remova
Japan	ISSUED	2001-279592	9/14/2001	3785071.0	3/24/2006	Chemical Delivery System with Spill Containment Door
Japan	ISSUED	2002-36562	2/14/2002	3809385.0	5/26/2006	Active Fluroide Catalysts for Fluorination Reactions
Japan	INACTIVE	2000-528617	12/9/1998			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
Japan	INACTIVE	2004-25829	2/2/2004	4313217.0	5/22/2009	Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
Japan	INACTIVE	2009-027181	2/2/2004			Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
Japan	INACTIVE	2004-200926	5/23/2002			Low Dielectric Constant Material and Method of Processing By CVD
Japan	ISSUED	2003-8447	1/16/2003	3958691.0	5/18/2007	Purification of Group IVb Metal Halides
Japan	INACTIVE	2003-302644	8/27/2003			Single Source Mixtures of Metal Siloxides
Japan	INACTIVE	2002-300435	10/15/2002	3825390.0	7/7/2006	Gel-Free Colloidal Abrasive and Polishing Compositions and Associated Methods
Japan	INACTIVE	2002-370264	12/20/2002			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Japan	ISSUED	2007-040841	2/21/2007	4897510.0	1/6/2012	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Japan	ISSUED	2004-185064	6/23/2004	4447973.0	1/29/2010	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Japan	INACTIVE	2008-265703	10/14/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Japan	ISSUED	2009-235563	6/23/2004	5491123.0	3/7/2014	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Japan	ISSUED	2003-8214	1/16/2003	3866663.0	10/13/2006	Purification of Hexafluoro-1,3-butandiene
Japan	INACTIVE	2003-78342	3/20/2003	4125620.0	5/16/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
Japan	ISSUED	2004-293886	10/6/2004	4142626.0	6/20/2008	Monitoring of Ultra-High Purity Product Storage Tanks During Transportation
Japan	ISSUED	2003-4116	1/10/2003	4199011.0	10/10/2008	Cabinet for Chemical Delivery with Solvent Purge
Japan	INACTIVE	2003-77065	3/20/2003			Sulfurpentafluoride Compounds and Methods for Making and Using Same
Japan	ISSUED	2003-146332	5/23/2003	4125633.0	5/16/2008	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
Japan	ISSUED	2004-277751	9/24/2004	4246680.0	1/16/2009	Purgeable Container for Low Vapor Pressure Chemicals
Japan	INACTIVE	2003-113408	4/17/2003			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	ISSUED	2007-24479	4/17/2003	4897505.0	1/6/2012	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants

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Japan	ISSUED	2010-222519	4/17/2003	5774830.0	7/10/2015	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	ISSUED	2012-085485	4/17/2003	5711176.0	3/13/2015	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	INACTIVE	2014-096336	4/17/2003			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	ISSUED	2009-112216	5/1/2009	5270442.0	5/17/2013	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	INACTIVE	2011-278688	5/1/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Japan	INACTIVE	2003-155020	5/30/2003	4125637.0	5/16/2008	Low Dielectric Materials and Methods for Making Same
Japan	INACTIVE	2005-379696	12/28/2005			Low Dielectric Materials and Methods for Making Same
Japan	INACTIVE	2003-292481	8/12/2003	4272013.0	3/6/2009	Process Solutions Containing Surfactants
Japan	ISSUED	2005-79885	3/18/2005	4227112.0	12/5/2008	Process Solutions Containing Surfactants
Japan	INACTIVE	2003-154737	5/30/2003			Low Dielectric Materials and Methods for Making Same
Japan	INACTIVE	2010-017150	5/30/2003			Low Dielectric Materials and Methods for Making Same
Japan	INACTIVE	2003-198897	7/18/2003			Method for Etching High Dielectric Constant Materials and for Cleaning Deposition Chambers for High Dielectric Constant Materials
Japan	INACTIVE					Method for Nitrogen Trifluoride Production
Japan	INACTIVE	2003-388952	11/19/2003	4122277.0	5/9/2008	Method for Nitrogen Trifluoride Production
Japan	INACTIVE	2004-17380	1/26/2004			Process for the Synthesis of BrSF5
Japan	INACTIVE	2004-120549	4/15/2004			Reactive Liquid Based Gas Storage and Delivery Systems
Japan	INACTIVE	2009-252207	4/15/2004	5059831.0	8/10/2012	Reactive Liquid Based Gas Storage and Delivery Systems
Japan	INACTIVE	2004-17242	1/26/2004	4173824.0	8/22/2008	Process for Purifying Fluoroxy Compounds
Japan	ISSUED	2004-008253	1/15/2004	4031445.0	10/26/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Japan	INACTIVE					Diffusion Barrier Layers and Methods Comprising Same for Depositing Metal Films by CVD or ALD Processes
Japan	INACTIVE	2004-137673	5/6/2004	4261417.0	2/20/2009	Diffusion Barrier Layers and Methods Comprising for Depositing Metal Films by CVD or ALD Processes
Japan	INACTIVE	2004-15984	1/23/2004	3954577.0	5/11/2007	Precursors for Depositing Silicon Containing Films and Processes Thereof
Japan	ISSUED	521321/97	12/6/1996	3889813.0	12/8/2006	Method and Apparatus for Constant Composition Delivery of Hydride Gases for Semiconductor Processing
Japan	INACTIVE	2004-59560	3/3/2004			Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
Japan	ISSUED	2008-202204	3/3/2004	4913782.0	1/27/2012	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
Japan	INACTIVE	2004-349879	12/2/2004	4153483.0	7/11/2008	Purification Of Hydride Gases
Japan	INACTIVE	2008-125158	12/2/2004			Purification Of Hydride Gases
Japan	INACTIVE	2004-113197	4/7/2004			Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Japan	INACTIVE	2004-335794	11/19/2004	4173854.0	8/22/2008	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Japan	INACTIVE	2000-558027	7/6/1999			Method and Apparatus for the Preparation of High Purity Phosphine or Other Gas
Japan	INACTIVE	2004-314531	10/28/2004			Purification of Perfluoromethane
Japan	INACTIVE	2004-153480	5/24/2004	4130645.0	5/30/2008	Process for CVD of Hf and Zr Containing Oxynitride Films
Japan	INACTIVE	2005-15437	1/24/2005			Process For The Purification of NF3
Japan	INACTIVE	2004-162174	5/31/2004	4216768.0	11/14/2008	Mechanical Enhancer Additives for Low Dielectric Films
Japan	INACTIVE	2004-305708	10/20/2004			Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
Japan	INACTIVE	2008-189176	10/20/2004			Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
Japan	INACTIVE	2009-024192	10/20/2004			Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
Japan	INACTIVE	2004-229401	8/5/2004			Processing of Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
Japan	INACTIVE	2004-126997	4/22/2004			
Japan	INACTIVE	2004-228514	8/4/2004			Bridged Carbocyclic Compounds and Methods of Making and Using Same
Japan	ISSUED	2004-185096	6/23/2004	4021876.0	10/5/2007	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Japan	ISSUED	2004-239630	8/19/2004	4012181.0	9/14/2007	Method and Vessel for the Delivery of Precursor Materials
Japan	INACTIVE	2004-208870	7/15/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
Japan	ISSUED	2004-355342	12/8/2004	4662758.0	1/14/2011	Process For Removing Water From Ammonia
Japan	INACTIVE	2010-132416	12/8/2004			Process For Removing Water From Ammonia
Japan	INACTIVE	2005-125113	4/22/2005			Method for Removing a Substance From a Substrate Using Electron Attachment
Japan	INACTIVE	2005-173618	6/14/2005			System for Storage and Delivery of Lewis Basis Gases
Japan	INACTIVE	2009-290831	6/14/2005	5059843.0	8/10/2012	System for Storage and Delivery of Lewis Basis Gases
Japan	INACTIVE	2004-297761	10/12/2004	4081064.0	2/15/2008	Tunable Composition and Method for Chemical-Mechanical Planarization with Aspartic Acid/Tolyltriazole
Japan	INACTIVE	2007-319548	10/12/2004			Tunable Composition and Method for Chemical-Mechanical Planarization with Aspartic Acid/Tolyltriazole
Japan	INACTIVE	2004-296557	10/8/2004			Chemical-Mechanical Planarization Composition Having PVNO and Associated Method for Use
Japan	INACTIVE	2008-275609	11/25/2004			Method For Cleaning Deposition Chambers For High Dielectric Constant Materials
Japan	ISSUED	2004-333543	11/17/2004	4091594.0	3/7/2008	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Japan	INACTIVE	2005-49142	2/24/2005			Transmission of Ultrasonic Energy Into Pressurized Fluids
Japan	INACTIVE	2004-297667	10/12/2004	4167214.0	8/8/2008	Bicene/Tricine Containing Composition and Method for Chemical-Mechanical Planarization
Japan	INACTIVE	2005-57689	3/2/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
Japan	INACTIVE	2008-286882	3/2/2008			Compositions for Preparing Low Dielectric Materials Containing Solvents

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Japan	INACTIVE	2009-093317	3/2/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
Japan	INACTIVE	2004-327362	11/11/2004	3954608.0	5/11/2007	Synthesis of Pentafluorosulfuranyl Arylenes
Japan	INACTIVE	2005-9189	1/17/2005	4532293.0	6/18/2010	Process For Producing 1,1-Difluorovinyl Cycloaliphatic Compounds
Japan	INACTIVE	2005-199895	7/8/2005	4373377.0	9/11/2009	Storage and Delivery Systems for Gases Held in Liquid Medium
Japan	INACTIVE	2008-119929	5/1/2008	5048582.0	7/27/2012	Wick Systems for Complexed Gas Technology
Japan	INACTIVE	2005-15810	1/24/2005			Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
Japan	ISSUED	2005-277371	9/26/2005	4648145.0	12/17/2010	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Japan	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
Japan	INACTIVE	2010-094048	3/22/2005			Alkaline Post-Chemical Mechanical Planarization Cleaning Compositions
Japan	INACTIVE	2005-162386	6/2/2005			Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
Japan	INACTIVE	2005-271646	9/20/2005	4515989.0	5/21/2010	Process for the Production of Nitrogen Trifluoride
Japan	INACTIVE	141788/91	6/13/1991	3101346.0	8/18/2000	Polyvinyl Butyral Pellicle Compositions
Japan	INACTIVE	10812/92	1/24/1992	3160344.0	2/16/2001	Organic Stripping Compositions
Japan	INACTIVE	13338/94	2/7/1994			Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Japan	INACTIVE	55728/97	3/11/1997			Integrated Container Moulding and Filling Facility
Japan	INACTIVE	10-526953	12/8/1997			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
Japan	ISSUED	2000-516788	10/13/1998	4554813.0	7/23/2010	Aqueous Stripping And Cleaning Compositions
Japan	INACTIVE	2009-149844	10/13/1998			Aqueous Stripping And Cleaning Compositions
Japan	INACTIVE	11-240647	8/27/1999			Compositon And Method For Selectively Etching A Silicon Nitride Film
Japan	ISSUED	2000-596112	1/4/2000	3842557.0	8/18/2006	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Japan	INACTIVE	2006-121203	4/25/2006			Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Japan	INACTIVE	620663/00	5/23/2000			Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Japan	INACTIVE	2002-530926	9/18/2001			Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Japan	ISSUED	2003-509052	6/17/2002	4091540.0	3/7/2008	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Japan	INACTIVE	2003-560132	1/6/2003			Aqueous Stripping and Cleaning Composition
Japan	INACTIVE	2008-238167	1/6/2003			Aqueous Stripping and Cleaning Composition
Japan	INACTIVE	2002-552857	11/27/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Japan	INACTIVE	2003-506407	6/4/2002			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Japan	ISSUED	2004-539901	9/26/2003	5431630.0	12/13/2013	Compositions Substrate For Removing Etching Residue And Use Thereof
Japan	ISSUED	2009-261187	9/26/2003	5537126.0	5/9/2014	Compositions Substrate For Removing Etching Residue And Use Thereof
Japan	INACTIVE	2012-251510	9/26/2003			Compositions Substrate For Removing Etching Residue And Use Thereof
Japan	INACTIVE	2004-520050	7/10/2003			Composition For Removing Etching Residue and Use Thereof
Japan	ISSUED	2005-212358	7/22/2005	4819429.0	9/9/2011	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Japan	ISSUED	2006-533352	5/24/2004	4469854.0	3/5/2010	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
Japan	INACTIVE	2004-293733	10/6/2004			Polishing Composition and Use Thereof
Japan	ISSUED	2009-062026	3/13/2009	4787342.0	7/22/2011	Semi-Aqueous Stripping and Cleaning Composition Containing Aminobenzenesulfonic Acid\r
Japan	INACTIVE	2005-346074	11/30/2005			Compositions Comprising Tannic Acid as Corrosion Inhibitor
Japan	INACTIVE	2004-249221	2/9/2001			Process and Apparatus for Removing Residues From the Microstructure of an Object
Japan	INACTIVE	2005-313386	10/27/2005	4167257.0	8/8/2008	Process and Apparatus for Removing Residues From the Microstructure of an Object
Japan	INACTIVE	2004-249222	5/23/2003			Process and Composition for Removing Residues From the Microstructure of an Object
Japan	INACTIVE	2008-315724	7/20/2005			Process for Titanium Nitride Removal
Japan	INACTIVE	2005-257143	9/5/2005			Silicon Nitride from Aminosilane Using PECVD
Japan	INACTIVE	2005-190183	6/29/2005			Composition for Stripping and Cleaning and Use Thereof
Japan	INACTIVE	2009-128758	6/29/2005	4814356.0	9/2/2011	Composition for Stripping and Cleaning and Use Thereof
Japan	INACTIVE	2005-338174	11/24/2005			Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controller
Japan	ISSUED	2005-302206	10/17/2005	4611860.0	10/22/2010	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Japan	ISSUED	2005-282302	9/28/2005	4874614.0	12/2/2011	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Japan	INACTIVE	2009-281999	9/28/2005			Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Japan	PENDING	2006-509306	3/26/2004			Electro-Optic Assemblies and Materials for Use Therein
Japan	ISSUED	2010-265829	3/26/2004	5542281.0	5/16/2014	Electro-Optic Assemblies and Materials for Use Therein
Japan	INACTIVE	2005-355620	12/9/2005			Precursors for Silica or Metal Silicate Films
Japan	ISSUED	2006-135797	5/15/2006	4559382.0	7/30/2010	Enhanced Purge Effect in Gas Conduit
Japan	INACTIVE	2010-094141	5/15/2006			Enhanced Purge Effect in Gas Conduit
Japan	INACTIVE	2005-324645	11/9/2005			Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
Japan	INACTIVE	2006-27362	2/3/2006			System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
Japan	INACTIVE	2006-27278	2/3/2006			Aqueous Based Residue Removers Comprising Fluoride
Japan	ISSUED	2006-28539	2/6/2006	4388021.0	10/9/2009	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Japan	ISSUED	2006-000042	1/4/2006	4643452.0	12/10/2010	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Japan	ISSUED	2006-000149	1/4/2006	4414397.0	11/27/2009	Volatile Metal Beta-Ketoiminate Complexes
Japan	INACTIVE	2010-053435	1/4/2006			Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Japan	INACTIVE	2006-36223	2/14/2006	4347855.0	7/24/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Japan	INACTIVE	2006-37889	2/15/2006			Method for Defining a Feature on a Substrate
Japan	ISSUED	2006-135313	5/15/2006	4680832.0	2/10/2011	Precursors for CVD Silicon Carbo-Nitride Films
Japan	ISSUED	2010-002245	5/15/2006	4824823.0	9/16/2011	Precursors for CVD Silicon Carbo-Nitride Films
Japan	ISSUED	2010-174006	5/15/2006	5646248.0	11/14/2014	Precursors for CVD Silicon Carbo-Nitride Films
Japan	ISSUED	2012-251090	5/15/2006	5306533.0	7/5/2013	Precursors for CVD Silicon Carbo-Nitride Films
Japan	PENDING	2014-203493	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Japan	PENDING	2016-156443	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Japan	INACTIVE	2007-33712	2/14/2007	4579938.0	9/3/2010	Seal Installation Tool
Japan	ISSUED	2006-113521	4/17/2006	4680822.0	2/10/2011	Dual-Flow Valve and Internal Processing Vessel Isolation System
Japan	INACTIVE	2007-131516	5/17/2007	4782726.0	7/15/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Japan	ISSUED	2006-277877	10/11/2006	4880416.0	12/9/2011	Aqueous Cleaning Composition and Method for Using Same
Japan	INACTIVE	2011-117262	10/11/2006	5449256.0	1/10/2014	Aqueous Cleaning Composition and Method for Using Same
Japan	INACTIVE	2006-172611	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Japan	ISSUED	2007-47149	2/27/2007	4382826.0	10/2/2009	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Japan	INACTIVE	2006-279683	10/13/2006	4755060.0	6/3/2011	Aqueous Cleaning Composition for Removing Residues and Method Using Same
Japan	INACTIVE	2006-314185	11/21/2006	5148864.0	12/7/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Japan	INACTIVE	2007-94187	3/30/2007			Turbomolecular Pump System for Gas Separation
Japan	INACTIVE	2007-105208	4/12/2007			Cleaning of Contaminated Articles by Aqueous Supercritical Oxidation
Japan	INACTIVE	11-189220	7/2/1999			Positive Type Resist Removing Solution
Japan	INACTIVE	11-189221	7/2/1999			Positive Type Resist Remover
Japan	INACTIVE	2000-360497	11/28/2000			Resist Peeling Liquid and Utilization of the Same
Japan	INACTIVE	2000-395900	12/26/2000			Resist Removing Solution
Japan	INACTIVE	2001-098842	3/30/2001			Resist Stripper and Method for Stripping Resist Using the Same
Japan	INACTIVE	2001-335499	10/31/2001			Washing Method of Substrate and Rinse Liquid
Japan	INACTIVE	2002-045970	2/22/2002			Removing Solution and Method for Removing Resist Using the Same
Japan	INACTIVE	2002-069238	3/13/2005			Resist Stripping Solution Composition and Stripping Method Using the Same
Japan	INACTIVE	2002-322187	11/6/2002			Resist Stripping Liquid
Japan	INACTIVE	2002-334076	11/18/2002			Resist Stripping Liquid
Japan	INACTIVE	2003-096861	3/31/2003			Stripping Liquid for Resist and Stripping Method
Japan	INACTIVE	2006-314452	11/21/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
Japan	INACTIVE	2010-013751	1/26/2010			Selective Etching and Formation of Xenon Difluoride
Japan	ISSUED	2007-3160	1/11/2007	4473277.0	3/12/2010	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Japan	INACTIVE	2007-123517	5/8/2007			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
Japan	ISSUED	2006-275057	10/6/2006	4555272.0	7/23/2010	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Japan	ISSUED	2010-118497	10/6/2006	5118169.0	10/26/2012	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Japan	INACTIVE	2007-017471	1/29/2007			Cleaning Formulations
Japan	INACTIVE	2007-151929	6/7/2007			Process for Separating Components of a Multi-Component Feed Stream
Japan	INACTIVE	2006-344157	12/21/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
Japan	ISSUED	2007-21474	1/31/2007	4499751.0	4/23/2010	Formulation for Removal of Photoresist, Etch Residue and Barc
Japan	ISSUED	2007-105115	4/12/2007	4842878.0	10/14/2011	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Japan	INACTIVE	2011-056443	4/12/2007			Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Japan	INACTIVE	2007-42832	2/22/2007			Top Coat for Lithography Processes
Japan	INACTIVE	2008-023731	2/4/2008			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbon
Japan	ISSUED	2007-135666	5/22/2007	4718515.0	4/8/2011	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2010-249926	5/22/2007	5781750.0	7/24/2015	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2011-082821	5/22/2007	5731259.0	4/17/2015	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2013-243373	5/22/2007	5973412.0	7/22/2016	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2014-018171	5/22/2007	5827352.0	10/23/2015	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	PENDING	2015-023549	5/22/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	PENDING	2015-038698	5/22/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2015-106450	5/22/2007	5996722.0	9/2/2016	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Japan	ISSUED	2007-109320	4/18/2007	4838190.0	10/7/2011	Materials and Methods of Forming Controlled Void
Japan	ISSUED	2011-168789	4/18/2007	5485953.0	2/28/2014	Materials and Methods of Forming Controlled Void

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Japan	INACTIVE	2008-026640	2/6/2008			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
Japan	INACTIVE	2007-179810	7/9/2007			Route to Prepare 4-Bromo-1-Oxypentafluorosulfanylbenzene
Japan	ISSUED	2007-115819	4/25/2007	4680953.0	2/10/2011	Metal Complexes of Polydentate Beta-Ketoiminates
Japan	INACTIVE	2007-298091	11/16/2007			Method and Composition for Restoring Dielectric Properties of Porous Dielectric Materials
Japan	INACTIVE	2007-277956	10/25/2007	4768700.0	6/24/2011	Leak Containment Apparatus for Reactive Gases
Japan	PENDING	2007-193000	7/25/2007			Component Heater
Japan	ISSUED	2011-018193	1/9/2011	5144773.0	11/30/2012	Component Heater
Japan	ISSUED	2008-001949	1/9/2008	4750807.0	5/27/2011	Cleaning Composition for Semiconductor Substrates
Japan	ISSUED	2007-137968	5/24/2007	4373457.0	9/11/2009	Composition and Method for Photoresist Removal
Japan	INACTIVE	2007-153047	6/8/2007			High Flow GaCl3 Delivery
Japan	INACTIVE	2007-147136	6/1/2007	4746009.0	5/20/2011	Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
Japan	ISSUED	2007-225899	8/31/2007	4851405.0	10/28/2011	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Japan	INACTIVE	2007-155586	6/12/2007			Low-Impurity Organosilicon Product as Precursor for CVD
Japan	ISSUED	2011-014918	6/12/2007	5519545.0	4/11/2014	Low-Impurity Organosilicon Product as Precursor for CVD
Japan	INACTIVE	2007-169253	6/27/2007			Curing Dielectric Films Under a Reducing Atmosphere
Japan	ISSUED	2007-271345	10/18/2007	4809313.0	8/26/2011	Solid Source Conveying Container With Inlet Plenum and Method for Dispersing
Japan	ISSUED	2007-272508	10/19/2007	4870646.0	11/25/2011	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Japan	INACTIVE	2011-205034	10/19/2007			Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Japan	ISSUED	2007322347.0	12/13/2007	4851433.0	10/28/2011	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Japan	INACTIVE					Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Japan	ISSUED	2009-529300	9/7/2007	5452225.0	1/10/2014	Electro-Optic Display and Materials for Use Therein
Japan	ISSUED	2014-11603	1/12/2010	5819453.0	10/9/2015	Adhesives and Binders for Electro-Optic Displays
Japan	ISSUED	2007-307373	11/28/2007	4950011.0	3/16/2012	A PROCESS FOR DEPOSITING A CARBON CONTAINING SILICON OXIDE FILM OR A CARBON CONTAINING SILICON NITRIDE FILM HAVING ENHANCED ETCH RESISTENCE
Japan	ISSUED	2007-319061	12/11/2007	4787230.0	7/22/2011	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vessel
Japan	INACTIVE	2007-328432	12/20/2007			Method and Slurry for Tuning Low-K Versus Copper Removal Rates During Chemical Mechanical Polishing
Japan	INACTIVE	2007-324469	12/17/2007			Compositions for Chemical Mechanical Planarization of Copper
Japan	INACTIVE	2008-071487	3/19/2008			Synthesis of Pentahalosulfur Peroxides and Monoxides
Japan	INACTIVE	2008-025003	2/5/2008			Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
Japan	INACTIVE	2008-153021	6/11/2008			Oxopentafluorosulfanyl-Substituted Alicyclic Compounds
Japan	INACTIVE	2008-032948	2/14/2008			Activated Chemical Process for Enhancing Material Properties of Dielectric Films
Japan	ISSUED	2011-213741	2/14/2008	5592327.0	8/8/2014	Activated Chemical Process for Enhancing Material Properties of Dielectric Films
Japan	ISSUED	2008-043910	2/26/2008	4960276.0	3/30/2012	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
Japan	INACTIVE	2008-105657	4/15/2008			Metal Precursor Solutions for Chemical Vapor Deposition
Japan	INACTIVE	2008-159721	6/18/2008	5290638.0	6/14/2013	Plasma-Enhanced ALD for TiSiN Film Deposition With TDMAT, BTBAS and NH3
Japan	INACTIVE	2008-112231	4/23/2008	5080345.0	9/7/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Japan	ISSUED	2011-262709	4/23/2008	5529836.0	4/25/2014	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Japan	ISSUED	2008-162482	6/20/2008	5356735.0	9/6/2013	Process for Forming Continuous Copper Thin Films Via Vapor Deposition
Japan	ISSUED	2013-178345	6/20/2008	5735593.0	4/24/2015	Process for Forming Continuous Copper Thin Films Via Vapor Deposition
Japan	INACTIVE	2008-292376	11/14/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
Japan	INACTIVE	2013-146863	11/14/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
Japan	INACTIVE	2008-127849	5/15/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Japan	INACTIVE					Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Japan	ISSUED	2010-515109	6/26/2008	5386485.0	10/11/2013	Electro-Optic Displays, and Materials for Use Therein
Japan	INACTIVE	2008-287732	11/10/2008	5307513.0	7/5/2013	Preparation of Metal-Containing Film Via ALD or CVD Processes
Japan	INACTIVE	2008-248432	9/26/2008			Cyclopentene as a Precursor for Carbon-Based Films
Japan	ISSUED	2008-324674	12/19/2008	5400373.0	11/1/2013	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
Japan	INACTIVE	2008-300711	11/26/2008			Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Japan	ISSUED	2011-271967	11/26/2008	5302384.0	6/28/2013	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Japan	ISSUED	2008-300772	11/26/2008	5266025.0	5/10/2013	Vessels With Personnel Access Provisions
Japan	ISSUED	2012-056246	11/26/2008	5670941.0	12/26/2014	Vessels With Personnel Access Provisions
Japan	INACTIVE	2014-212928	11/26/2008			Vessels With Personnel Access Provisions
Japan	ISSUED	2009-184479	8/7/2009	5587572.0	8/1/2014	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Japan	PENDING	2014-096335	5/7/2014			Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Japan	PENDING	2016-078162	5/7/2014			Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Japan	INACTIVE	2008-265770	10/14/2008			Antireflective Coatings
Japan	INACTIVE	2008-265781	10/14/2008	5390161.0	10/18/2013	Antireflective Coatings for Photovoltaic Applications
Japan	INACTIVE	2013-171080	10/14/2008			Antireflective Coatings for Photovoltaic Applications

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Japan	ISSUED	2008-284616	11/5/2008	5248986.0	4/19/2013	Copper Precursors for Thin Film Depositior
Japan	INACTIVE	2013-021211	11/5/2008			Copper Precursors for Thin Film Depositior
Japan	ISSUED	2008-302784	11/27/2008	4898764.0	1/6/2012	Tellurium Precursors for GST Films in an ALD or CVD Process
Japan	INACTIVE					Metal Complexes of Tridentate Beta-Ketoiminates
Japan	ISSUED	2008-302848	11/27/2008	5180040.0	1/18/2013	Metal Complexes of Tridentate Beta-Ketoiminates
Japan	ISSUED	2008-318896	12/15/2008	5363087.0	9/13/2013	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Japan	ISSUED	2009-016913	1/28/2009	5350819.0	8/30/2013	ALD Process for Making Germanium-Antimony-Tellurium Alloy Film
Japan	ISSUED	2013-167334	8/12/2013	5905858.0	3/25/2016	Precursors for GST Films in ALD/CVD Processes
Japan	PENDING	2016-005184	8/12/2013			Precursors for GST Films in ALD/CVD Processes
Japan	ISSUED	2012-220284	1/28/2009	5778648.0	7/17/2015	Antimony Precursors for GST Films in ALD/CVD Processes
Japan	ISSUED	2009-054002	3/6/2009	4955723.0	3/23/2012	Stripper for Dry Film Removal
Japan	INACTIVE	2009-062004	3/13/2009			Stripper for Copper/Low K BEOL Clean
Japan	ISSUED	2009-072147	3/24/2009	5266116.0	5/10/2013	Improved Adhesion to Copper and Copper Electromigration Resistance
Japan	PENDING	2009-095723	4/10/2009			Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Japan	ISSUED	2012-168610	4/10/2009	5662389.0	12/12/2014	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Japan	INACTIVE	2009-188053	8/14/2009			Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
Japan	INACTIVE	2009-280416	12/10/2009			Method for Removal of Carbon from an Organosilicate Materia
Japan	ISSUED	2012-257513	12/10/2009	6017935.0	10/7/2016	Method for Removal of Carbon from an Organosilicate Materia
Japan	ISSUED	2013-133395	12/10/2009	5775116.0	7/10/2015	Method for Removal of Carbon from an Organosilicate Materia
Japan	ISSUED	2009-113623	5/8/2009	5091187.0	9/21/2012	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Japan	ISSUED	2012-127282	6/4/2012	5624083.0	10/3/2014	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Japan	INACTIVE	2014-156011	6/4/2012			Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Japan	ISSUED	2011-512610	6/3/2009	5102393.0	10/5/2012	Low Temperature Deposition of Silicon-Containing Films
Japan	ISSUED	2012-168226	6/3/2009	5453495.0	1/10/2014	Low Temperature Deposition of Silicon-Containing Films
Japan	ISSUED	2013-268396	12/26/2013	5890386.0	2/26/2016	Low Temperature Deposition of Silicon-Containing Films
Japan	INACTIVE	2009-129126	5/28/2009			Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
Japan	ISSUED	2012-032830	5/28/2009	5702318.0	2/27/2015	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
Japan	INACTIVE	2009-172122	7/23/2009			Removal of Trace Arsenic Impurities From Triethylphosphate (TEPO)
Japan	ISSUED	2009-166064	7/14/2009	5171748.0	1/11/2013	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Japan	INACTIVE	2009-163849	7/10/2009	5043894.0	7/20/2012	Aminosilanes for Shallow Trench Isolation Films
Japan	INACTIVE	2012-058771	7/10/2009	5529912.0	4/25/2014	Aminosilanes for Shallow Trench Isolation Films
Japan	INACTIVE	2011-523062	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
Japan	ISSUED	2009-214740	9/16/2009	5755834.0	6/5/2015	Process and System for Providing Acetylene
Japan	INACTIVE	2013-255984	9/16/2009			Process and System for Providing Acetylene
Japan	ISSUED	2009-188405	8/17/2009	5043904.0	7/20/2012	Cross Purge Valve and Container Assembly
Japan	INACTIVE	2009-252198	11/2/2009			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
Japan	ISSUED	2009-280376	12/10/2009	5330213.0	8/2/2013	Precursors for Depositing Group 4 Metal-Containing Films
Japan	ISSUED	2013-112557	12/10/2009	5711300.0	3/13/2015	Precursors for Depositing Group 4 Metal-Containing Films
Japan	INACTIVE	2009-223302	9/28/2009	5313825.0	7/12/2013	Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
Japan	ISSUED	2011-539598	11/25/2009	5567588.0	6/27/2014	Dielectric Barrier Deposition Using Oxygen Containing Precursor
Japan	ISSUED	2009-259203	11/12/2009	5175261.0	1/11/2013	Amino Vinylsilane Precursors for Stressed SiN Films
Japan	ISSUED	2012-214658	11/12/2009	5508496.0	3/28/2014	Amino Vinylsilane Precursors for Stressed SiN Films
Japan	ISSUED	2010-176074	8/5/2010	5584044.0	7/25/2014	Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
Japan	INACTIVE	2011-022459	2/4/2011			Methods to Prepare Silicon-Containing Films
Japan	ISSUED	2012-214561	2/4/2011	5746119.0	5/15/2015	Methods to Prepare Silicon-Containing Films
Japan	ISSUED	2012-214598	2/4/2011	5746120.0	5/15/2015	Methods to Prepare Silicon-Containing Films
Japan	PENDING	2015-091938	2/4/2011			Methods to Prepare Silicon-Containing Films
Japan	INACTIVE	2010-056413	3/12/2010			Dielectric Films Comprising Silicon and Methods for Making Same
Japan	ISSUED	2013-141595	3/12/2010	5650813.0	11/21/2014	Dielectric Films Comprising Silicon and Methods for Making Same
Japan	ISSUED	2009-286368	12/17/2009	5096447.0	9/28/2012	Wet Clean Compositions for CoWP and Porous Dielectrics
Japan	ISSUED	2010-062967	3/18/2010	5529603.0	4/25/2014	Splashguard for High Flow Vacuum Bubbler Vesse
Japan	ISSUED	2013-005439	1/16/2013	5596804.0	8/15/2014	Splashguard for High Flow Vacuum Bubbler Vesse
Japan	ISSUED	2010-053471	3/10/2010	5529591.0	4/25/2014	Method for Preparing Metal Complexes of Polydentate Beta-Ketoiminates
Japan	ISSUED	2010-093275	4/14/2010	5199304.0	2/15/2013	Method for Making a Chlorosilane
Japan	ISSUED	2010-194140	8/31/2010	5385231.0	10/11/2013	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
Japan	INACTIVE	10-508852	7/21/1997	4202424.0	10/17/2008	Chemical Mechanical Polishing Composition and Process
Japan	INACTIVE	2008-154196	7/21/1997			Chemical Mechanical Polishing Composition and Process

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Japan	ISSUED	2010-111328	5/13/2010	5006428.0	6/1/2012	Dielectric Barrier Deposition Using Nitrogen Containing Precursor
Japan	ISSUED	2003-567998	2/11/2003	4824909.0	9/16/2011	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Japan	ISSUED	2009-151373	2/11/2003	5109000.0	10/19/2012	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Japan	INACTIVE	2008-503232	3/24/2006			Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
Japan	ISSUED	2010-154473	7/7/2010	5749457.0	5/22/2015	Formulations and Method for Post-CMP Cleaning
Japan	INACTIVE	2014-204644	7/7/2010			Formulations and Method for Post-CMP Cleaning
Japan	ISSUED	2011-190497	9/1/2011	5405544.0	11/8/2013	Electrodes for Electrolytic Germane Process
Japan	INACTIVE	2002-564748	2/8/2002			Chemical-Mechanical Planarization Using Ozone
Japan	ISSUED	2004-552235	11/13/2003	4860152.0	11/11/2011	A Slurry Composition and a Polishing Method Using the Same
Japan	ISSUED	2010-124492	5/31/2010	5425711.0	12/6/2013	Volatile Group 2 Metal Precursors
Japan	ISSUED	2013-243129	5/31/2010	5775134.0	7/10/2015	Volatile Group 2 Metal Precursors
Japan	ISSUED	2010-201151	9/8/2010	5255029.0	4/26/2013	Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
Japan	ISSUED	2011-089142	4/13/2011	5689733.0	2/6/2015	Recovery of NF3 from Adsorption Operation
Japan	INACTIVE	2014-212453	4/13/2011			Recovery of NF3 from Adsorption Operation
Japan	ISSUED	2011-035639	2/22/2011	5727256.0	4/10/2015	Method of Making a Multicomponent Film
Japan	INACTIVE	2014-185486	2/22/2011			Method of Making a Multicomponent Film
Japan	ISSUED	2001-157937	5/25/2001	5017574.0	6/22/2012	Cerium Oxide Abrasive and Manufacturing Method for Substrate
Japan	ISSUED	2011-024087	2/7/2011	5536689.0	5/9/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
Japan	INACTIVE	2013-228999	2/7/2011			Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
Japan	INACTIVE	2003-270218	7/1/2003			Abrasive Powder Composition, and Manufacturing Method of Semiconductor Substrate
Japan	ISSUED	2010-237829	10/22/2010	5469037.0	2/7/2014	Group 4 Metal Precursors for Metal-Containing Films
Japan	INACTIVE	2010-237655	10/22/2010			Methods for Deposition of Group 4 Metal Containing Films
Japan	ISSUED	2012-179233	10/22/2010	5373945.0	9/27/2013	Methods for Deposition of Group 4 Metal Containing Films
Japan	ISSUED	2011-124074	6/2/2011	5650589.0	11/21/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	ISSUED	2010-272828	12/7/2010	5185356.0	1/25/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
Japan	INACTIVE	2001500715.0	5/1/2000	3616802.0	11/19/2004	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Japan	ISSUED	2010-278452	12/14/2010	5813947.0	10/2/2015	Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
Japan	INACTIVE	2015-098188	5/13/2015			Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
Japan	ISSUED	2010-286542	12/22/2010	5620254.0	9/26/2014	Low K Precursors Providing Superior Integration Attributes
Japan	INACTIVE	2014-149873	12/22/2010			Low K Precursors Providing Superior Integration Attributes
Japan	ISSUED	2011-015633	1/27/2011	5209745.0	3/1/2013	Method and Equipment for Selectively Collecting Process Effluent
Japan	ISSUED	2012-279442	1/27/2011	5731468.0	4/17/2015	Method and Equipment for Selectively Collecting Process Effluent
Japan	ISSUED	2011-217328	9/30/2011	5449289.0	1/10/2014	Recovering of Xenon by Adsorption Process
Japan	ISSUED	2011-262545	11/30/2011	5654439.0	11/28/2014	Metal-Enolate Precursors for Depositing Metal-Containing Films
Japan	INACTIVE	2014-167712	11/30/2011			Metal-Enolate Precursors for Depositing Metal-Containing Films
Japan	ISSUED	2011-126471	6/6/2011	5449258.0	1/10/2014	Cylinder Surface Treatment for Monochlorosilane
Japan	ISSUED	2011-152026	7/8/2011	5628761.0	10/10/2014	Method for Wafer Dicing and Composition Useful Thereof
Japan	ISSUED	2011-268617	12/8/2011	5357240.0	9/6/2013	Aminovinylsilane for CVD and ALD SiO2 Films
Japan	ISSUED	2012-059809	3/16/2012	5662365.0	12/12/2014	Cleaning Formulations and Method of Using the Cleaning Formulations
Japan	ISSUED	2012-013411	1/25/2012	5698161.0	2/20/2015	Novel Metal Complexes for Metal-Containing Film Deposition
Japan	INACTIVE	2014-171535	1/25/2012			Novel Metal Complexes for Metal-Containing Film Deposition
Japan	INACTIVE	2011-271710	11/24/2011			Compositions and Methods for Texturing of Silicon Wafers
Japan	INACTIVE	2012-033059	2/17/2012			Fluorine Based Chamber Clean with Nitrogen Trifluoride Backup
Japan	ISSUED	2014-508496	4/25/2012	6030637.0	10/28/2016	Cleaning Lead-Frames to Improve Wirebonding Process
Japan	INACTIVE	2004-537889	9/18/2003			Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
Japan	ISSUED	2014-513739	6/1/2012	5785325.0	7/31/2015	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Japan	ISSUED	2015-144696	6/1/2012	6050441.0	12/2/2016	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Japan	PENDING	2016-227697	6/1/2012			Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Japan	PENDING	2012-119083	5/24/2012			Organoaminosilane Precursors and Methods for Making and Using Same\r
Japan	PENDING	2013-266781	5/24/2012			Organoaminosilane Precursors and Methods for Making and Using Same\r
Japan	ISSUED	2013-157982	7/30/2013	5788932.0	8/7/2015	Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
Japan	PENDING	2015-090579	7/30/2013			Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
Japan	ISSUED	2012-212903	9/26/2012	5580380.0	7/18/2014	Solenoid Bypass for Continuous Operation of Pneumatic Valve
Japan	ISSUED	2012-215012	9/27/2012	5658214.0	12/5/2014	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2014-186522	9/27/2012			Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2016-159691	9/27/2012			Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	INACTIVE	2013-104940	5/17/2013			Compositions and Methods for Texturing of Silicon Wafers

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Japan	PENDING	2013-083698	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Japan	PENDING	2015-210441	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Japan	PENDING	2016-199245	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Japan	ISSUED	2013-006311	1/17/2013	5792752.0	8/14/2015	Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
Japan	ISSUED	2013-011938	1/25/2013	5763692.0	6/19/2015	Alkoxyaminosilane Compounds and Applications Thereof
Japan	INACTIVE	2013-055659	3/18/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
Japan	INACTIVE	2015-142922	3/18/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
Japan	ISSUED	2011-511832	5/28/2009	5542126.0	5/16/2014	Fixture Drying Apparatus and Method
Japan	ISSUED	2000-527372	1/8/1999	4447165.0	1/29/2010	Container Washing Apparatus
Japan	PENDING	2014-561148	3/8/2013			Methods for Making Silicon Containing Films on Thin Film Transistor Devices
Japan	DOCKETED					Methods for Making Silicon Containing Films on Thin Film Transistor Devices
Japan	PENDING	2014-561150	3/8/2013			Barrier Materials for Display Devices
Japan	PENDING	2016-156552	3/8/2013			Barrier Materials for Display Devices
Japan	INACTIVE	2013-075821	4/1/2013			Group 2 Imidazolate Formulations for Direct Liquid Injection
Japan	PENDING	2013-117293	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Japan	ISSUED	2013-117279	6/3/2013	5815599.0	10/2/2015	Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2015-075074	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Japan	INACTIVE					Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2015-106433	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2013-111085	5/27/2013			Vessel with Filter
Japan	ISSUED	2014-207071	5/27/2013	5883104.0	2/12/2016	Vessel with Filter
Japan	INACTIVE	2013-129619	6/20/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
Japan	INACTIVE	2013-219489	10/22/2013			Cleaning Formulations
Japan	PENDING	2015-237884	10/22/2013			Cleaning Formulations
Japan	ISSUED	2013-211097	10/8/2013	5860020.0	12/25/2015	Stripping and Cleaning Compositions for Removal of Thick Film Resist
Japan	INACTIVE	2014-049128	3/12/2014			Chemical Mechanical Planarization for Tungsten-Containing Substrates
Japan	ISSUED	2013-218684	10/21/2013	5990153.0	8/19/2016	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
Japan	PENDING	2015-156953	10/21/2013			Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
Japan	ISSUED	H09-315093	11/17/1997	3130279.0	11/17/2000	Polish Process and Slurry for Planarization
Japan	INACTIVE	2013-218456	10/21/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorine
Japan	ISSUED	2013-256054	12/11/2013	5886818.0	2/19/2016	Alkoxysilylamine Compounds and Applications Thereof
Japan	INACTIVE	2014-168639	8/21/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
Japan	PENDING	2015-542745	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
Japan	ISSUED	2014-052037	3/14/2014	5944937.0	6/3/2016	Onsite Ultra High Purity Chemicals or Gas Purification
Japan	INACTIVE	2014-005905	1/16/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
Japan	ISSUED	2014-151758	7/25/2014	5918316.0	4/15/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
Japan	ISSUED	2014-082211	4/11/2014	5902743.0	3/18/2016	Method of Making a Multicomponent Film
Japan	PENDING	2016-040969	4/11/2014			Method of Making a Multicomponent Film
Japan	ISSUED	2014-132832	6/27/2014	5795668.0	8/21/2015	Process for Making Trisilylamine
Japan	ISSUED	2015-159806	6/27/2014	6055048.0	12/9/2016	Process for Making Trisilylamine
Japan	ISSUED	2014-125275	6/18/2014	5815800.0	10/2/2015	Recovery and Purification of Nitrous Oxide
Japan	ISSUED	2014-131159	6/26/2014	6023125.0	10/14/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
Japan	ISSUED	2014-100641	5/14/2014	5902751.0	3/18/2016	Ultrasonic Liquid Level Sensing Systems
Japan	ISSUED	2015-199411	5/14/2014	5937736.0	5/20/2016	Ultrasonic Liquid Level Sensing Systems
Japan	PENDING	2014-130276	6/25/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
Japan	PENDING	2014-190075	9/18/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	DOCKETED					Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Japan	ISSUED	2014-204854	10/3/2014	6018149.0	10/7/2016	Methods for Depositing Silicon Nitride Films
Japan	ISSUED	2015-145786	7/23/2015	5869720.0	1/15/2016	Titanium Nitride Hard Mask and Etch Residue Remova
Japan	ISSUED	2014-257005	12/19/2014	6027083.0	10/21/2016	Composition for Titanium Nitride Hard Mask and Etch Residue Remova
Japan	PENDING	2014-204839	10/3/2014			System and Method for Xenon Recovery
Japan	ISSUED	2015-038477	2/27/2015	6046758.0	11/25/2016	Organoaminosilanes and Methods for Making Same
Japan	PENDING	2016-217206	2/27/2015			Organoaminosilanes and Methods for Making Same
Japan	ISSUED	2015-035224	2/25/2015	5933057.0	5/13/2016	Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluoride
Japan	PENDING	2015-002878	1/9/2015			System and Method for Gas Recovery and Reuse
Japan	PENDING	2015-160150	8/14/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
Japan	PENDING	2015-064404	3/26/2015			Compositions and Methods for the Deposition of Silicon Oxide Films

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Japan	PENDING	2016-058913	3/23/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\n
Japan	PENDING	2015-140651	7/14/2015			Copper Corrosion Inhibition System
Japan	PENDING	2015-163371	8/21/2015			Purification of Nitrogen Trifluoride by Pressure Swing Adsorption
Japan	PENDING	2015-121341	6/16/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
Japan	PENDING	2015-146415	7/24/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
Japan	PENDING	2015-167609	8/27/2015			Ultrasonic Liquid Level Sensing Systems
Japan	PENDING	2015-215714	11/2/2015			Silicon-Based Films and Methods of Forming the Same
Japan	PENDING	2015-212522	10/29/2015			Chemical Mechanical Polishing Slurry for Reducing Corrosion and Method of Use Therefo
Japan	PENDING	2015-256427	12/28/2015			Stripping Compositions Having High WN/W Etching Selectivity
Japan	PENDING	2015-248477	12/21/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
Japan	PENDING	2016-021676	2/8/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
Japan	PENDING	2015-257092	12/28/2015			Etchant Solutions and Method of Use Thereof
Japan	PENDING	2016-024986	2/12/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
Japan	PENDING	2016-012325	1/26/2016			Method and Precursors for Manufacturing 3D Devices
Japan	PENDING	2016-092808	5/2/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Japan	PENDING	2016-070848	3/31/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Japan	PENDING	2016-081953	4/15/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
Japan	PENDING	2016-082996	4/18/2016			High Purity Tungsten Hexachloride and Method for Making Same
Japan	PENDING	2016-011561	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
Japan	PENDING	2016-096078	5/12/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
Japan	PENDING	2016-112679	6/6/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
Japan	PENDING	2016-185676	9/23/2016			CLEANING FORMULATIONS
Japan	PENDING	2016-187157	9/26/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
Japan	PENDING	2016-144114	7/22/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
Japan	PENDING	2016-229307	11/25/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
Japan	PENDING	2017-008324	1/20/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
Korea South	INACTIVE	81-3994	10/21/1981			SPIRAL-TYPE HEAT EXCHANGER
Korea South	INACTIVE	86-7525	9/9/1986	34376.0	7/12/1990	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Korea South	INACTIVE	88-12349	9/23/1988	42251.0	6/7/1991	DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Korea South	INACTIVE	88-2947	3/19/1988	38603.0	12/26/1990	CONCENTRATED STABLE FLUOROCHEM ICAL AQUEOUS EMULSIONS
Korea South	INACTIVE	88-12444	9/24/1988	42250.0	6/7/1991	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Korea South	INACTIVE	88-2948	3/19/1988			STABLE FLUOROCARBON AQUEOUS EM ULSIONS
Korea South	INACTIVE					SEMICONDUCTOR DOPANT VAPORIZER
Korea South	INACTIVE	89-10590	7/25/1989	53713.0	8/11/1992	ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Korea South	INACTIVE	89-16462	11/13/1989	63518.0	7/9/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
Korea South	INACTIVE	90-14223	9/6/1990	58488.0	1/18/1993	PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Korea South	INACTIVE	91-9142	6/3/1991	74771.0	6/24/1994	SURFACE CLEANING USING A CRYOGENIC AEROSOL
Korea South	INACTIVE	91-20560	11/19/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Korea South	INACTIVE	91-25166	12/30/1991	79085.0	11/10/1994	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Korea South	INACTIVE	93-22978	11/1/1993			CHEMICAL STORAGE AND DISPENSIN G SYSTEM
Korea South	INACTIVE	92-1673	2/1/1992	85505.0	6/7/1995	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Korea South	INACTIVE	92-16909	9/17/1992	111362.0	1/27/1997	DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Korea South	INACTIVE	92-3530	3/4/1992	90622.0	10/19/1995	CLEANING AGENTS COMPRISING BET A-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USIN G THE SAME
Korea South	INACTIVE	93-26358	12/3/1993	119748.0	8/7/1997	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Korea South	INACTIVE	93-5940	4/9/1993	102640.0	7/26/1996	PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
Korea South	INACTIVE	92-16973	9/18/1992	90623.0	10/19/1995	VOLATILE PRECURSORS FOR COPPER CVD
Korea South	INACTIVE	92-18542	10/9/1992	97670.0	4/1/1996	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
Korea South	INACTIVE	92-18718	10/10/1992	102888.0	8/1/1996	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
Korea South	INACTIVE	93-10390	6/9/1993	116933.0	6/23/1997	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Korea South	INACTIVE	93-24960	11/23/1993	121637.0	8/29/1997	GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Korea South	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Korea South	INACTIVE	94-10749	5/17/1994	111684.0	2/3/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Korea South	INACTIVE	97-51515	10/8/1997	230858.0	8/25/1999	REGENERATION OF ADSORBENT BEDS
Korea South	INACTIVE	94-17730	7/22/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Korea South	INACTIVE	97-4038	2/12/1997			ENHANCED SENSITIVITY FOR OXYGE N AND OTHER INTERACTIVE GASES IN SAMPLE GASES USING GAS CHRO MATOGRAPHY
Korea South	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS

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Korea South	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Korea South	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Korea South	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Korea South	INACTIVE	94-704848	12/30/1994			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Korea South	INACTIVE	96-45	1/4/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Korea South	INACTIVE	95-43506	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Korea South	INACTIVE	97-3345	2/4/1997	210970.0	4/29/1999	METHOD AND APPARATUS FOR TRANSPORTING, STORING AND DELIVERING DANGEROUS CHEMICALS
Korea South	INACTIVE	96-2428	2/1/1996			PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Korea South	INACTIVE	96-3557	2/14/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Korea South	INACTIVE	96-18431	5/29/1996	177514.0	11/18/1998	METHOD FOR THE GROWTH OF INDUS TRIAL CRYSTALS
Korea South	INACTIVE	98-37904	9/15/1998	301683.0	6/27/2001	VENTILATED ENCLOSURE FOR GAS CYLINDERS AND MANIFOLDS
Korea South	ISSUED	97-1998	1/24/1997	235516.0	9/27/1999	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Korea South	INACTIVE	96-19983	6/5/1996	186680.0	12/29/1998	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Korea South	INACTIVE	96-27710	7/10/1996	215326.0	5/24/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Korea South	INACTIVE	96-27709	7/10/1996	215325.0	5/24/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Korea South	INACTIVE	96-54033	11/14/1996	219347.0	6/15/1999	PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Korea South	INACTIVE	98-17488	5/15/1998	274903.0	9/18/2000	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
Korea South	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Korea South	INACTIVE	99-15355	4/29/1999	324158.0	1/30/2002	RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIES
Korea South	INACTIVE	10-1999-0015367	4/29/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS WITH RECYCLE OF VACUUM PUMP DILUENT
Korea South	INACTIVE	98-33195	8/17/1998	271540.0	8/17/2000	ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Korea South	INACTIVE	97-55481	10/28/1997			FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
Korea South	ISSUED	98-46057	10/30/1998	297443.0	5/22/2001	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Korea South	INACTIVE	99-1224	1/18/1999	366846.0	12/18/2002	SURFACE TENSION REDUCTION WITH N,N'-DIALKYL ALKYLENEDIAMINES
Korea South	ISSUED	98-40875	9/30/1998	318978.0	12/14/2001	SILICON NITRIDE FROM BIS(TERTIARYBUTYLAMINO)SILANE
Korea South	INACTIVE	98-45643	10/29/1998	299927.0	6/13/2001	A METHOD AND AN APPARATUS FOR PRESSURIZING A HIGH PURITY GAS TO ULTRA HIGH PRESSURE WHILE MAINTAINING THE HIGH PURITY OF THE GAS
Korea South	INACTIVE	10-1999-0035101	8/24/1999	323629.0	1/25/2002	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Korea South	ISSUED	10-1999-0052646	11/25/1999	297441.0	5/22/2001	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Korea South	INACTIVE	10-1999-0057455	12/14/1999	346933.0	7/19/2002	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Korea South	INACTIVE	10-1999-0044712	10/15/1999	360921.0	10/31/2002	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Korea South	INACTIVE	10-1999-0006050	2/24/1999	302690.0	7/5/2001	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Korea South	INACTIVE	10-2001-0002778	2/24/1999	433723.0	5/20/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Korea South	INACTIVE	10-2001-0002779	2/24/1999	433722.0	5/20/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Korea South	INACTIVE	10-1999-0026807	7/5/1999			CHEMICAL GENERATOR WITH CONTROLLED MIXING AND CONCENTRATION FEEDBACK AND ADJUSTMENT
Korea South	ISSUED	10-1999-0020902	6/7/1999	323628.0	1/25/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Korea South	INACTIVE	10-1999-0055237	12/6/1999	318970.0	12/14/2001	REGENERATION OF METAL CVD PRECURSORS
Korea South	INACTIVE	10-1999-0051635	11/19/1999			NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
Korea South	INACTIVE	7003188/2000	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Korea South	INACTIVE	10-2000-31353	6/8/2000	379312.0	3/27/2003	Production of Metal-Ligand Complexes
Korea South	INACTIVE	10-2000-64860	11/2/2000	417660.0	1/27/2004	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Korea South	INACTIVE	10-2000-38438	7/6/2000	333933.0	4/11/2002	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Korea South	INACTIVE	10-2001-0018572	4/9/2001	399478.0	9/16/2003	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Korea South	ISSUED	10-2000-59946	10/12/2000	386782.0	5/26/2003	Vacuum Preparation of Hydrogen Halide Drier
Korea South	ISSUED	10-2000-60198	10/13/2000	417659.0	1/27/2004	Chemical Delivery System With Ultrasonic Fluid Sensors
Korea South	INACTIVE	10-2000-0059610	10/6/2000	381873.0	4/14/2003	Purification, Analysis and Deposition of Titanium Amides
Korea South	INACTIVE	10-2001-0000333	1/4/2001			Use of Alkylated Polyamines in Photoresist Developers
Korea South	INACTIVE	10-2001-0000330	1/4/2001			Use of N,N-Dialkyl Ureas in Photoresist Developers
Korea South	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Korea South	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Korea South	INACTIVE	10-2000-74303	12/7/2000	412312.0	12/11/2003	Mesoporous Films Having Reduced Dielectric Constants
Korea South	ISSUED	10-2001-23976	5/3/2001	398494.0	9/3/2003	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Korea South	INACTIVE	10-2001-0023975	5/3/2001	420544.0	2/17/2004	A Process for Concentrating Fluorine Compounds
Korea South	INACTIVE	10-2001-0035697	6/22/2001	431973.0	5/7/2004	Process and Apparatus for Removing Particles from High Purity Gas Systems
Korea South	INACTIVE	10-2001-18573	4/9/2001	418461.0	2/2/2004	Process for Metal Metalloid Oxides and Nitrides with Compositional Gradients
Korea South	INACTIVE	10-2001-17554	4/3/2001	436633.0	6/9/2004	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Korea South	INACTIVE	10-2001-49539	8/17/2001	596650.0	6/27/2006	Method for Containing and Delivering Sub-Atmospheric Gases and Apparatus for the Same
Korea South	ISSUED	10-2001-34946	6/20/2001	396037.0	8/14/2003	Multiple Contents Container Assembly for Ultrapure Solvent Purging

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Korea South	INACTIVE	10-2002-0082349	12/23/2002	517429.0	9/21/2005	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
Korea South	INACTIVE	10-2001-66157	10/26/2001			Method to Remove Metal and Silicon Oxide During Gas-Phase Sacrificial Oxide Etch
Korea South	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Korea South	ISSUED	10-2002-2683	1/17/2002	447684.0	8/30/2004	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Korea South	ISSUED	10-2001-0056149	9/12/2001	458680.0	11/17/2004	Chemical Delivery System with Spill Containment Door
Korea South	INACTIVE	2000-7006287	6/9/2000			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
Korea South	INACTIVE	10-2004-0006424	1/31/2004	590461.0	6/9/2006	Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
Korea South	ISSUED	10-2002-0058780	9/27/2002	491807.0	5/19/2005	High Flow Rate Transportable UHP Gas Supply System
Korea South	ISSUED	10-2003-0002392	1/14/2003	501049.0	7/5/2005	Purification of Group IVb Metal Halides
Korea South	INACTIVE	10-2003-0059439	8/27/2003	666974.0	1/4/2007	Single Source Mixtures of Metal Siloxides
Korea South	INACTIVE	10-2002-62958	10/15/2002	459580.0	11/23/2004	Gel-Free Colloidal Abrasive and Polishing Compositions and Associated Methods
Korea South	ISSUED	10-2002-0082047	12/21/2002	530708.0	11/17/2005	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Korea South	ISSUED	10-2004-0046390	6/22/2004	645346.0	11/6/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Korea South	INACTIVE	10-2008-0101176	10/15/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Korea South	ISSUED	10-2003-0002627	1/15/2003	530943.0	11/18/2005	Purification of Hexafluoro-1,3-butandiene
Korea South	INACTIVE	10-2003-0017304	3/20/2003	559919.0	3/6/2006	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
Korea South	ISSUED	10-2003-0015930	3/14/2003	512352.0	8/26/2005	Product Delivery System for Stationary or Portable Bulk Containers
Korea South	ISSUED	10-2003-0015929	3/14/2003	506321.0	7/28/2005	Transportation and Storage of Ultra-High Purity Products
Korea South	ISSUED	10-2004-0079431	10/6/2004	704214.0	3/30/2007	Monitoring of Ultra-High Purity Product Storage Tanks During Transportation
Korea South	ISSUED	10-2003-0002002	1/13/2003	561883.0	3/10/2006	Cabinet for Chemical Delivery with Solvent Purge
Korea South	INACTIVE	10-2003-0045963	7/8/2003	541792.0	1/2/2006	Adsorbent for Water Removal from Ammonia
Korea South	ISSUED	10-2003-0032498	5/22/2003	497848.0	6/20/2005	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
Korea South	ISSUED	10-2004-0077251	9/24/2004	638697.0	10/19/2006	Purgeable Container for Low Vapor Pressure Chemicals
Korea South	ISSUED	10-2003-0024269	4/17/2003	494194.0	5/31/2005	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Korea South	INACTIVE	10-2009-0038919	5/4/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Korea South	PENDING	10-2012-0060323	5/4/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Korea South	PENDING	10-2015-0061429	5/4/2009			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Korea South	INACTIVE	10-2003-34780	5/30/2003			Low Dielectric Materials and Methods for Making Same
Korea South	INACTIVE	10-2003-0055727	8/12/2003			Process Solutions Containing Surfactants
Korea South	INACTIVE	10-2005-0022210	3/17/2005	786608.0	12/11/2007	Process Solutions Containing Surfactants
Korea South	INACTIVE	10-2007-0097602	3/17/2005	958689.0	5/11/2010	Process Solutions Containing Surfactants
Korea South	INACTIVE	10-2003-0034779	5/30/2003	561884.0	3/10/2006	Compositions for Preparing Low Dielectric Materials
Korea South	INACTIVE	10-2004-0097222	11/25/2004	667723.0	1/5/2007	Method For Etching High Dielectric Constant Materials And For Cleaning Deposition Chambers for High Dielectric Constant Materials
Korea South	INACTIVE					Method for Nitrogen Trifluoride Production
Korea South	INACTIVE	10-2003-0080433	11/14/2003	591101.0	6/12/2006	Method for Nitrogen Trifluoride Production
Korea South	INACTIVE	10-2004-0024853	4/12/2004	601121.0	7/7/2006	Reactive Liquid Based Gas Storage and Delivery Systems
Korea South	INACTIVE	10-2004-0004606	1/26/2004	602468.0	7/11/2006	Process for Purifying Fluoroxy Compounds
Korea South	INACTIVE					Non-Thermal Process for Forming Porous Low Dielectric Constant Films
Korea South	ISSUED	10-2003-0079982	11/13/2003	609305.0	7/28/2006	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
Korea South	ISSUED	10-2004-0001437	1/9/2004	582878.0	5/17/2006	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Korea South	INACTIVE	10-2004-0003634	1/19/2004	654279.0	11/29/2006	Precursors for Depositing Silicon Containing Films and Processes Thereof
Korea South	ISSUED	10-2004-0014731	3/4/2004	637093.0	10/16/2006	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
Korea South	INACTIVE	10-2004-0101700	12/6/2004	635960.0	10/12/2006	A Purification Material for Purifying Impure Hydride Gases, a Method of Making the Same, a Method for Purifying the Hydride Gases and Purified Hydride Gases Produced by the
Korea South	INACTIVE	10-2004-0022804	4/2/2004	530944.0	11/18/2005	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Korea South	INACTIVE	10-2004-0093024	11/15/2004	613678.0	8/10/2006	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Korea South	INACTIVE	10-2004-0035788	5/20/2004	607979.0	7/26/2006	Process for CVD of Hf and Zr Containing Oxynitride Films
Korea South	ISSUED	10-2005-0005205	1/20/2005	654286.0	11/29/2006	Process For The Purification of NF3
Korea South	INACTIVE	10-2004-0038616	5/29/2004	602469.0	7/11/2006	Mechanical Enhancer Additives for Low Dielectric Films
Korea South	INACTIVE	10-2004-0061760	8/5/2004	734342.0	6/26/2007	Processing of Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
Korea South	ISSUED	10-2004-0047561	6/24/2004	593277.0	6/19/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Korea South	ISSUED	10-2004-0064595	8/17/2004	590463.0	6/9/2006	Method and Vessel for the Delivery of Precursor Materials
Korea South	INACTIVE	10-2004-0054358	7/13/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
Korea South	ISSUED	10-2004-0102315	12/7/2004	635961.0	10/12/2006	Process For Removing Water From Ammonia
Korea South	INACTIVE	10-2005-0035030	4/27/2005	644181.0	11/2/2006	Method for Removing a Substance From a Substrate Using Electron Attachment
Korea South	INACTIVE	10-2005-0049788	6/10/2005	672801.0	1/16/2007	Liquid Media Containing Lewis Acidic Reactive Compounds for Storage and Delivery of Lewis Basic Gases
Korea South	ISSUED	10-2004-0093325	11/16/2004	635958.0	10/12/2006	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Korea South	INACTIVE	10-2005-0014154	2/21/2005			Transmission of Ultrasonic Energy Into Pressurized Fluids

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Korea South	INACTIVE	10-2005-0017296	3/2/2005	613682.0	8/10/2006	Compositions for Preparing Low Dielectric Materials Containing Solvents
Korea South	INACTIVE	10-2005-0006103	1/22/2005	597984.0	6/30/2006	Process For Producing 1,1-Difluorovinyl Cycloaliphatic Compounds
Korea South	INACTIVE	10-2005-0060171	7/5/2005	644184.0	11/2/2006	Storage and Delivery Systems for Gases Held in Liquid Medium
Korea South	INACTIVE	2008-41275	5/2/2008	10-0981225	9/2/2010	Wick Systems for Complexed Gas Technology
Korea South	INACTIVE	10-2005-0006038	1/22/2005	725078.0	5/29/2007	Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
Korea South	ISSUED	10-2005-0088723	9/23/2005	648163.0	11/14/2006	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Korea South	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
Korea South	ISSUED	10-2005-0047815	6/3/2005	704217.0	3/30/2007	Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
Korea South	INACTIVE	10-2005-0087335	9/20/2005	734383.0	6/26/2007	Process for the Production of Nitrogen Trifluoride
Korea South	INACTIVE	4325/94	3/7/1994			Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Korea South	INACTIVE	11149/1996	4/23/1996	197924.0	2/25/1999	Integrated Container Moulding and Filling Facility
Korea South	INACTIVE	10-1999-7005106	12/8/1997			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
Korea South	ISSUED	10-2000-7003936	10/13/1998	541300.0	12/29/2005	Improvements in Aqueous Stripping Compositions
Korea South	ISSUED	2000-7007601	10/13/1998	852861.0	8/11/2008	Improvement in Aqueous Stripping and Cleaning Composiitons
Korea South	INACTIVE	10/1999-35773	8/27/1999	741250.0	7/12/2007	Compositon And Method For Selectively Etching A Silicon Nitride Film
Korea South	ISSUED	10-2000-7010647	1/4/2000	641780.0	10/26/2006	Acidic Composition Containing Fluoride for Removal of Photoresists and Etch Residues
Korea South	INACTIVE	10-2001-7015034	5/23/2000	672874.0	1/16/2007	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Korea South	INACTIVE	10-2003-7004293	9/18/2001	793590.0	1/3/2008	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Korea South	ISSUED	10-2003-7017071	6/17/2002	10-0608183	7/26/2006	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Korea South	ISSUED	10-2006-7009275	6/17/2002	10-0804353	2/11/2008	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Korea South	INACTIVE	2003-7007615	12/3/2001			Method For Cleaning Etcher Parts
Korea South	ISSUED	10-2004-7010655	1/6/2003	10-0714951	4/27/2007	Aqueous Stripping and Cleaning Composition
Korea South	INACTIVE	2003-7008582	11/27/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Korea South	ISSUED	10-2003-7016396	6/4/2002	10-0555821	2/21/2006	Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Korea South	ISSUED	2005-7005163	9/26/2003	10-1107433	1/11/2012	Compositions Substrate For Removing Etching Residue And Use Thereof
Korea South	INACTIVE	2010-7014200	9/26/2003			Compositions Substrate For Removing Etching Residue And Use Thereof
Korea South	ISSUED	2005-7012493	12/29/2003	1167306.0	7/13/2012	Composition And Method Used For Chemical Mechanical Planarization Of Metals
Korea South	ISSUED	2012-7009747	12/29/2003	1366879.0	2/18/2014	Composition And Method Used For Chemical Mechanical Planarization Of Metals
Korea South	INACTIVE	2005-7000264	7/10/2003			Composition For Removing Etching Residue and Use Thereof
Korea South	ISSUED	10-2005-064750	7/18/2005	786606.0	12/11/2007	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Korea South	ISSUED	2005-7022394	5/24/2004	10-1153692	5/30/2012	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
Korea South	ISSUED	10-2009-0021553	3/13/2009	10-1101066	12/23/2011	Semi-Aqueous Stripping and Cleaning Composition Containing Aminobenzenesulfonic Acid\r
Korea South	INACTIVE	10-2005-0113222	11/25/2005	774276.0	11/1/2007	Compositions Comprising Tannic Acid as Corrosion Inhibitor
Korea South	INACTIVE	10-2005-0066728	7/22/2005	760891.0	9/17/2007	Method for Enhancing Fluorine Utilization
Korea South	INACTIVE	2004-0028938	5/22/2003	551864.0	2/6/2006	Composition for Removing Residues From the Microstructure of an Object
Korea South	INACTIVE	10-2005-0065122	7/19/2005			Process for Titanium Nitride Removal
Korea South	INACTIVE	10-2005-0084112	9/9/2005			Silicon Nitride from Aminosilane Using PECVD
Korea South	ISSUED	10-2005-0057729	6/30/2005	770624.0	10/22/2007	Composition for Stripping and Cleaning and Use Thereof
Korea South	INACTIVE	10-2005-0112697	11/24/2005	641015.0	10/25/2006	Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
Korea South	ISSUED	10-2005-0097064	10/14/2005	675587.0	1/23/2007	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Korea South	INACTIVE					Synthesis of Pentafluorosulfanylnaphthalene
Korea South	ISSUED	10-2005-0090519	9/28/2005	642618.0	10/30/2006	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Korea South	INACTIVE	PCT/US2004/009198	3/26/2004			Electro-Optic Assemblies and Materials for Use Therein
Korea South	INACTIVE	10-2005-0119363	12/8/2005	651993.0	11/23/2006	Precursors for Silica or Metal Silicate Films
Korea South	INACTIVE	10-2006-0042909	5/12/2006	709087.0	4/12/2007	Enhanced Purge Effect in Gas Conduit
Korea South	INACTIVE	10-2005-0106552	11/8/2005	786605.0	12/11/2007	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
Korea South	INACTIVE	10-2006-0010832	2/3/2006			System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
Korea South	INACTIVE	10-2007-0128305	2/3/2006	846408.0	7/9/2008	System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
Korea South	INACTIVE	10-2007-0132234	2/3/2006	935384.0	12/28/2009	System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
Korea South	ISSUED	10-2006-0009456	1/31/2006	786610.0	12/11/2007	Aqueous Based Residue Removers Comprising Fluoride
Korea South	ISSUED	10-2006-0010775	2/3/2006	665084.0	12/28/2006	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
Korea South	ISSUED	10-2005-0135026	12/30/2005	824913.0	4/17/2008	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Korea South	ISSUED	10-2005-0135036	12/30/2005	737260.0	7/3/2007	Volatile Metal Beta-Ketoiminate Complexes
Korea South	ISSUED	10-2007-0025459	3/15/2007	759779.0	9/12/2007	Volatile Metal Beta-Ketoiminate Complexes
Korea South	ISSUED	10-2007-0042940	5/3/2007	767257.0	10/9/2007	Volatile Metal Beta-Ketoiminate Complexes
Korea South	INACTIVE	10-2007-0059393	6/18/2007			Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Korea South	ISSUED	10-2006-0012812	2/10/2006	766843.0	10/8/2007	Preparation of Metal Silicon Nitride Films via Cyclic Deposition

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Korea South	INACTIVE	10-2006-0014674	2/15/2006	767255.0	10/9/2007	Method for Defining a Feature on a Substrate
Korea South	INACTIVE	10-2006-0043494	5/15/2006	786609.0	12/11/2007	Method and Process for Reactive Gas Cleaning of Tool Parts
Korea South	ISSUED	10-2006-0043601	5/15/2006	822154.0	4/7/2008	Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2007-0132243	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2014-19857	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	PENDING	10-2016-0145416	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	ISSUED	10-2011-0016178	5/15/2006	10-1335767	11/26/2013	Precursors for CVD Silicon Carbo-Nitride Films
Korea South	PENDING	10-2012-53820	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2012-123739	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2013-89805	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	PENDING	10-2013-101336	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2013-0124553	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	PENDING	10-2014-0019249	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2014-19854	5/15/2006			Precursors for CVD Silicon Carbo-Nitride Films
Korea South	INACTIVE	10-2007-0016848	2/16/2007	848065.0	7/17/2008	Seal Installation Tool
Korea South	ISSUED	10-2006-0035035	4/18/2006	874937.0	12/12/2008	Dual-Flow Valve and Internal Processing Vessel Isolation System
Korea South	ISSUED	10-2008-0100034	4/18/2006	940551.0	1/28/2010	Dual-Flow Valve and Internal Processing Vessel Isolation System
Korea South	INACTIVE	10-2009-0111553	4/18/2006			Dual-Flow Valve and Internal Processing Vessel Isolation System
Korea South	INACTIVE	10-2006-0062777	7/5/2006	786611.0	12/11/2007	Free Radical Initiator in Remote Plasma Chamber Clean
Korea South	INACTIVE	10-2007-46441	5/14/2007	10-0882998	2/3/2009	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Korea South	ISSUED	10-2006-0099538	10/12/2006	849913.0	7/28/2008	Aqueous Cleaning Composition and Method for Using Same
Korea South	ISSUED	10-2006-0056924	6/23/2006	844051.0	6/30/2008	Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Korea South	ISSUED	10-2007-0020646	2/28/2007	874174.0	12/9/2008	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Korea South	INACTIVE	10-2008-0094656	2/28/2007			Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Korea South	INACTIVE	10-2006-0099285	10/12/2006	822156.0	4/7/2008	Aqueous Cleaning Composition for Removing Residues and Method Using Same
Korea South	INACTIVE	10-2006-0113604	11/17/2006	838607.0	6/10/2008	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Korea South	INACTIVE	10-2007-0031985	3/30/2007	857870.0	9/3/2008	Turbomolecular Pump System for Gas Separation
Korea South	INACTIVE	2007-35479	4/11/2007	853354.0	8/13/2008	Cleaning of Contaminated Articles by Aqueous Supercritical Oxidation
Korea South	ISSUED	10-2006-0016442	2/20/2006	714158.0	4/26/2007	Integrated Cylinder Servicing Center
Korea South	INACTIVE	10-2006-0112517	11/15/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
Korea South	INACTIVE	10-2010-0007532	1/27/2010			Selective Etching and Formation of Xenon Difluoride
Korea South	INACTIVE	10-2007-0002380	1/9/2007			pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Korea South	INACTIVE	2007-43480	5/4/2007			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
Korea South	INACTIVE	10-2009-0124099	5/4/2007			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
Korea South	ISSUED	10-2006-0097693	10/4/2006	862263.0	10/1/2008	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Korea South	INACTIVE	10-2007-0009421	1/30/2007	857865.0	9/3/2008	Cleaning Formulations
Korea South	ISSUED	2007-55115	6/5/2007	10-0929298	11/23/2009	Process for Separating Components of a Multi-Component Feed Stream
Korea South	INACTIVE	10-2006-0130542	12/20/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
Korea South	ISSUED	10-2007-0020936	3/2/2007	942009.0	2/4/2010	Formulation for Removal of Photoresist, Etch Residue and Barc
Korea South	ISSUED	10-2007-0036471	4/13/2007	870161.0	11/18/2008	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Korea South	INACTIVE	10-2007-0023159	2/22/2007	893120.0	4/6/2009	Top Coat for Lithography Processes
Korea South	INACTIVE	2008-11535	2/5/2008			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbon
Korea South	INACTIVE	2007-51877	5/29/2007			Diethylsilane as a Silicon Source in the Depositon of Metal Silicate Films
Korea South	INACTIVE	2007-47512	5/16/2007	10-0903916	6/12/2009	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	INACTIVE	10-2009-0015985	5/16/2007			Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	INACTIVE	10-2009-112859	5/16/2007	10-1206093	11/22/2012	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	ISSUED	10-2012-75731	5/16/2007	10-1328813	11/6/2013	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	ISSUED	10-2013-3048	5/16/2007	10-1353739	1/14/2014	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	ISSUED	10-2013-0130985	5/16/2007	10-1451525	10/8/2014	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Korea South	ISSUED	10-2007-0037866	4/18/2007	859178.0	9/11/2008	Materials and Methods of Forming Controlled Void
Korea South	INACTIVE	2008-11533	2/5/2008	10-0974140	7/29/2010	Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
Korea South	ISSUED	10-2007-0040463	4/25/2007	10-0892018	3/30/2009	Metal Complexes of Polydentate Beta-Ketoiminates
Korea South	ISSUED	10-2009-0007099	4/25/2007	10-0950392	3/23/2010	Metal Complexes of Polydentate Beta-Ketoiminates
Korea South	ISSUED	10-2009-0007102	4/25/2007	10-0950393	3/23/2010	Metal Complexes of Polydentate Beta-Ketoiminates
Korea South	INACTIVE	2007-117502	11/16/2007			Method and Composition for Restoring Dielectric Properties of Porous Dielectric Materials
Korea South	INACTIVE	2007-109786	10/30/2007	10-0967773	6/25/2010	Leak Containment Apparatus for Reactive Gases
Korea South	ISSUED	10-2007-0074635	7/25/2007	10-0907589	7/6/2009	Component Heater

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Korea South	ISSUED	10-2008-0002863	1/10/2008	10-0963374	6/4/2010	Cleaning Composition for Semiconductor Substrates
Korea South	ISSUED	10-2007-0049631	5/22/2007	10-0903913	6/12/2009	Composition and Method for Photoresist Removal
Korea South	ISSUED	2007-55993	6/8/2007	10-0907392	7/3/2009	High Flow GaCl3 Delivery
Korea South	INACTIVE	10-2007-53839	6/1/2007	10-0882996	2/3/2009	Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
Korea South	ISSUED	2007-87114	8/29/2007	10-0967768	6/25/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Korea South	ISSUED	2007-57781	6/13/2007	10-0907388	7/3/2009	Low-Impurity Organosilicon Product as Precursor for CVD
Korea South	INACTIVE	2007-63766	6/27/2007	10-0907387	7/3/2009	Curing Dielectric Films Under a Reducing Atmosphere
Korea South	ISSUED	2007-104956	10/18/2007	10-0960188	5/19/2010	Solid Source Container With Inlet Plenum
Korea South	ISSUED	10-2007-105183	10/18/2007	10-1009878	1/13/2011	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Korea South	INACTIVE	10-2010-0114928	10/18/2007			Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Korea South	ISSUED	10-2007-129800	12/13/2007	10-0975687	8/6/2010	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Korea South	ISSUED	2007-122205	11/28/2007	10-1278483	6/17/2013	Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
Korea South	INACTIVE	10-2010-0096483	11/28/2007			Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
Korea South	ISSUED	2007-127377	12/10/2007	10-0996344	11/17/2010	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vessel
Korea South	INACTIVE	2007-135469	12/21/2007			Method and Slurry for Reducing Corrosion on Tungsten During Chemical Mechanical Polishing
Korea South	INACTIVE	10-2007-135544	12/21/2007	10-0956216	4/27/2010	Compositions for Chemical Mechanical Planarization of Copper
Korea South	INACTIVE	2008-24844	3/18/2008			Synthesis of Pentahalosulfur Peroxides and Monoxides
Korea South	INACTIVE	2008-11517	2/5/2008	10-0936109	12/31/2009	Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
Korea South	INACTIVE	2008-55393	6/12/2008			Oxopentafluorosulfanyl-Substituted Alicyclic Compounds
Korea South	ISSUED	10-2008-0014052	2/15/2008	10-0984195	9/17/2010	Activated Chemical Process for Enhancing Material Properties of Dielectric Films
Korea South	ISSUED	2008-17797	2/27/2008	10-0988096	10/8/2010	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
Korea South	INACTIVE	2008-35288	4/16/2008			Metal Precursor Solutions for Chemical Vapor Deposition
Korea South	INACTIVE	10-2007-0059991	6/19/2007	10-0956210	4/27/2010	Plasma-Enhanced Cyclic Deposition Method of Metal Silicon Nitride Film
Korea South	INACTIVE	10-2009-0081326	6/19/2007			Plasma-Enhanced ALD for TiSiN Film Deposition With TDMAT, BTBAS and NH3
Korea South	INACTIVE	10-2011-0037993	6/19/2007	10-1295031	8/5/2013	Plasma-Enhanced Cyclic Deposition Method of Metal Silicon Nitride Film
Korea South	INACTIVE	2008-38155	4/24/2008	10-0994346	11/8/2010	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Korea South	ISSUED	2008-58553	6/20/2008	10-1225140	1/16/2013	Process for Forming Continuous Copper Thin Films Via Vapor Deposition
Korea South	INACTIVE	10-2011-0108908	6/20/2008			Process for Forming Continuous Copper Thin Films Via Vapor Deposition
Korea South	INACTIVE	10-2008-0113251	11/14/2008	10-1157701	6/12/2012	Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
Korea South	INACTIVE	10-2011-0146889	11/14/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
Korea South	ISSUED	2008-53222	6/5/2008	10-0997297	11/23/2010	Low Tempertaure Thermal Conductive Inks
Korea South	INACTIVE	2008-45685	5/16/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Korea South	INACTIVE					Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Korea South	ISSUED	2010-7001177	6/26/2008	10-1178071	8/23/2012	Electro-Optic Displays, and Materials for Use Therein
Korea South	INACTIVE	10-2008-0110006	11/6/2008	10-1060911	8/24/2011	Preparation of Metal-Containing Film Via ALD or CVD Processes
Korea South	INACTIVE	10-2011-0061673	11/6/2008			Preparation of Metal-Containing Film Via ALD or CVD Processes
Korea South	INACTIVE	10-2008-0094592	9/26/2008			Cyclopentene as a Precursor for Carbon-Based Films
Korea South	ISSUED	10-2008-0129178	12/18/2008	10-1095214	12/9/2011	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
Korea South	INACTIVE	2008-85051	8/29/2008	10-1031446	4/19/2011	Method for Chemical Mechanical Planarization of Chalcogenide Materials
Korea South	INACTIVE	2008-85050	8/29/2008	10-1069472	9/26/2011	Method for Chemical Mechanical Planarization of Chalcogenide Materials
Korea South	ISSUED	10-2008-0118335	11/26/2008	1061263.0	8/25/2011	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Korea South	ISSUED	10-2008-0117912	11/26/2008	10-1076597	10/18/2011	Vessels With Personnel Access Provisions
Korea South	INACTIVE	10-2009-0073983	8/11/2009			Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Korea South	ISSUED	10-2012-0043777	8/11/2009	1470067.0	12/1/2014	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Korea South	INACTIVE	10-2008-0100310	10/13/2008			Antireflective Coatings
Korea South	INACTIVE	10-2008-0100360	10/13/2008	10-0986847	10/4/2010	Antireflective Coatings for Photovoltaic Applications
Korea South	ISSUED	10-2008-0109307	11/5/2008	10-1046853	6/29/2011	Copper Precursors for Thin Film Deposition
Korea South	ISSUED	10-2008-0118113	11/26/2008	10-1012921	1/27/2011	Tellurium Precursors for GST Films in an ALD or CVD Process
Korea South	INACTIVE					Metal Complexes of Tridentate Beta-Ketoiminates
Korea South	INACTIVE	10-2008-105185	10/27/2008			Metal Complexes of Tridentate Beta-Ketoiminates
Korea South	ISSUED	10-2008-0118059	11/26/2008	10-0988973	10/13/2010	Metal Complexes of Tridentate Beta-Ketoiminates
Korea South	ISSUED	10-2008-0129309	12/18/2008	10-1141794	4/24/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Korea South	PENDING	10-2012-0019348	12/18/2008			Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Korea South	INACTIVE	10-2012-0019348	12/18/2008			Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Korea South	ISSUED	10-2009-0006706	1/28/2009	10-1068013	9/20/2011	Antimony Precursors for GST Films in ALD/CVD Processes
Korea South	INACTIVE	10-2013-0095474	8/12/2013			Precursors for GST Films in ALD/CVD Processes
Korea South	PENDING	10-2016-0012314	8/12/2013			Precursors for GST Films in ALD/CVD Processes

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Korea South	PENDING	10-2016-0033644	8/12/2013			Precursors for GST Films in ALD/CVD Processes
Korea South	INACTIVE	10-2009-0019369	3/6/2009			Stripper for Dry Film Removal
Korea South	ISSUED	10-2012-0041041	3/6/2009	10-1384106	4/4/2014	Stripper for Dry Film Removal
Korea South	INACTIVE	10-2009-0021621	3/13/2009			Stripper for Copper/Low K BEOL Clean
Korea South	ISSUED	10-2009-0025008	3/24/2009	10-1169501	7/23/2012	Improved Adhesion to Copper and Copper Electromigration Resistance
Korea South	INACTIVE	10-2011-0004600	1/17/2011			Improved Adhesion to Copper and Copper Electromigration Resistance
Korea South	ISSUED	10-2009-0031171	4/10/2009	10-1094611	12/8/2011	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Korea South	INACTIVE	10-2011-0108581	4/10/2009			Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Korea South	INACTIVE	10-2009-0075179	8/14/2009			Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
Korea South	ISSUED	10-2009-0123455	12/11/2009	10-1179167	8/28/2012	A Method for Forming a Porous Organosilicate Film
Korea South	ISSUED	10-2012-0080683	12/11/2009	10-1553308	9/9/2015	A Method for Forming a Porous Organosilicate Film
Korea South	ISSUED	10-2013-0100066	12/11/2009	10-1603265	3/8/2016	A Method for Forming A Porous Organosilicate Film
Korea South	ISSUED	10-2009-0040185	5/8/2009	10-1137191	4/9/2012	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Korea South	ISSUED	10-2012-0061609	6/8/2012	10-1379651	3/21/2014	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Korea South	ISSUED	10-2010-7029296	6/3/2009	10-1266135	5/14/2013	Low Temperature Deposition of Silicon-Containing Films
Korea South	ISSUED	10-2013-7005367	6/3/2009	10-1444707	9/19/2014	Low Temperature Deposition of Silicon-Containing Films
Korea South	INACTIVE	10-2009-0047056	5/28/2009			Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
Korea South	INACTIVE	10-2009-0067833	7/24/2009			Removal of Trace Arsenic Impurities From Triethylphosphate (TEPO)
Korea South	INACTIVE	10-2009-0064176	7/14/2009			Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Korea South	ISSUED	10-2012-0047679	7/14/2009	10-1537054	7/9/2015	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Korea South	INACTIVE	10-2009-0063652	7/13/2009	10-1183412	9/10/2012	Aminosilanes for Shallow Trench Isolation Films
Korea South	INACTIVE	10-2011-7005723	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
Korea South	INACTIVE	10-2009-0087525	9/16/2009			Process and System for Providing Acetylene
Korea South	ISSUED	10-2012-0044142	9/16/2009	10-1493756	2/10/2015	Process and System for Providing Acetylene
Korea South	ISSUED	10-2009-0079119	8/26/2009	10-1049309	7/7/2011	Selective Etching of Silicon Dioxide Compositions
Korea South	ISSUED	10-2009-0077668	8/21/2009	10-1101084	12/23/2011	Cross Purge Valve and Container Assembly
Korea South	INACTIVE	10-2009-0106880	11/6/2009	10-1202313	11/12/2012	Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
Korea South	INACTIVE	10-2012-0068778	11/6/2009			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
Korea South	ISSUED	10-2009-0093329	9/30/2009	10-1100951	12/23/2011	Method for Forming Through-Base Wafer Vias in Fabrication of Stacked Devices
Korea South	ISSUED	10-2009-0122674	12/10/2009	10-1124722	2/29/2012	Precursors for Depositing Group 4 Metal-Containing Films
Korea South	INACTIVE	10-2009-0092557	9/29/2009	10-1232127	2/5/2013	Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
Korea South	ISSUED	10-2011-7015317	11/25/2009	10-1406154	6/3/2014	Dielectric Barrier Deposition Using Oxygen Containing Precursor
Korea South	ISSUED	10-2009-0108666	11/11/2009	10-1396139	5/12/2014	Amino Vinylsilane Precursors for Stressed SiN Films
Korea South	ISSUED	10-2012-0156542	11/11/2009	10-1553863	9/11/2015	Amino Vinylsilane Precursors for Stressed SiN Films
Korea South	ISSUED	10-2010-0075198	8/4/2010	10-1230319	1/31/2013	Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
Korea South	INACTIVE	10-2011-0010656	2/7/2011			Methods to Prepare Silicon-Containing Films
Korea South	PENDING	10-2013-0017970	2/7/2011			Methods to Prepare Silicon-Containing Films
Korea South	INACTIVE	10-2014-0094747	2/7/2011			Methods to Prepare Silicon-Containing Films
Korea South	PENDING	10-2016-0182960	2/7/2011			Methods to Prepare Silicon-Containing Films
Korea South	ISSUED	10-2010-0022983	3/15/2010	10-1070953	9/29/2011	Dielectric Films Comprising Silicon and Methods for Making Same
Korea South	ISSUED	10-2009-0126151	12/17/2009	10-1131228	3/21/2012	Wet Clean Compositions for CoWP and Porous Dielectrics
Korea South	ISSUED	10-2009-0130133	12/23/2009	10-1053712	7/27/2011	Combination, Method, and Composition for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
Korea South	ISSUED	10-2011-0104293	10/12/2011	10-1362903	2/7/2014	Aminosilanes and Methods for Making Same
Korea South	ISSUED	10-2010-0024189	3/18/2010	10-1140432	4/19/2012	Splashguard for High Flow Vacuum Bubbler Vessel
Korea South	INACTIVE	10-2013-0004916	1/16/2013			Splashguard for High Flow Vacuum Bubbler Vessel
Korea South	ISSUED	10-2010-0020775	3/9/2010	10-1150124	5/18/2012	Method for Preparing Metal Complexes of Polydentate Beta-Ketoiminates
Korea South	ISSUED	10-2010-0034731	4/15/2010	10-1151033	5/22/2012	Method for Making a Chlorosilane
Korea South	ISSUED	10-2010-0084270	8/30/2010	10-1277129	6/14/2013	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
Korea South	INACTIVE	10-1998-0702220	7/21/1997	302671.0	7/5/2001	Chemical Mechanical Polishing Composition and Process
Korea South	INACTIVE	10-2006-7009811	5/19/2006			Abasive-Free Chemical Mechanical Polishing Composition and Polishing Process Containing Same
Korea South	ISSUED	10-2010-0044970	5/13/2010	10/1144535	5/2/2012	Dielectric Barrier Deposition Using Nitrogen Containing Precursor
Korea South	ISSUED	10-2004-7012423	2/11/2003	736325.0	6/29/2007	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Korea South	INACTIVE	10-2008-7013367	11/1/2006			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Korea South	ISSUED	10-2010-0065321	7/7/2010	10-1101028	12/23/2011	Formulations and Method for Post-CMP Cleaning
Korea South	ISSUED	10-2011-0089019	9/2/2011	10-1300668	8/21/2013	Electrodes for Electrolytic Germane Process
Korea South	INACTIVE	2003-7010595	2/8/2002			Chemical-Mechanical Planarization Using Ozone
Korea South	ISSUED	10-2012-0005886	1/18/2012	10-1493754	2/10/2015	Electrolytic Apparatus, System and Method for the Safe Production of Nitrogen Trifluoride

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Korea South	ISSUED	10-2010-0051360	5/31/2010	10-1157745	6/12/2012	Volatile Group 2 Metal Precursors
Korea South	ISSUED	10-2010-0087815	9/8/2010	10-1303782	8/29/2013	Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
Korea South	PENDING	10-2011-0034618	4/14/2011			Recovery of NF3 from Adsorption Operation
Korea South	ISSUED	10-2014-0108584	4/14/2011	10-1686085	12/7/2016	Recovery of NF3 from Adsorption Operation
Korea South	ISSUED	10-2011-0016047	2/23/2011	10-1266133	5/14/2013	Method of Making a Multicomponent Film
Korea South	ISSUED	10-2013-0013937	2/23/2011	10-1652451	8/24/2016	Method of Making a Multicomponent Film
Korea South	INACTIVE	10-2016-0086119	2/23/2011			Method of Making a Multicomponent Film
Korea South	INACTIVE	10-2010-0088874	9/10/2010	10-1350750	1/3/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Korea South	INACTIVE	2003-7001017	5/24/2002	905680.0	6/25/2009	Cerium Oxide Slurry, and Method of Manufacturing Substrate
Korea South	ISSUED	10-2010-0092873	9/24/2010	10-1144419	5/2/2012	Method and Composition for Chemical Mechanical Planarization of a Metal-Containing Substrate
Korea South	ISSUED	10-2011-0010785	2/7/2011	10-1341124	12/6/2013	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
Korea South	ISSUED	10-2010-0095370	9/30/2010	10-1232813	2/6/2013	Method for Exposing Through-Base Wafer Vias for Fabrication of Stacked Devices
Korea South	INACTIVE	10-2010-0103967	10/25/2010			Group 4 Metal Precursors for Metal-Containing Films
Korea South	ISSUED	10-2010-0104164	10/25/2010	10-1151462	5/23/2012	Methods for Deposition of Group 4 Metal Containing Films
Korea South	PENDING	10-2013-0089864	10/25/2010			Group 4 Metal Precursors for Metal-Containing Films
Korea South	PENDING	10-2016-0075271	10/25/2010			Group 4 Metal Precursors for Metal-Containing Films
Korea South	ISSUED	10-2010-0132462	12/22/2010	10-1203599	11/15/2012	Method for Chemical Mechanical Planarization of a Copper-Containing Substrate
Korea South	ISSUED	10-2011-0053525	6/2/2011	10-1275143	6/10/2013	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Korea South	INACTIVE	10-2013-0026296	6/2/2011			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Korea South	ISSUED	10-2010-0124104	12/7/2010	10-1266140	5/14/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
Korea South	INACTIVE	10-2001-7015180	5/1/2000	475690.0	2/28/2005	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Korea South	ISSUED	10-2010-0127746	12/14/2010	10-1441465	9/11/2014	Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
Korea South	ISSUED	10-2010-0127523	12/14/2010	10-1186955	9/24/2012	Method for Forming Through-Base Wafer Vias for Fabrication of Stacked Devices
Korea South	INACTIVE	10-2010-0133754	12/23/2010			Low K Precursors Providing Superior Integration Attributes
Korea South	PENDING	10-2013-0126909	12/23/2010			Low K Precursors Providing Superior Integration Attributes
Korea South	ISSUED	10-2011-0009080	1/28/2011	10-1284728	7/4/2013	Method and Equipment for Selectively Collecting Process Effluent
Korea South	ISSUED	10-2013-0031595	1/28/2011	10-1630724	6/9/2016	Method and Equipment for Selectively Collecting Process Effluent
Korea South	ISSUED	10-2011-0100258	9/30/2011	10-1366629	2/18/2014	Recovering of Xenon by Adsorption Process
Korea South	ISSUED	10-2011-0013369	2/15/2011	10-1192742	10/12/2012	Method for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
Korea South	ISSUED	10-2011-0127341	11/30/2011	10-1349888	1/3/2014	Metal-Enolate Precursors for Depositing Metal-Containing Films
Korea South	INACTIVE	10-2011-0055728	6/9/2011			Cylinder Surface Treatment for Monochlorosilane
Korea South	PENDING	10-2013-0080234	6/9/2011			Cylinder Surface Treatment for Monochlorosilane
Korea South	ISSUED	10-2011-0068028	7/8/2011	10-1298193	8/13/2013	Method for Wafer Dicing and Composition Useful Thereof
Korea South	ISSUED	10-2011-0131008	12/8/2011	10-1404576	5/30/2014	Aminovinylsilane for CVD and ALD SiO2 Films
Korea South	ISSUED	10-2011-0061915	6/24/2011	10-1296256	8/7/2013	Chemical Mechanical Planarization Composition and Method with Low Corrosiveness
Korea South	ISSUED	10-2012-0027406	3/16/2012	10-1535283	7/2/2015	Cleaning Formulations and Method of Using the Cleaning Formulations
Korea South	ISSUED	10-2012-0007428	1/25/2012	10-1288919	7/17/2013	Novel Metal Complexes for Metal-Containing Film Deposition
Korea South	INACTIVE	10-2011-0123862	11/24/2011	10-1362913	2/7/2014	Compositions and Methods for Texturing of Silicon Wafers
Korea South	INACTIVE	10-2012-0016580	2/17/2012			Fluorine Based Chamber Clean with Nitrogen Trifluoride Backup
Korea South	PENDING	10-2013-7031200	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Korea South	INACTIVE	10-2005-7004778	9/18/2003			Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
Korea South	ISSUED	10-2014-7000044	6/1/2012	10-1659463	9/19/2016	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Korea South	PENDING	10-2016-7020402	6/1/2012			Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Korea South	ISSUED	10-2012-0055643	5/24/2012	10-1470876	12/3/2014	Organoaminosilane Precursors and Methods for Making and Using Same\r
Korea South	PENDING	10-2014-0160689	5/24/2012			Organoaminosilane Precursors and Methods for Making and Using Same\r
Korea South	ISSUED	10-2013-0090486	7/30/2013	10-1640153	7/11/2016	Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
Korea South	ISSUED	10-2012-0107411	9/26/2012	10-1451189	10/8/2014	Solenoid Bypass System for Continuous Operation of Pneumatic Valve
Korea South	ISSUED	10-2012-0099440	9/7/2012	10-1479532	12/30/2014	Precursors for Photovoltaic Passivation
Korea South	ISSUED	10-2012-0108363	9/27/2012	10-1506940	3/24/2015	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Korea South	INACTIVE	10-2012-0104707	9/20/2012	10-1375233	3/11/2014	Oxygen Containing Precursors for Photovoltaic Passivation
Korea South	INACTIVE	10-2013-0055751	5/16/2013			Compositions and Methods for Texturing of Silicon Wafers
Korea South	INACTIVE	10-2013-0040559	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Korea South	PENDING	10-2015-0107450	4/12/2013			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Korea South	ISSUED	10-2013-0005510	1/17/2013	10-1511191	4/6/2015	Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
Korea South	PENDING	10-2014-0062220	1/17/2013			Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
Korea South	PENDING	10-2013-0009482	1/28/2013			Alkoxyaminosilane Compounds and Applications Thereof
Korea South	PENDING	10-2015-0103272	7/21/2015			Alkoxyaminosilane Compounds and Applications Thereof

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Korea South	INACTIVE	10-2013-0028861	3/18/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
Korea South	ISSUED	10-2010-7029440	5/28/2009	10-1486029	1/22/2015	Fixture Drying Apparatus and Method
Korea South	ISSUED	70076112000.0	1/8/1999	10-0560077	3/6/2006	Container Washing Apparatus
Korea South	PENDING	10-2014-7028422	3/8/2013			Methods for Making Silicon Containing Films on Thin Film Transistor Devices
Korea South	PENDING	10-2014-7028377	3/8/2013			Barrier Materials for Display Devices
Korea South	PENDING	10-2016-7029844	3/8/2013			Barrier Materials for Display Devices
Korea South	DOCKETED					Barrier Materials for Display Devices
Korea South	INACTIVE	10-2013-0035416	4/1/2013			Group 2 Imidazolate Formulations for Direct Liquid Injection
Korea South	INACTIVE	10-2015-0135455	4/1/2013			Group 2 Imidazolate Formulations for Direct Liquid Injection
Korea South	INACTIVE	10-2013-0063743	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	ISSUED	10-2013-0063745	6/3/2013	10-1577773	12/9/2015	Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2015-0174836	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	INACTIVE	10-2015-0141381	10/8/2015			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2015-0037656	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2015-0169128	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2016-0151175	6/3/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Korea South	ISSUED	10-2013-0053079	5/10/2013	10-1612520	4/7/2016	Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
Korea South	PENDING	10-2014-0185961	5/10/2013			Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
Korea South	INACTIVE	10-2013-0059995	5/27/2013			Vessel with Filter
Korea South	PENDING	10-2016-0036115	5/27/2013			Vessel with Filter
Korea South	INACTIVE	10-2013-0071802	6/21/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
Korea South	ISSUED	10-2013-0125968	10/22/2013	10-1557979	9/30/2015	Cleaning Formulations
Korea South	ISSUED	10-2013-0119920	10/8/2013	10-1493294	2/9/2015	Stripping and Cleaning Compositions for Removal of Thick Film Resist
Korea South	INACTIVE	10-2014-0029018	3/12/2014			Chemical Mechanical Planarization for Tungsten-Containing Substrates
Korea South	ISSUED	10-2013-0123925	10/17/2013	10-1525098	5/27/2015	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
Korea South	ISSUED	1997-0048178	9/23/1997	303672.0	7/12/2001	Polish Process and Slurry for Planarization
Korea South	INACTIVE	10-2013-0125237	10/21/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorine
Korea South	INACTIVE	10-2013-0154159	12/11/2013			Alkoxysilylamine Compounds and Applications Thereof
Korea South	PENDING	10-2016-0009914	12/11/2013			Alkoxysilylamine Compounds and Applications Thereof
Korea South	PENDING	10-2014-0109661	8/22/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
Korea South	PENDING	10-2015-7015652	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses
Korea South	PENDING	10-2014-0030326	3/14/2014			Onsite Ultra High Purity Chemicals or Gas Purification
Korea South	PENDING	10-2016-0084331	3/14/2014			Onsite Ultra High Purity Chemicals or Gas Purification
Korea South	INACTIVE	10-2014-0005955	1/17/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
Korea South	ISSUED	10-2014-0094992	7/25/2014	10-1659725	9/20/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
Korea South	ISSUED	10-2014-0043785	4/11/2014	10-1634742	6/23/2016	Method of Making a Multicomponent Film
Korea South	PENDING	10-2016-0074555	4/11/2014			Method of Making a Multicomponent Film
Korea South	INACTIVE	10-2014-0046734	4/18/2014	10-1623428	5/17/2016	Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
Korea South	ISSUED	10-2014-0079866	6/27/2014	10-1618784	4/29/2016	Process for Making Trisilylamine
Korea South	PENDING	10-2016-0051651	6/27/2014			Process for Making Trisilylamine
Korea South	ISSUED	10-2014-0074274	6/18/2014	10-1673516	11/1/2016	Recovery and Purification of Nitrous Oxide
Korea South	PENDING	10-2016-0114542	6/18/2014			Recovery and Purification of Nitrous Oxide
Korea South	ISSUED	10-2014-0079069	6/26/2014	10-1651935	8/23/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
Korea South	ISSUED	10-2014-0057856	5/14/2014	10-1636951	6/30/2016	Ultrasonic Liquid Level Sensing Systems
Korea South	PENDING	10-2015-0096154	5/14/2014			Ultrasonic Liquid Level Sensing Systems
Korea South	ISSUED	10-2014-0078920	6/26/2014	10-1651955	8/23/2016	Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2014-0125031	9/19/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Korea South	PENDING	10-2016-0079301	9/19/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Korea South	ISSUED	10-2014-0136777	10/10/2014	10-1698490	1/16/2017	Barrier Chemical Mechanical Planarization Composition and Method Thereof
Korea South	PENDING	10-2014-0133394	10/2/2014			Methods for Depositing Silicon Nitride Films
Korea South	PENDING	10-2016-0150391	10/2/2014			Methods for Depositing Silicon Nitride Films
Korea South	PENDING	10-2017-0018917	10/2/2014			Methods for Depositing Silicon Nitride Films
Korea South	ISSUED	10-2015-0102645	7/20/2015	10-1596366	2/16/2016	Titanium Nitride Hard Mask and Etch Residue Remova
Korea South	ISSUED	10-2014-0183441	12/18/2014	10-1696711	1/20/2017	Composition for Titanium Nitride Hard Mask and Etch Residue Remova
Korea South	ISSUED	10-2014-0134547	10/6/2014	10-1648482	8/9/2016	System and Method for Xenon Recovery
Korea South	PENDING	10-2015-0027946	2/27/2015			Organoaminosilanes and Methods for Making Same
Korea South	ISSUED	10-2015-0026538	2/25/2015	10-1696397	1/9/2017	Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluoride

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Korea South	PENDING	10-2015-0006021	1/13/2015			System and Method for Gas Recovery and Reuse
Korea South	PENDING	10-2015-0114788	8/13/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Film
Korea South	PENDING	10-2015-0041621	3/25/2015			Compositions and Methods for the Deposition of Silicon Oxide Film
Korea South	PENDING	10-2016-0034494	3/23/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\
Korea South	PENDING	10-2015-0089849	6/24/2015			Improved Diptube Design for a Host Ampoule
Korea South	PENDING	10-2015-0099732	7/14/2015			Copper Corrosion Inhibition System
Korea South	PENDING	10-2015-0116733	8/19/2015			Purification of Nitrogen Trifluoride by Pressure Swing Adsorptio
Korea South	PENDING	10-2015-0083612	6/12/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Sam
Korea South	PENDING	10-2015-0104251	7/23/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrat
Korea South	PENDING	10-2015-0119723	8/25/2015			Ultrasonic Liquid Level Sensing Systems
Korea South	INACTIVE					Patent Apply for C2H2 Vent-Purification Technolog
Korea South	PENDING	10-2015-0153102	11/2/2015			Silicon-Based Films and Methods of Forming the Sam
Korea South	PENDING	10-2015-0151137	10/29/2015			Chemical Mechanical Polishing Slurry for Reducing Corrosion and Method of Use Therefo
Korea South	PENDING	10-2015-0188390	12/29/2015			Stripping Compositions Having High WN/W Etching Selectivit
Korea South	PENDING	10-2015-0182944	12/21/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivatio
Korea South	PENDING	10-2016-0015714	2/11/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishin
Korea South	PENDING	10-2015-0187290	12/28/2015			Etchant Solutions and Method of Use Thereo
Korea South	PENDING	10-2016-0016581	2/12/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
Korea South	PENDING	10-2016-0008008	1/22/2016			Method and Precursors for Manufacturing 3D Devices
Korea South	PENDING	10-2016-0054205	5/2/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Korea South	PENDING	10-2016-0039195	3/31/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Korea South	PENDING	10-2016-0047065	4/18/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIAL
Korea South	PENDING	10-2016-0047105	4/18/2016			High Purity Tungsten Hexachloride and Method for Making Sam
Korea South	PENDING	10-2016-008831	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
Korea South	PENDING	10-2016-0058198	5/12/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
Korea South	PENDING	10-2016-0069705	6/3/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
Korea South	PENDING	10-2016-0122407	9/23/2016			CLEANING FORMULATIONS
Korea South	PENDING	10-2016-0122394	9/23/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
Korea South	PENDING	10-2016-0093513	7/22/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
Korea South	PENDING	10-2016-0158731	11/25/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
Korea South	PENDING	10-2017-0009657	1/20/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
Liechtenstein	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Liechtenstein	INACTIVE					ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Liechtenstein	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Liechtenstein	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METAL
Liechtenstein	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Liechtenstein	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METAL
Liechtenstein	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facilit
Liechtenstein	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Luxembourg	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Luxembourg	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Luxembourg	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Luxembourg	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Luxembourg	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Luxembourg	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Luxembourg	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Luxembourg	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Luxembourg	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Luxembourg	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Luxembourg	INACTIVE					ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
Luxembourg	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Luxembourg	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAM
Luxembourg	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Luxembourg	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Luxembourg	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METAL

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Luxembourg	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Luxembourg	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Luxembourg	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Malaysia	INACTIVE	PI94002643	10/6/1994	MY-112409	6/30/2001	INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Malaysia	INACTIVE	PI9704667	10/6/1997			REGENERATION OF ADSORBENT BEDS
Malaysia	INACTIVE	PI9503609	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Malaysia	INACTIVE	PI9705090	10/28/1997	MY-115253-A	4/30/2003	FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Malaysia	INACTIVE	PI20013784	8/13/2001	MY-129881-A	5/31/2007	Sub-Atmospheric Gas Delivery Method and Apparatus
Malaysia	INACTIVE	PI20050054	1/6/2005			Dispersions and Films Comprising Conducting Polymer for Optoelectronic Devices
Malaysia	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
Malaysia	INACTIVE	PI99002878	7/8/1999			Compositon And Method For Selectively Etching A Silicon Nitride Film
Malaysia	ISSUED	PI20000267	1/26/2000	MY-127401-A	11/30/2006	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Malaysia	INACTIVE	PI20002154	5/16/2000			Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Malaysia	INACTIVE	PI20014449	9/24/2001	MY-122837-A	5/31/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Malaysia	ISSUED	20022366.0	6/25/2002	MY-149922-A	10/31/2013	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Malaysia	INACTIVE					Cleaning Compositions And Use Thereof Containing Ammonium Hydroxide And Fluorosurfactant
Malaysia	INACTIVE	PI20030057	1/8/2003	MY-130394	6/29/2007	Aqueous Stripping and Cleaning Composition
Malaysia	INACTIVE	PI20015448	11/28/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Malaysia	INACTIVE	PI20022159	6/11/2002			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Malaysia	INACTIVE	PI20035045	1/3/2004			Composition And Method Used For Chemical Mechanical Planarization Of Metals
Malaysia	INACTIVE	20032599.0	7/10/2003	MY-130650	7/31/2007	Composition For Removing Etching Residue and Use Thereof
Malaysia	INACTIVE	PI20041861	5/18/2004	MY 137363-A	1/30/2009	Compositions Suitable For Removing Photoresist, Photoresist Byproducts And Etching Residue, And Use Thereo
Malaysia	INACTIVE	PI20053276	7/18/2005			Method for Enhancing Fluorine Utilization
Malaysia	INACTIVE					Semiconductor Cleaning Solution
Malaysia	INACTIVE	PI20055489	11/24/2005			Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
Malaysia	ISSUED	PI20054552	9/27/2005	MY-139520	10/30/2009	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Malaysia	INACTIVE	PI20062188	5/11/2006			Method and Process for Reactive Gas Cleaning of Tool Parts
Malaysia	INACTIVE	PI20063153	7/3/2006			Free Radical Initiator in Remote Plasma Chamber Clean
Malaysia	INACTIVE	PI20064283	10/6/2006			Aqueous Cleaning Composition and Method for Using Same
Malaysia	ISSUED	PI20064297	10/9/2006	MY-146827-A	9/28/2012	Aqueous Cleaning Composition for Removing Residues and Method Using Same
Malaysia	INACTIVE	PI20064511	11/16/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
Malaysia	INACTIVE	PI20070016	1/5/2007			pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Malaysia	INACTIVE	PI20070114	1/24/2007			Cleaning Formulations
Malaysia	INACTIVE	PI20064734	12/21/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
Malaysia	INACTIVE	PI20070263	2/22/2007			Top Coat for Lithography Processes
Malaysia	INACTIVE	PI20070877	6/1/2007			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
Malaysia	PENDING	PI20084773	11/25/2008			Vessels With Personnel Access Provisions
Malaysia	ISSUED	PI20090921	3/6/2009	MY-158089-A	8/29/2016	Stripper for Dry Film Removal
Malaysia	INACTIVE	PI20091039	3/13/2009			Stripper for Copper/Low K BEOL Clean
Malaysia	ISSUED	PI20092943	7/14/2009	MY-157792-A	7/29/2016	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Malaysia	ISSUED	PI20093531	8/26/2009	MY-147667-A	12/31/2012	Selective Etching of Silicon Dioxide Compositions
Malaysia	INACTIVE	PI2010004216	9/8/2010	MY-157535-A	6/15/2016	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Malaysia	PENDING	PI2011000387	1/27/2011			Method and Equipment for Selectively Collecting Process Effluent
Malaysia	PENDING	PI2015002446	1/27/2011			Method and Equipment for Selectively Collecting Process Effluent
Malaysia	PENDING	PI2011003214	7/8/2011			Method for Wafer Dicing and Composition Useful Thereof
Malaysia	PENDING	PI2012700075	3/14/2012			Cleaning Formulations and Method of Using the Cleaning Formulations
Malaysia	INACTIVE	PI2011005662	11/23/2011			Compositions and Methods for Texturing of Silicon Wafers
Malaysia	PENDING	PI2013702006	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Malaysia	INACTIVE	PI2012700606	9/6/2012			Precursors for Photovoltaic Passivation
Malaysia	INACTIVE	PI2012700669	9/19/2012			Oxygen Containing Precursors for Photovoltaic Passivation
Malaysia	PENDING	PI2013701982	10/21/2013			Cleaning Formulations
Malaysia	PENDING	PI2013701880	10/7/2013			Stripping and Cleaning Compositions for Removal of Thick Film Resist
Malaysia	PENDING	PI2014701556	6/12/2014			Recovery and Purification of Nitrous Oxide
Malaysia	PENDING	PI2015700052	1/8/2015			System and Method for Gas Recovery and Reuse
Malaysia	PENDING	PI2015704776	12/28/2015			Stripping Compositions Having High WN/W Etching Selectivity
Malaysia	PENDING	PI2015704659	12/21/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation

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Malaysia	PENDING	PI2015704773	12/28/2015			Etchant Solutions and Method of Use Thereof
Malaysia	PENDING	PI2016000790	5/3/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Malaysia	PENDING	PI2016701116	3/29/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Malaysia	PENDING	PI2016703452	9/22/2016			CLEANING FORMULATIONS
Mexico	INACTIVE	189738.0	10/21/1981			SPIRAL-TYPE HEAT EXCHANGER
Mexico	INACTIVE	3608.0	9/2/1986			PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Mexico	INACTIVE	13146.0	9/23/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Mexico	INACTIVE	10828.0	3/18/1988	169411.0	7/2/1993	CONCENTRATED STABLE FLUOROCHEM ICAL AQUEOUS EMULSIONS
Mexico	INACTIVE	13143.0	9/23/1988	169531.0	7/9/1993	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Mexico	INACTIVE	10783.0	3/15/1988	172826.0	1/17/1994	STABLE FLUOROCARBON AQUEOUS EM ULSIONS
Mexico	INACTIVE	9101135.0	9/18/1991	176028.0	9/14/1994	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
Mexico	INACTIVE	937544.0	11/30/1993	189671.0	8/19/1998	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Mexico	INACTIVE	932084.0	4/12/1993			APPARATUS TO CLEAN SOLID SURFA CES USING A CRYOGENIC AEROSOL
Mexico	INACTIVE	93-3813	6/24/1993	188534.0	4/6/1998	PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMATIC COMPOUNDS
Mexico	INACTIVE	933393.0	6/7/1993	182402.0	8/14/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Mexico	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Mexico	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Mexico	INACTIVE	970756.0	1/29/1997	202381.0	6/15/2001	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Mexico	INACTIVE	PA/a/2005/010108	9/20/2005			Process for the Production of Nitrogen Trifluoride
Mexico	INACTIVE	3609.0	10/13/1998			Aqueous Stripping And Cleaning Compositions
Monaco	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Monaco	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Monaco	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Monaco	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Monaco	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Monaco	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Netherlands	INACTIVE	78.1	8/1/1978	177127.0	7/2/1985	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL S
Netherlands	INACTIVE	78/04171	4/19/1978	172944.0	11/29/1983	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
Netherlands	INACTIVE	79300543.0	4/3/1979	4767.0	12/9/1981	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
Netherlands	INACTIVE	79301083.6	6/7/1979			PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
Netherlands	INACTIVE	80302671.5	8/5/1980			CRYOGENIC FREEZER
Netherlands	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Netherlands	INACTIVE	88115327.4	9/19/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Netherlands	INACTIVE	81302204.3	5/19/1981	40540.0	1/21/1987	VAPOR MASS FLOW CONTROL SYSTEM
Netherlands	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Netherlands	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Netherlands	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Netherlands	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Netherlands	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Netherlands	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Netherlands	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Netherlands	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Netherlands	INACTIVE	88105561.0	4/7/1988	286097.0	3/2/1994	METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Netherlands	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Netherlands	INACTIVE	89120616.1	11/7/1989	369297.0	8/4/1993	VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXES
Netherlands	INACTIVE	89121546.9	11/21/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
Netherlands	INACTIVE	89122601.1	12/7/1989	373513.0	5/10/1995	FLUORINATED BETA-KETOIMINES AN D BETA-KETOIMINATO METAL COMPL EXES
Netherlands	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Netherlands	INACTIVE	91108809.4	5/29/1991	461476.0	9/13/1995	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
Netherlands	INACTIVE	91109170.0	6/5/1991	460627.0	8/21/1996	VOLATILE CROWN LIGAND BETA-DIK ETONATE ALKALINE EARTH METAL C OMPLEXES
Netherlands	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Netherlands	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Netherlands	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Netherlands	INACTIVE	92101359.5	1/28/1992	498269.0	3/26/1997	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER

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Netherlands	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Netherlands	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Netherlands	INACTIVE	92103203.3	2/25/1992	507074.0	1/3/1996	CLEANING AGENTS COMPRISING BET A-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USIN G THE SAME
Netherlands	INACTIVE	93105865.5	4/8/1993			PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
Netherlands	INACTIVE	92122054.7	12/28/1992			DIFFUSION GAS DILUTER
Netherlands	INACTIVE	92115593.3	9/11/1992	533070.0	12/18/1996	VOLATILE PRECURSORS FOR COPPER CVD
Netherlands	INACTIVE	92117207.8	10/8/1992	536752.0	12/20/1995	CLEANING AGENTS FOR FABRICATIN G INTEGRATED CIRCUITS AND A PR OCESS FOR USING THE SAME
Netherlands	INACTIVE	92117198.9	10/8/1992	536747.0	5/7/1997	HALOGENATED CARBOXYLIC ACID CL EANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROC ESS FOR USING THE SAME
Netherlands	INACTIVE	93109191.2	6/8/1993	574809.0	9/27/1995	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Netherlands	INACTIVE	93109130.0	6/7/1993	573943.0	10/9/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Netherlands	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Netherlands	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Netherlands	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Netherlands	INACTIVE	94107352.0	5/11/1994	630988.0	7/30/1997	PROCESS FOR IMPROVED QUALITY O F CVD COPPER FILMS
Netherlands	INACTIVE	96303240.4	5/9/1996			CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USING OXYGEN-SILICON SOURCE REACTANTS AND A FREE RADICAL PROMOTER
Netherlands	INACTIVE	94111234.4	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Netherlands	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Netherlands	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Netherlands	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Netherlands	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Netherlands	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Netherlands	INACTIVE	96100018.9	1/2/1996			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Netherlands	INACTIVE	95118528.9	11/24/1995			FLUORINE DOPED SILICON OXIDE P ROCESS
Netherlands	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Netherlands	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Netherlands	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Netherlands	INACTIVE	96101984.1	2/12/1996			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Netherlands	INACTIVE	96108490.2	5/28/1996			METHOD FOR THE GROWTH OF INDUS TRIAL CRYSTALS
Netherlands	INACTIVE	96306186.6	8/23/1996			PRODUCTION OF ULTRA-HIGH PURIT Y OXYGEN FROM CRYOGENIC AIR SE PARATION PLANTS
Netherlands	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Netherlands	INACTIVE	96305118.0	7/11/1996	755957.0	5/6/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Netherlands	INACTIVE	96305114.9	7/11/1996	758664.0	10/18/2000	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Netherlands	INACTIVE	96308192.2	11/13/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Netherlands	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Netherlands	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Netherlands	INACTIVE	97308566.5	10/27/1997	839568.0		FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Netherlands	INACTIVE	98118306.4	9/25/1998	908448.0		THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Netherlands	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Netherlands	ISSUED	98120605.5	10/30/1998	914863.0	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Netherlands	INACTIVE	99116133.2	8/19/1999	992735.0	10/10/2007	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Netherlands	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Netherlands	ISSUED	99123238.0	11/26/1999	1006219.0	12/27/2006	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Netherlands	INACTIVE	99124854.3	12/15/1999	1014075.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Netherlands	INACTIVE	99 120 002.3	10/14/1999	994502.0	1/3/2007	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Netherlands	INACTIVE	99102777.2	2/23/1999	939096.0	11/26/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Netherlands	INACTIVE	2026960.1	12/4/2002	1291375.0	6/30/2004	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Netherlands	ISSUED	99109396.4	6/2/1999	964441.0	5/2/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Netherlands	INACTIVE	99123943.5	12/3/1999	1008671.0	6/13/2002	REGENERATION OF METAL CVD PRECURSORS
Netherlands	INACTIVE	111836.3	6/7/2000	1059295.0	8/13/2003	Production of Metal-Ligand Complexes
Netherlands	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Netherlands	ISSUED	121382.6	10/12/2000	1092678.0	12/28/2011	Method for Removing Water From Gaseous Hydrogen Halide
Netherlands	ISSUED	122208.2	10/13/2000	1092474.0	8/9/2006	Chemical Delivery System With Ultrasonic Fluid Sensors
Netherlands	INACTIVE	126445.6	12/6/2000	1123753.0	8/29/2007	Mesoporous Ceramic Films Having Reduced Dielectric Constants
Netherlands	INACTIVE	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
Netherlands	INACTIVE	1110134.2	5/4/2001	1153885.0	3/8/2006	A Process for Concentrating Fluorine Compounds
Netherlands	INACTIVE	1113640.5	6/18/2001	1166881.0	3/8/2006	Process and Apparatus for Removing Particles from High Purity Gas Systems
Netherlands	INACTIVE	1107778.1	4/4/2001	1146140.0	3/28/2007	Process for Deposition of Oxides and Nitrides with Compositional Gradients

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Netherlands	INACTIVE	1108053.8	3/29/2001	1142894.0	1/12/2005	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Netherlands	INACTIVE	2028800.7	12/27/2002	1323720.0	2/22/2006	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
Netherlands	INACTIVE	3000077.2	1/8/2003	1327652.0	12/27/2006	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Netherlands	ISSUED	2001014.6	1/17/2002	1225194.0	10/1/2008	Method of Forming a Dielectric Interlayer Film With Organosilicon Precursors
Netherlands	ISSUED	2021730.3	9/25/2002	1298381.0	5/18/2016	High Flow Rate Transportable UHP Gas Supply System
Netherlands	INACTIVE	3000652.2	1/16/2003	1329418.0	6/14/2006	Purification of Group IVb Metal Halides
Netherlands	INACTIVE	3018791.8	8/28/2003	1432018.0	10/17/2007	Single Source Mixtures of Metal Siloxides
Netherlands	ISSUED	2018166.5	8/19/2002	1288544.0	6/2/2010	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
Netherlands	INACTIVE	2028017.8	12/13/2002	1321469.0	3/22/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Netherlands	INACTIVE	3000511.0	1/9/2003	1329442.0	8/30/2006	Purification of Hexafluoro-1,3-butandiene
Netherlands	INACTIVE	3006215.2	3/20/2003	1346952.0	4/23/2008	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
Netherlands	ISSUED	3005338.3	3/12/2003	1351013.0	11/26/2014	Product Delivery System for Stationary or Portable Bulk Containers
Netherlands	ISSUED	3005337.5	3/12/2003	1347231.0	4/22/2009	Transportation and Storage of Ultra-High Purity Products
Netherlands	ISSUED	4023326.4	9/30/2004	1522786.0	10/19/2011	Tank Comprising a Valve-Box
Netherlands	ISSUED	3000047.5	1/7/2003	1327603.0	11/3/2010	Cabinet for Chemical Delivery with Solvent Purge
Netherlands	INACTIVE	3014475.2	7/2/2003	1380339.0	3/28/2007	Adsorbent for Water Removal from Ammonia
Netherlands	ISSUED	3008723.3	4/16/2003	1354980.0	2/23/2011	Method for Forming a Porous SiOCH Layer
Netherlands	INACTIVE	3012119.8	5/30/2003	1376671.0	6/20/2007	Compositions For Preparing Materials with a Low Dielectric Constant
Netherlands	INACTIVE	3026257.0	11/14/2003	1433747.0	5/18/2011	Method for Nitrogen Trifluoride Production
Netherlands	INACTIVE	4001246.0	1/21/2004	1442779.0	5/21/2008	Process for Purifying Fluoroxy Compounds
Netherlands	ISSUED	4000455.8	1/12/2004	1439180.0	3/28/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Netherlands	INACTIVE	4008355.2	4/6/2004	1466882.0	8/23/2006	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Netherlands	INACTIVE	4027072.0	11/15/2004	1533272.0	1/3/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Netherlands	INACTIVE	4014365.3	6/18/2004	1491492.0	12/27/2006	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Netherlands	ISSUED	4019503.4	8/17/2004	1508631.0	5/5/2010	Method and Vessel for the Delivery of Precursor Materials
Netherlands	ISSUED	4028959.7	12/7/2004	1541218.0	8/9/2006	Process For Removing Water From Ammonia
Netherlands	ISSUED	4027074.6	11/15/2004	1533329.0	7/1/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Netherlands	INACTIVE	5020514.5	9/20/2005	1640339.0	3/10/2010	Process for the Production of Nitrogen Trifluoride
Netherlands	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
Netherlands	INACTIVE	98953431.8	10/13/1998	1023129.0	1/31/2007	Aqueous Stripping And Cleaning Compositions
Netherlands	INACTIVE	99116743.8	8/27/1999	989597.0	11/12/2003	Compositon And Method For Selectively Etching A Silicon Nitride Film
Netherlands	INACTIVE	904197.1	1/4/2000			Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Netherlands	INACTIVE	1973159.5	9/18/2001	1334408.0	3/15/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Netherlands	INACTIVE	04010688.2-1221	5/22/2003	1453080.0	7/5/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Netherlands	ISSUED	5022213.2	10/12/2005	1647761.0	11/18/2015	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Netherlands	INACTIVE	5026611.3	12/6/2005	1669361.0	5/21/2008	Precursors for Silica or Metal Silicate Films
Netherlands	INACTIVE	6009447.1	5/8/2006	1722155.0	1/9/2008	Enhanced Purge Effect in Gas Conduit
Netherlands	INACTIVE	6001991.6	1/31/2006	1688426.0	7/23/2008	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
Netherlands	INACTIVE	5028216.9	12/22/2005	1676849.0	10/1/2008	Volatile Metal Beta-Ketoiminate Complexes
Netherlands	INACTIVE	6002371.0	2/6/2006	1691400.0	1/14/2009	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Netherlands	ISSUED	6252488.9	5/11/2006	1724373.0	7/22/2009	Precursors for CVD Silicon Carbo-Nitride Films
Netherlands	ISSUED	9161603.7	5/11/2006	2110459.0	8/8/2012	Precursors for CVD Silicon Carbo-Nitride Films
Netherlands	ISSUED	10181347.5	5/11/2006	2264218.0	11/14/2012	Precursors for CVD Silicon Carbo-Nitride Films
Netherlands	INACTIVE	6012911.1	6/22/2006			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Netherlands	INACTIVE	6023931.6	11/17/2006	1788119.0	4/4/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Netherlands	ISSUED	7119579.6	10/30/2007	1918631.0	5/8/2013	Leak Containment Apparatus for Reactive Gases
Netherlands	ISSUED	7115415.7	8/31/2007	1894934.0	6/16/2010	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Netherlands	INACTIVE	UNKNOWN	2/11/2003	1485440.0	9/24/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Netherlands	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Netherlands	PENDING	11152611.7	1/28/2011			Method and Equipment for Selectively Collecting Process Effluent
Netherlands	ISSUED	99901383.2	1/8/1999	1075337.0	11/18/2015	Container Washing Apparatus
New Zealand	INACTIVE	183428.0	2/24/1977	183428.0	10/29/1979	REFRIGERATION SYSTEM FOR SHIPP ING CONTAINER
New Zealand	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Norway	INACTIVE	870192.0	5/17/1985			SEPTUM CLOSURE
Norway	INACTIVE	870646.0	6/21/1985			CHEMICAL REFILL SYSTEM

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Norway	INACTIVE	870191.0	5/17/1985			ION BEAM INPLANT SYSTEM
Norway	INACTIVE	870193.0	5/17/1985			METALIZED VALVE
Norway	INACTIVE	870190.0	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Norway	INACTIVE	870194.0	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Norway	INACTIVE	872020.0	5/14/1987			VACUUM VAPOR TRANSPORT CONTROL
Norway	INACTIVE	PCT/EP92/0246	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Norway	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Norway	INACTIVE	PCT/EP 92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Norway	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Norway	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Norway	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Norway	INACTIVE	9179603.7	12/17/2009	2199379.0	7/17/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
Norway	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Patent Cooperation Treaty	INACTIVE	PCT/US85/00925	5/17/1985			SEPTUM CLOSURE
Patent Cooperation Treaty	INACTIVE	PCT/US85/01100	6/21/1985			CHEMICAL REFILL SYSTEM
Patent Cooperation Treaty	INACTIVE	PCT/US85/00929	5/17/1985			ION BEAM INPLANT SYSTEM
Patent Cooperation Treaty	INACTIVE	PCT/US85/00931	5/17/1985			METALIZED VALVE
Patent Cooperation Treaty	INACTIVE	PCT/US85/00930	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Patent Cooperation Treaty	INACTIVE	PCT/US85/00932	5/17/1985			ION IMPLANT USING TETRAFLUOROBORATES
Patent Cooperation Treaty	INACTIVE	PCT/US85/01780	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Patent Cooperation Treaty	INACTIVE	PCT/US86/00737	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Patent Cooperation Treaty	INACTIVE					LARGE BREAKSEAL ACTUATOR WITH BUILT IN VALVE
Patent Cooperation Treaty	INACTIVE	PCT/EP92/02646	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Patent Cooperation Treaty	INACTIVE	PCT/EP92/02647	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Patent Cooperation Treaty	INACTIVE	PCT/EP92/02648	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Patent Cooperation Treaty	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Patent Cooperation Treaty	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Patent Cooperation Treaty	INACTIVE	PCT/US98/20252	9/25/1998			ORDERED MESOPOROUS THIN FILMS
Patent Cooperation Treaty	INACTIVE	PCT/US99/15181	7/6/1999			Method and Apparatus for the Preparation of High Purity Phosphine or Other Gas
Patent Cooperation Treaty	INACTIVE	PCT/US97/04420	3/20/1997			Photoresist Stripping Compositions
Patent Cooperation Treaty	INACTIVE	PCT/US97/03381	3/4/1997			Integrated Container Moulding and Filling Facility
Patent Cooperation Treaty	INACTIVE	PCT/US97/22736	12/8/1997			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
Patent Cooperation Treaty	INACTIVE	PCT/US98/21563	10/13/1998			Aqueous Stripping And Cleaning Compositions
Patent Cooperation Treaty	INACTIVE	PCT/US98/21560	10/13/1998			Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
Patent Cooperation Treaty	INACTIVE	PCT/US00/00116	1/4/2000			Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Patent Cooperation Treaty	INACTIVE	PCT/US00/14181	5/23/2000			Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Patent Cooperation Treaty	INACTIVE	PCT/US00/21626	8/8/2000			Improved Metal Corrosion Inhibitor Additives For Semi-Aqueous Stripper/Cleaners To Protect Sensitive Metals
Patent Cooperation Treaty	INACTIVE	PCT/US01/29198	9/18/2001			Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Patent Cooperation Treaty	INACTIVE	PCT/US02/19034	6/17/2002			Process For Removing Contaminant From A Surface And Composition Useful Therefor
Patent Cooperation Treaty	INACTIVE	PCT/US01/06471	3/1/2001			Cleaning Compositions And Use Thereof Containing Ammonium Hydroxide And Fluorosurfactant
Patent Cooperation Treaty	INACTIVE	PCT/US01/43171	12/3/2001			Method For Cleaning Etcher Parts
Patent Cooperation Treaty	INACTIVE	US03/00291	1/6/2003			Aqueous Stripping and Cleaning Composition
Patent Cooperation Treaty	INACTIVE	PCT/US01/44100	11/27/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Patent Cooperation Treaty	INACTIVE	PCT/US02/17495	6/4/2002			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Patent Cooperation Treaty	INACTIVE	PCT/US03/030237	9/26/2003			Compositions Substrate For Removing Etching Residue And Use Thereof
Patent Cooperation Treaty	INACTIVE	PCT/US03/41291	12/29/2003			Composition And Method Used For Chemical Mechanical Planarization Of Metals
Patent Cooperation Treaty	INACTIVE	PCT/US03/21402	7/10/2003			Composition For Removing Etching Residue and Use Thereof
Patent Cooperation Treaty	INACTIVE	PCT/US2004/016270	5/24/2004			Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
Patent Cooperation Treaty	INACTIVE	PCT/BE01/00219	12/21/2001			Composition Comprising an Oxidizing and Complexing Compound
Patent Cooperation Treaty	INACTIVE	PCT/US02/03608	2/8/2002			Process and Apparatus for Removing Residues From the Microstructure of an Object
Patent Cooperation Treaty	INACTIVE	PCT/BE2004/000095	6/28/2004			Semiconductor Cleaning Solution
Patent Cooperation Treaty	INACTIVE	PCT/US2004/009198	3/26/2004			Electro-Optic Assemblies and Materials for Use Therein
Patent Cooperation Treaty	INACTIVE	PCT/US2007/077840	9/7/2007			Electro-Optic Display and Materials for Use Therein
Patent Cooperation Treaty	INACTIVE	PCT/US2010/020713	1/12/2010			Adhesives and Binders for Electro-Optic Displays
Patent Cooperation Treaty	INACTIVE	PCT/US2007/026215	12/21/2007			Volatile Liquid Copper Precursors for Thin Film Applications
Patent Cooperation Treaty	INACTIVE	PCT/US08/68323	6/26/2008			Electro-Optic Displays, and Materials for Use Therein

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Patent Cooperation Treaty	INACTIVE	PCT/US2009/046108	6/3/2009			Low Temperature Deposition of Silicon-Containing Films
Patent Cooperation Treaty	INACTIVE	PCT/US2009/053250	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
Patent Cooperation Treaty	INACTIVE	PCT/US2007/070721	6/8/2007			High Volume Delivery System for Gallium Trichloride
Patent Cooperation Treaty	INACTIVE	PCT/US2009/065867	11/25/2009			Dielectric Barrier Deposition Using Oxygen Containing Precursor
Patent Cooperation Treaty	INACTIVE	PCT/US10/028377	3/24/2010			Chemical Vapor Deposition Method
Patent Cooperation Treaty	INACTIVE	PCT/US97/12220	7/21/1997			Chemical Mechanical Polishing Composition and Process
Patent Cooperation Treaty	INACTIVE	PCT/US2004/034563	10/21/2004			Abasive-Free Chemical Mechanical Polishing Composition and Polishing Process Containing Same
Patent Cooperation Treaty	INACTIVE	PCT/US02/35388	11/5/2002			Chemical Mechanical Polishing Compositions
Patent Cooperation Treaty	INACTIVE	PCT/US03/04144	2/11/2003			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Patent Cooperation Treaty	INACTIVE	PCT/US2006/042631	11/1/2006			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Patent Cooperation Treaty	INACTIVE	PCT/US2006/011113	3/24/2006			Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
Patent Cooperation Treaty	INACTIVE	PCT/US02/27330	8/28/2002			Compositions for Chemical-Mechanical Planarization of Noble-Metal-Featured Substrates, Associated Methods, and Substrates Produced by Such Methods
Patent Cooperation Treaty	INACTIVE	PCT/US2004/025913	8/12/2004			Periodic Acid Compositionfor Polishing Noble Metal/High K Substrates
Patent Cooperation Treaty	INACTIVE	PCT/US02/39080	12/6/2002			Compositions for Chemical Mechanical Planarization of Copper\n
Patent Cooperation Treaty	INACTIVE	PCT/US02/03453	2/8/2002			Chemical-Mechanical Planarization Using Ozone
Patent Cooperation Treaty	INACTIVE	PCT/US2003/036618	11/13/2003			A Slurry Composition and a Polishing Method Using the Same
Patent Cooperation Treaty	INACTIVE	PCT/JP02/05066	5/24/2002			Cerium Oxide Slurry, and Method of Manufacturing Substrate
Patent Cooperation Treaty	INACTIVE	PCT/US00/11675	5/1/2000			Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Patent Cooperation Treaty	INACTIVE	PCT/US2011/039959	6/10/2011			Complexes of Imidazole Ligands
Patent Cooperation Treaty	INACTIVE	PCT/US2012/034912	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Patent Cooperation Treaty	INACTIVE	PCT/US2003/029183	9/18/2003			Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
Patent Cooperation Treaty	INACTIVE	PCT/US12/40433	6/1/2012			Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Patent Cooperation Treaty	INACTIVE	PCT/US09/45529	5/28/2009			Fixture Drying Apparatus and Method
Patent Cooperation Treaty	INACTIVE	PCT/US13/29900	3/8/2013			Compositions and Methods for Making Silicon Containing Films
Patent Cooperation Treaty	INACTIVE	PCT/US13/29914	3/8/2013			Barrier Materials for Display Devices
Patent Cooperation Treaty	INACTIVE	PCT/US13/69868	11/13/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
Patent Cooperation Treaty	PENDING	PCT/US15/60656	11/13/2015			Improved Valve Block Having Minimal Deadleg
Patent Cooperation Treaty	PENDING	PCT/US15/54698	10/8/2015			Low Pressure Fluctuation Flow Control Apparatus and Method
Patent Cooperation Treaty	PENDING	PCT/US15/57040	10/23/2015			Compositions and Methods Using Same for Deposition of Silicon-Containing Films
Patent Cooperation Treaty	PENDING	PCT/US15/57045	10/23/2015			Compositions and Methods Using Same for Deposition of Silicon-Containing Films
Patent Cooperation Treaty	PENDING	PCT/US15/61307	11/18/2015			Ultrasonic Liquid Level Sensing Systems
Patent Cooperation Treaty	PENDING	PCT/US16/12993	1/12/2016			COMPOSITE ABRASIVE PARTICLES FOR CHEMICAL MECHANICAL PLANARIZATION COMPOSITION AND METHOD OF USE THEREOF
Patent Cooperation Treaty	PENDING	PCT/US2016/016514	2/4/2016			Compositions and Methods Using Same for Carbon Doped Silicon Containing Films
Patent Cooperation Treaty	PENDING	PCT/US2016/021377	3/8/2016			Process For Depositing Porous Organosilicate Glass Films For Use As Resistive Random Access Memory
Patent Cooperation Treaty	PENDING	PCT/US16/25558	4/1/2016			Composition For Treating Surface Of Substrate, Method And Device
Patent Cooperation Treaty	PENDING	PCT/US16/25186	3/31/2016			Cleaning Formulations
Patent Cooperation Treaty	PENDING	PCT/US2016/024703	3/29/2016			Boron-Containing Compounds, Compositions, and Methods for the Deposition of a Boron Containing Films
Patent Cooperation Treaty	PENDING	PCT/US2016/037370	6/14/2016			Halidosilane Compounds and Compositions and Processes for Depositing Silicon-Containing Films Using Same
Patent Cooperation Treaty	PENDING	PCT/US16/45566	8/4/2016			PHOTORESIST CLEANING COMPOSITION USED IN PHOTOLITHOGRAPHY AND A METHOD FOR TREATING SUBSTRATE THEREWITH
Patent Cooperation Treaty	PENDING	PCT/US2016/044472	7/28/2016			COMPOSITIONS AND METHODS FOR DEPOSITING SILICON NITRIDE FILMS
Patent Cooperation Treaty	PENDING	PCT/US2016/050874	9/9/2016			Methods for Depositing a Conformal Metal or Metalloid Silicon Nitride Film and Resultant Films\n
Patent Cooperation Treaty	PENDING	PCT/US2016/055737	10/6/2016			Methods for Depositing a Conformal Metal or Metalloid Silicon Nitride Film
Patent Cooperation Treaty	PENDING	PCT/US2016/067935	12/21/2016			COMPOSITIONS AND METHODS USING SAME FOR DEPOSITION OF SILICON-CONTAINING FILM\n
Philippines	INACTIVE					GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Philippines	PENDING	1-2009-000226	7/14/2009			Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Philippines	PENDING	1-2011-000228	7/5/2011			Method for Wafer Dicing and Composition Useful Thereof
Philippines	DOCKETED					Method for Wafer Dicing and Composition Useful Thereof
Philippines	INACTIVE	1-2011-000380	11/24/2011			Compositions and Methods for Texturing of Silicon Wafers
Philippines	PENDING	1-2013-502153	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Philippines	PENDING	12016000003.0	1/4/2016			Stripping Compositions Having High WN/W Etching Selectivity
Philippines	PENDING	12015000443.0	12/18/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
Philippines	PENDING	12016000004.0	1/4/2016			Etchant Solutions and Method of Use Thereof
Philippines	PENDING	1-2016-000170	5/2/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Philippines	PENDING	1-2016-000125	3/30/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Philippines	PENDING	12016000330.0	9/22/2016			CLEANING FORMULATIONS

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Portugal	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Portugal	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Portugal	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Portugal	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Portugal	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
Russian Federation	INACTIVE	2005129184.0	9/19/2005			Process for the Production of Nitrogen Trifluoride
Singapore	INACTIVE					PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Singapore	INACTIVE	9501285-2	4/8/1993			PROCESS FOR SELECTIVELY DEPOSITING COPPER ALUMINUM ALLOY ONTO A SUBSTRATE
Singapore	INACTIVE					PROCESS FOR SELECTIVELY DEPOSI TING COPPER ALUMINUM ALLOY ONT O A SUBSTRATE
Singapore	INACTIVE					APPARATUS TO CLEAN SOLID SURFACES USING A CRYOGENIC AEROSOL
Singapore	INACTIVE	9592137-5	6/8/1993	28027.0	3/15/1996	ORGANIC CHLORIDES, SHOWING A REDUCED EFFECT UPON THE DESTRUCTION OF THE OZONE LAYER, FOR USE DURING SILICON THERMAL OXIDATION AND FURNACE TUBE CLEAN
Singapore	INACTIVE	574809.0	11/28/1995	9592137-5	3/15/1996	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Singapore	INACTIVE	9500912-2	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Singapore	INACTIVE					GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Singapore	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Singapore	INACTIVE	9500635-9	10/5/1994	82516.0	11/20/2001	INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Singapore	INACTIVE					INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Singapore	INACTIVE	9501354-6	5/11/1994	46145.0	1/25/2000	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Singapore	INACTIVE					PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Singapore	INACTIVE	9600398-3	7/19/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Singapore	INACTIVE					NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Singapore	INACTIVE	9501716-6	11/3/1995	30447.0	10/18/1996	FLUORINE DOPED SILICON OXIDE PROCESS
Singapore	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Singapore	INACTIVE	9502408-9	12/30/1995			DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Singapore	INACTIVE	9610237-1	7/9/1996	67356.0	1/16/2002	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Singapore	INACTIVE	9610231-4	7/9/1996	43382.0	1/16/2002	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Singapore	INACTIVE	9611052-3	11/5/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Singapore	INACTIVE	9901943-2	4/26/1999			RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIES
Singapore	INACTIVE	9802900-2	8/3/1998	75866.0	12/19/2000	ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Singapore	INACTIVE	9703725-3	10/13/1997	50891.0	2/25/2002	FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
Singapore	ISSUED	9803737-7	9/18/1998	66493.0	5/22/2001	SILICON NITRIDE FROM BIS(TERTI ARYBUTYLAMINO)SILANE
Singapore	INACTIVE	9804285-6	10/24/1998	69375.0	2/20/2001	ULTRA HIGH PRESSURE GASES
Singapore	INACTIVE	9906360-4	12/14/1999	78406.0	3/20/2001	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Singapore	INACTIVE	9905069-2	10/8/1999	91836.0	4/29/2005	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Singapore	INACTIVE	9900596-9	2/13/1999	P-70672	4/17/2001	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Singapore	ISSUED	9902836-7	6/2/1999	71928.0	12/10/2001	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Singapore	INACTIVE	200103478-4	6/12/2001	94841.0	6/12/2005	Process and Apparatus for Removing Particles from High Purity Gas Systems
Singapore	INACTIVE	200407846-5	6/12/2001			Process and Apparatus for Removing Particles from High Purity Gas Systems
Singapore	INACTIVE	200104650-7	8/2/2001	99928.0	5/31/2005	Sub-Atmospheric Gas Delivery Method and Apparatus
Singapore	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Singapore	ISSUED	200200126-1	1/9/2002	98468.0	7/30/2004	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Singapore	INACTIVE	20003192-2	12/9/1998			Block Polymer Processing for Mesostructured Inorganic Oxide Materials
Singapore	INACTIVE	200304283-5	7/31/2003			Single Source Mixtures of Metal Siloxides
Singapore	ISSUED	200207501-8	12/12/2002	107629.0	8/31/2005	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Singapore	ISSUED	200403683-6	6/14/2004	117496.0	2/29/2008	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Singapore	INACTIVE	200807432-0	10/7/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Singapore	ISSUED	200300070-0	1/10/2003	115515.0	2/28/2006	Cabinet for Chemical Delivery with Solvent Purging
Singapore	INACTIVE	200405601-6	9/15/2004	110186.0	6/29/2007	Purgeable Container for Low Vapor Pressure Chemicals
Singapore	INACTIVE	200303676-1	5/28/2003	130010.0	5/30/2007	Low Dielectric Materials and Methods for Making Same
Singapore	INACTIVE	200803517-2	3/11/2005	143251.0	11/15/2011	Process Solutions Containing Surfactants
Singapore	INACTIVE	200303511-0	5/30/2003	110057.0	11/30/2006	Low Dielectric Materials and Methods for Making Same
Singapore	INACTIVE	200407219-5	11/24/2004			Method For Etching High Dielectric Constant Materials And For Cleaning Deposition Chambers for High Dielectric Constant Materials
Singapore	ISSUED	200400041-0	1/6/2004	113493.0	6/29/2007	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Singapore	INACTIVE	200402616-7	5/14/2004	137681.0	1/31/2008	Process for CVD of Hf and Zr Containing Oxynitride Films
Singapore	INACTIVE	200404281-8	7/28/2004	108958.0	12/31/2008	Bridged Carbocyclic Compounds and Methods of Making and Using Same

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Singapore	INACTIVE	200403682-8	6/14/2004	117495.0	11/30/2007	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Singapore	INACTIVE	200405525-7	8/13/2004			Method and Vessel for the Delivery of Precursor Materials
Singapore	INACTIVE	200403749-5	6/30/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
Singapore	INACTIVE	200502875-8	5/5/2005			Low Temperature CVD Chamber Cleaning Using Dilute NF3
Singapore	INACTIVE	200407156-9	11/9/2004			Aqueous Polyurethane Dispersion And Method For Making And Using Same
Singapore	INACTIVE	200706343-1	11/9/2004			Aqueous Polyurethane Dispersion And Method For Making And Using Same
Singapore	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
Singapore	ISSUED	200503493-9	6/1/2005	118345.0	11/30/2007	Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
Singapore	INACTIVE	9601911-2	11/30/1994	42993.0	9/28/1998	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Singapore	INACTIVE					Integrated Container Moulding and Filling Facility
Singapore	INACTIVE	9902646-0	12/8/1997	65983.0	8/21/2001	Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
Singapore	ISSUED	200002083-4	10/13/1998	72363.0	12/30/2004	Aqueous Stripping And Cleaning Compositions
Singapore	ISSUED	200003837-2	10/13/1998	74504.0	9/30/2004	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
Singapore	INACTIVE	9903490-2	7/19/1999	85120.0	2/26/2002	Compositon And Method For Selectively Etching A Silicon Nitride Film
Singapore	ISSUED	200005301-7	1/4/2000	76071.0	7/31/2003	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Singapore	INACTIVE	200107152-1	5/23/2000	84973.0	12/31/2003	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Singapore	INACTIVE	200301671.4	9/18/2001	95831.0	5/31/2005	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Singapore	ISSUED	200307822-7	6/17/2002	105603.0	2/28/2006	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Singapore	INACTIVE					Cleaning Compositions And Use Thereof Containing Ammonium Hydroxide And Fluorosurfactant
Singapore	INACTIVE	200303319-8	12/3/2001	97090.0	9/30/2005	Method For Cleaning Etcher Parts
Singapore	ISSUED	200403581-2	1/6/2003	105253.0	2/29/2008	Aqueous Stripping and Cleaning Composition
Singapore	INACTIVE	200303566.4	11/27/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Singapore	INACTIVE	200307603-1	6/4/2002	105602.0	2/28/2006	Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners
Singapore	ISSUED	200501824-7	9/26/2003	110908.0	9/29/2007	Compositions Substrate For Removing Etching Residue And Use Thereof
Singapore	INACTIVE	200407723-6	7/10/2003	109123.0	5/31/2006	Composition For Removing Etching Residue and Use Thereof
Singapore	INACTIVE	200504839-2	7/19/2005			Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Singapore	ISSUED	200716920-4	7/19/2005	136954.0	5/31/2011	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereof
Singapore	ISSUED	200507272-3	5/24/2004	117674.0	11/30/2007	Compositions Suitable for Removing Photoresist Byproducts and Etching Residue and Use Thereof
Singapore	INACTIVE	200507517-1	11/24/2005			Compositions Comprising Tannic Acid as Corrosion Inhibitor
Singapore	INACTIVE	200504898-8	7/19/2005			Method for Enhancing Fluorine Utilization
Singapore	INACTIVE	200402532-6	5/23/2003	128463.0	11/28/2008	Process and Composition for Removing Residues From the Microstructure of an Object
Singapore	INACTIVE	200505955-5	9/15/2005			Silicon Nitride from Aminosilane Using PECVD
Singapore	INACTIVE	200504756-8	6/27/2005			Composition for Stripping and Cleaning and Use Thereof
Singapore	INACTIVE	200717322-2	6/27/2005			Composition for Stripping and Cleaning and Use Thereof
Singapore	INACTIVE	201203198-5	6/27/2005	181297.0	11/4/2015	Composition for Stripping and Cleaning and Use Thereof
Singapore	INACTIVE	200507512-2	11/24/2005	122930.0	6/30/2008	Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
Singapore	ISSUED	200506247-6	9/26/2005	121180.0	7/31/2008	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Singapore	ISSUED	200505823-5	3/26/2004	115050.0	10/31/2007	Electro-Optic Assemblies and Materials for Use Therein
Singapore	INACTIVE	200603146-2	5/10/2006	127810.0	7/31/2008	Method and Process for Reactive Gas Cleaning of Tool Parts
Singapore	INACTIVE	200604530-6	7/3/2006	128671.0	11/28/2008	Free Radical Initiator in Remote Plasma Chamber Clean
Singapore	INACTIVE	200606994-2	10/7/2006			Aqueous Cleaning Composition and Method for Using Same
Singapore	INACTIVE	200716919-6	10/7/2006			Aqueous Cleaning Composition and Method for Using Same
Singapore	INACTIVE	200604294-9	6/21/2006	128635.0	11/28/2008	Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Singapore	ISSUED	200606995-9	10/7/2006	131868.0	4/30/2009	Aqueous Cleaning Composition for Removing Residues and Method Using Same
Singapore	INACTIVE	200607954-5	11/16/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
Singapore	ISSUED	200700158-9	1/9/2007	134245.0	6/30/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Singapore	INACTIVE	200700503-6	1/22/2007			Cleaning Formulations
Singapore	INACTIVE	200608741-5	12/18/2006			Formulation for Removal of Photoresist, Etch Residue and Barc
Singapore	ISSUED	200705204-6	7/12/2007	143115.0	5/31/2010	Formulation for Removal of Photoresist, Etch Residue and Barc
Singapore	INACTIVE	200701297-4	2/22/2007	135142.0	7/31/2009	Top Coat for Lithography Processes
Singapore	ISSUED	200702793-1	4/13/2007	136903.0	7/30/2010	Materials and Methods of Forming Controlled Void
Singapore	INACTIVE	200704190-8	6/8/2007			High Flow GaCl3 Delivery
Singapore	INACTIVE	200703965-4	6/1/2007	137832.0	4/15/2010	Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
Singapore	INACTIVE	200717003-8	10/12/2007			Solid Source Container With Inlet Plenum
Singapore	INACTIVE	200718612-5	12/12/2007			Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Singapore	INACTIVE	200718464-1	12/4/2007	144052.0	9/30/2010	Method and Slurry for Tuning Low-K Versus Copper Removal Rates During Chemical Mechanical Polishing
Singapore	INACTIVE	200718393-2	12/6/2007			Compositions for Chemical Mechanical Planarization of Copper

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Singapore	INACTIVE	201003503-8	12/6/2007			Compositions for Chemical Mechanical Planarization of Copper
Singapore	ISSUED	200808821-3	11/19/2008	153024.0	7/15/2011	Vessels With Personnel Access Provisions
Singapore	ISSUED	200905570-8	11/19/2008	155239.0	6/14/2013	Vessels With Personnel Access Provisions
Singapore	INACTIVE	201302650-5	11/19/2008			Vessels With Personnel Access Provisions
Singapore	ISSUED	200901834-2	3/4/2009	155159.0	1/13/2012	Stripper for Dry Film Removal
Singapore	INACTIVE	200901759-1	3/13/2009			Stripper for Copper/Low K BEOL Clean
Singapore	ISSUED	200904773-9	7/14/2009	158816.0	2/29/2012	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Singapore	INACTIVE	UNKNOWN	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
Singapore	ISSUED	201005590-3	7/30/2010	168509.0	2/28/2013	Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
Singapore	ISSUED	200908163-9	12/8/2009	162680.0	6/29/2012	Wet Clean Compositions for CoWP and Porous Dielectrics
Singapore	INACTIVE	9800979-8	7/21/1997	49436.0	4/17/2001	Chemical Mechanical Polishing Composition and Process
Singapore	ISSUED	201004639-9	6/28/2010	167776.0	2/15/2013	Formulations and Method for Post-CMP Cleaning
Singapore	ISSUED	201105880-7	8/16/2011	178684.0	7/21/2014	Electrodes for Electrolytic Germane Process
Singapore	INACTIVE	200305208-1	2/8/2002	99079.0	9/30/2005	Chemical-Mechanical Planarization Using Ozone
Singapore	INACTIVE	200300691-3	5/24/2002			Cerium Oxide Slurry, and Method of Manufacturing Substrate
Singapore	INACTIVE	200107000-2	5/1/2000	84855.0	12/31/2003	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Singapore	ISSUED	201100663-2	1/28/2011	173297.0	7/31/2013	Method and Equipment for Selectively Collecting Process Effluent
Singapore	ISSUED	201104967-3	7/7/2011	177828.0	1/15/2014	Method for Wafer Dicing and Composition Useful Thereof
Singapore	ISSUED	201201862-8	3/14/2012	184669.0	4/30/2015	Cleaning Formulations and Method of Using the Cleaning Formulations
Singapore	INACTIVE	201108685-7	11/23/2011	181267.0	6/16/2014	Compositions and Methods for Texturing of Silicon Wafers
Singapore	ISSUED	201307741-7	4/25/2012	194523.0	5/12/2016	Cleaning Lead-Frames to Improve Wirebonding Process
Singapore	ISSUED	200501691-0	9/18/2003	116747.0	10/31/2006	Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
Singapore	ISSUED	201206540-5	9/4/2012	188730.0	7/17/2014	Precursors for Photovoltaic Passivation
Singapore	ISSUED	201206971-2	9/19/2012	188760.0	3/18/2015	Oxygen Containing Precursors for Photovoltaic Passivation
Singapore	INACTIVE	201008695-7	5/28/2009			Fixture Drying Apparatus and Method
Singapore	ISSUED	201303954-0	5/28/2009	191596.0	11/9/2016	Fixture Drying Apparatus and Method
Singapore	ISSUED	2000037838.0	1/8/1999	74479.0	9/28/2007	Container Washing Apparatus
Singapore	ISSUED	201307692-2	10/16/2013	201307692-2	7/21/2015	Cleaning Formulations
Singapore	ISSUED	201307478-6	10/4/2013	2013074786.0	5/20/2016	Stripping and Cleaning Compositions for Removal of Thick Film Resist
Singapore	INACTIVE	10201400557W	3/11/2014			Chemical Mechanical Planarization for Tungsten-Containing Substrates
Singapore	PENDING	11201503698R	11/13/2013			SLURRY AND/OR CHEMICAL BLEND SUPPLY APPARATUSES
Singapore	INACTIVE	10201401574V	4/16/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
Singapore	PENDING	10201406321Q	10/3/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereof
Singapore	PENDING	10201505482W	7/13/2015			Titanium Nitride Hard Mask and Etch Residue Remova
Singapore	PENDING	10201408200Q	12/9/2014			Composition for Titanium Nitride Hard Mask and Etch Residue Remova
Singapore	PENDING	10201406259Q	10/1/2014			System and Method for Xenon Recovery
Singapore	PENDING	10201501213W	2/17/2015			Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluoride
Singapore	PENDING	10201408623T	12/23/2014			System and Method for Gas Recovery and Reuse
Singapore	PENDING	10201506348Y	8/13/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
Singapore	ISSUED	10201502280P	3/24/2015	10201502280P	6/28/2016	Compositions and Methods for the Deposition of Silicon Oxide Films
Singapore	PENDING	10201602254P	3/22/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\n
Singapore	ISSUED	10201505491U	7/14/2015	10201505491U	2/26/2016	Copper Corrosion Inhibition System
Singapore	PENDING	10201504707W	6/15/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
Singapore	PENDING	UNKNOWN	7/23/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
Singapore	PENDING	10201509047X	11/3/2015			Silicon-Based Films and Methods of Forming the Same
Singapore	PENDING	10201510714X	12/29/2015			Stripping Compositions Having High WN/W Etching Selectivity
Singapore	PENDING	10201510541P	12/22/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivation
Singapore	PENDING	10201600929T	2/5/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
Singapore	PENDING	10201510712P	12/29/2015			Etchant Solutions and Method of Use Thereof
Singapore	PENDING	10201601102X	2/15/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
Singapore	PENDING	10201600366W	1/18/2016			Method and Precursors for Manufacturing 3D Devices
Singapore	PENDING	10201603502V	5/3/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Singapore	PENDING	10201602520U	3/30/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Singapore	PENDING	10201602945X	4/14/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
Singapore	PENDING	10201603056Q	4/18/2016			High Purity Tungsten Hexachloride and Method for Making Same
Singapore	PENDING	10201600570T	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
Singapore	PENDING	10201604531V	6/3/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n

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Singapore	PENDING	10201607915Y	9/22/2016			CLEANING FORMULATIONS
Singapore	PENDING	10201607960V	9/23/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
Singapore	PENDING	10201609929Q	11/25/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
Singapore	PENDING	10201700452R	1/19/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
South Africa	INACTIVE	78/2210	4/18/1978	78/2210	8/1/1979	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
South Africa	INACTIVE	79/1654	4/6/1979	79/1654	4/30/1980	PROCESS FOR THE REMOVAL OF DIN ITROGEN DIFLUORIDE FROM NITROG EN TRIFLUORIDE
South Africa	INACTIVE	79/2837	6/8/1979	79/2837	7/30/1980	PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
South Africa	INACTIVE	86/6245	8/19/1986	86/6245	4/27/1988	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
South Africa	INACTIVE	88/7144	9/23/1988	88/7144	5/30/1990	DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
South Africa	INACTIVE	88/1953	3/18/1988	88/1953	11/29/1989	CONCENTRATED STABLE FLUOROCHEM ICAL AQUEOUS EMULSIONS
South Africa	INACTIVE	88/7143	9/23/1988	88/7143	5/30/1990	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
South Africa	INACTIVE	88/1952	3/18/1988	88/1952	11/29/1989	STABLE FLUOROCARBON AQUEOUS EM ULSIONS
South Africa	ISSUED	97/0691	1/28/1997	97/0691	9/30/1998	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
South Africa	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
South Africa	ISSUED	2001/3625	5/4/2001	2001/3625	1/29/2003	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillatior
South Africa	INACTIVE	2001/3626	5/4/2001	2001/3626	1/29/2003	Method and Equipment for Concentrating Fluorine Compounds
South Africa	INACTIVE	2003/2246	3/20/2003	2003/2246	11/24/2005	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
South Africa	INACTIVE					Method for Nitrogen Trifluoride Productior
South Africa	INACTIVE	2003/8992	11/19/2003	2003/8992	7/27/2005	Method for Nitrogen Trifluoride Productior
South Africa	ISSUED	2005/0617	1/21/2005	2005/0617	12/27/2006	Process For The Purification of NF3
South Africa	INACTIVE	2004-5773	7/20/2004			Bridged Carbocyclic Compounds and Methods of Making and Using Same
South Africa	INACTIVE	2005/07484	9/16/2005	2005/07484	5/30/2007	Process for the Production of Nitrogen Trifluoride
South Africa	INACTIVE	2003/4870	11/27/2001	2003/4870	8/25/2004	Process For Producing Ammonia With Ultra-Low Metals Content
South Africa	ISSUED	2011/02758	4/13/2011	2011/02758	12/27/2012	Recovery of NF3 from Adsorption Operation
South Africa	INACTIVE	2013/04564	6/20/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
South Africa	INACTIVE	2013/07805	10/18/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorin
South Africa	PENDING	2015/01292	2/26/2015			Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluorid
South Africa	PENDING	2015/06115	8/21/2015			Purification of Nitrogen Trifluoride by Pressure Swing Adsorptior
Spain	INACTIVE	8601641.0	9/4/1986	8601641.0	6/15/1989	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Spain	INACTIVE	88115338.1	9/19/1988			DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Spain	INACTIVE	8801768.0	5/31/1988	1006678.0	4/26/1989	SEMICONDUCTOR DOPANT VAPORIZER
Spain	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Spain	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Spain	INACTIVE	89121546.9	11/21/1989			PROCESS FOR THE PRODUCTION OF HIGH PURITY ZIRCONIUM TETRAFLU ORIDE AND OTHER FLUORIDES
Spain	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Spain	INACTIVE	91119282.1	11/12/1991			DEPOSITION OF TUNGSTEN FILMS F ROM MIXTURES OF TUNGSTEN HEXAF LUORIDE, ORGANOHYDROSILANES AN D HYDROGEN
Spain	INACTIVE	91113871.7	8/19/1991	473040.0	10/18/1995	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
Spain	INACTIVE	92115830.9	9/16/1992			DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW A S 100 DEG.C. BY LPCVD USING OR GANODISILANE SOURCES
Spain	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Spain	INACTIVE	93309732.1	12/3/1993	600752.0	3/27/1996	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINER S
Spain	INACTIVE	93109130.0	6/7/1993	573943.0	10/9/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Spain	INACTIVE	94105564.2	4/11/1994	620291.0	9/4/1996	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Spain	INACTIVE	97307831.4	10/3/1997			REGENERATION OF ADSORBENT BEDS
Spain	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Spain	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Spain	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Spain	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Spain	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Spain	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Spain	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Spain	INACTIVE	97101356.0	1/29/1997	787684.0	12/5/2001	PROCESS FOR NITROGEN TRIFLUORIDE SYNTHESIS
Spain	INACTIVE	96306186.6	8/23/1996			PRODUCTION OF ULTRA-HIGH PURITY OXYGEN FROM CRYOGENIC AIR SEPARATION PLANTS
Spain	INACTIVE	96304229.6	6/6/1996			ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Spain	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Spain	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED

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Spain	INACTIVE	98118306.4	9/25/1998	908448.0		THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Spain	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Spain	ISSUED	98120605.5	10/30/1998	914863.0	4/16/2003	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Spain	INACTIVE	99109395.6	6/2/1999			GAS PHASE REMOVAL OF SIO2/METALS FROM SILICON
Spain	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Spain	INACTIVE	99124854.3	12/15/1999	2306496.0	5/28/2008	Apparatus and Method for Detecting Particles in Reactive and Toxic Gase
Spain	INACTIVE	99109396.4	6/2/1999	964441.0		DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Spain	INACTIVE	309588.2	10/31/2000	2278581.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gase
Spain	INACTIVE	1110115.1	5/3/2001	1153884.0	2/9/2005	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillatio
Spain	INACTIVE	94850217.4	11/30/1994	656405.0	7/14/2004	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamin
Spain	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Spain	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Device
Sweden	INACTIVE	7808299-7	8/1/1978	7808299-7	3/20/1986	IMPROVEMENTS IN AND RELATING T O PIGMENTED POLYMERIC MATERIAL
Sweden	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Sweden	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Sweden	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Sweden	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Sweden	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Sweden	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Sweden	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Sweden	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Sweden	INACTIVE					GAS PISTON LIQUID FLOW CONTROLLER
Sweden	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Sweden	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Sweden	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Sweden	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Sweden	INACTIVE	94105564.2	4/11/1994			HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
Sweden	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Sweden	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Sweden	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METAL
Sweden	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Sweden	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METAL
Sweden	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENT
Sweden	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENT
Sweden	INACTIVE					PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
Sweden	INACTIVE	98115327.3	8/14/1998	898999.0		ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
Sweden	INACTIVE	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Sweden	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Sweden	INACTIVE	98120605.5	10/30/1998			ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Sweden	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Sweden	INACTIVE	309588.2	10/31/2000	1097960.0	2/28/2007	Process for Improved Surface Properties Incorporating Compressive Heating of Reactive Gase
Sweden	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Switzerland	INACTIVE	85902834.2	5/17/1985	221895.0	10/11/1989	SEPTUM CLOSURE
Switzerland	INACTIVE	85903147.8	6/21/1985			CHEMICAL REFILL SYSTEM
Switzerland	INACTIVE	85902838.3	5/17/1985			ION BEAM INPLANT SYSTEM
Switzerland	INACTIVE	85902840.9	5/17/1985			METALIZED VALVE
Switzerland	INACTIVE	85902839.1	5/17/1985			DISPOSABLE CHEMICAL CONTAINER
Switzerland	INACTIVE	85902841.7	5/17/1985			ION IMPLANT USING TETRAFLUOROB ORATES
Switzerland	INACTIVE	85904752.4	9/16/1985			VACUUM VAPOR TRANSPORT CONTROL
Switzerland	INACTIVE	86902697.1	4/9/1986			SEMICONDUCTOR DOPANT VAPORIZER
Switzerland	INACTIVE	88105561.0	4/7/1988			METHOD OF FORMING SILICON DIOX IDE GLASS FILMS
Switzerland	INACTIVE	89120616.1	11/7/1989			VOLATILE FLUORINATED BETA-KETO IMINES AND ASSOCIATED METAL CO MPLEXE
Switzerland	INACTIVE	90116701.5	8/30/1990			PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Switzerland	INACTIVE	91103405.6	3/6/1991			FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Switzerland	INACTIVE	91308500.7	9/18/1991	478210.0	11/15/1995	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Switzerland	INACTIVE	91121887.3	12/20/1991	493754.0	7/26/1995	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
Switzerland	INACTIVE	92304012.5	5/5/1992			METHOD AND APPARATUS FOR TESTI NG CONTAINERS FOR CORROSION
Switzerland	INACTIVE	93108567.4	5/27/1993			PROCESS FOR SELECTIVELY ORTHO- FLUORINATING SUBSTITUTED AROMA TIC COMPOUNDS
Switzerland	INACTIVE	93109130.0	6/7/1993	573943.0	10/9/1996	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Switzerland	INACTIVE	93118915.3	11/24/1993			GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Switzerland	INACTIVE	94308967.2	12/2/1994	657457.0	7/5/2000	NOVEL FLUORINATED DIAZABICYCLO ALKANE DERIVATIVES
Switzerland	INACTIVE	92923503.4	11/18/1992			PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Switzerland	INACTIVE	92923506.7	11/18/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Switzerland	INACTIVE	92923392.2	11/18/1992			PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Switzerland	INACTIVE	PCT/EP92/01744	7/28/1992			METHOD OF DEPOSITION OF METAL
Switzerland	INACTIVE	PCT/EP93/01770	7/1/1993			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
Switzerland	INACTIVE					ORGANO(N-FLUOROXY)AMMONIUM SAL TS AND THEIR USE A FLUORINATIN G AGENTS
Switzerland	INACTIVE					ORGANO(N-SUBSTITUTED)AMMONIUM SALTS AND THEIR USE AS FLUORIN ATING AGENTS
Switzerland	INACTIVE	98118306.4	9/25/1998	908448.0	11/14/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
Switzerland	INACTIVE	98118025.0	9/23/1998	905109.0		FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
Switzerland	INACTIVE	99101503.3	1/27/1999	933364.0	5/2/2002	IMIDAZOLATE SULFURYL DIFLUORIDES
Switzerland	INACTIVE	309605.4	10/31/2000	1095934.0	3/3/2004	Improved Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
Switzerland	INACTIVE	309606.2	10/31/2000	1095928.0	2/4/2004	Direct Fluorination Process For Preparing High Purity 2-Fluoro-1,3-dicarbonyl Compounds Using Oxygen as a Radical Scavange
Switzerland	INACTIVE	96106847.5	4/30/1996	741080.0	3/10/1999	Integrated Container Moulding and Filling Facility
Switzerland	INACTIVE	98922472.0	5/21/1998	1017621.0	7/30/2003	
Switzerland	ISSUED	2742116.3	6/17/2002	1412453.0	6/8/2016	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Switzerland	ISSUED	10176489.2	9/13/2010	2298955.0	10/15/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Taiwan	INACTIVE	75104553.0	9/27/1986	27763.0	3/18/1988	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Taiwan	INACTIVE	77106579.0	9/23/1988	39665.0	10/12/1990	DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
Taiwan	INACTIVE	77106580.0	9/23/1988	45571.0	7/5/1991	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Taiwan	INACTIVE	79107357.0	9/3/1990	50178.0	12/6/1991	PROCESS FOR SIZING PARTICLES U SING CONDENSATION NUCLEUS COUN TING
Taiwan	INACTIVE	80104251.0	5/30/1991	55972.0	8/7/1992	SURFACE CLEANING USING A CRYOG ENIC AEROSOL
Taiwan	INACTIVE	82102531.0	4/3/1993			APPARATUS TO CLEAN SOLID SURFA CES USING A CRYOGENIC AEROSOL
Taiwan	INACTIVE	82216506.0	11/11/1993	UM93316	1/17/1995	APPARATUS TO CLEAN SOLID SURFA CES USING A CRYOGENIC AEROSOL
Taiwan	INACTIVE	82104244.0	5/28/1993	66445.0	9/27/1994	LOW OZONE DEPLETING ORGANIC CH LORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CL EANING
Taiwan	INACTIVE	82102361.0	3/30/1993	85682.0	4/11/1997	METHOD FOR THE MANUFACTURE OF LARGE SINGLE CRYSTALS
Taiwan	INACTIVE	82108371.0	10/8/1993	76696.0	1/21/1996	GAS PHASE CLEANING AGENTS FOR REMOVING METAL-CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
Taiwan	INACTIVE					SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
Taiwan	INACTIVE	83105736.0	6/23/1994			INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Taiwan	INACTIVE	84210957.0	6/23/1994	109696.0	6/8/1996	REFLOW SOLDER FURNACE APPARATUS
Taiwan	INACTIVE	82109694.0	11/18/1993	69856.0	5/29/1995	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
Taiwan	INACTIVE	86114539.0	10/4/1997	101498.0	2/21/1999	REGENERATION OF ADSORBENT BEDS
Taiwan	INACTIVE	83104740.0	5/25/1994	70279.0	2/21/1995	NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
Taiwan	INACTIVE	81108584.0	10/28/1992	64449.0	4/21/1994	PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
Taiwan	INACTIVE	81108601.0	10/28/1992			PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
Taiwan	INACTIVE	81108600.0	10/28/1992	66012.0	8/30/1994	PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
Taiwan	INACTIVE	81105591.0	7/15/1992	67221.0	12/5/1994	METHOD OF DEPOSITION OF METAL
Taiwan	INACTIVE	84111893.0	11/9/1995	81355.0	9/11/1996	LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
Taiwan	INACTIVE	84109332.0	9/6/1995	82702.0	11/11/1996	FLUORINE DOPED SILICON OXIDE P ROCESS
Taiwan	INACTIVE					PROCESS FOR USING CHEMICAL VAP OR CODEPOSITION OF COPPER AND ALUMINUM ALLOYS
Taiwan	INACTIVE	85100659.0	1/20/1996	94596.0	5/21/1998	DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Taiwan	INACTIVE	85107689.0	6/14/1996			METHOD FOR THE GROWTH OF INDUS TRIAL CRYSTALS
Taiwan	INACTIVE	85106095.0	5/23/1996	96389.0	8/11/1998	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Taiwan	INACTIVE	85105540.0	5/10/1996	97554.0	10/11/1998	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
Taiwan	INACTIVE	85105455.0	5/8/1996	95381.0	6/21/1998	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
Taiwan	INACTIVE	85107264.0	6/17/1996	115463.0	9/28/2000	PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Taiwan	INACTIVE	85114395.0	11/22/1996			PLASMA ETCH WITH TRIFLUOROACETIC ACID AND DERIVATIVES
Taiwan	INACTIVE	87107623.0	5/16/1998	226332.0	1/11/2005	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
Taiwan	INACTIVE					HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
Taiwan	INACTIVE	88106671.0	4/26/1999	154432.0	8/16/2002	RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS THAT UTILIZES MEMBRANE AND ADSORPTION IN SERIES
Taiwan	INACTIVE	88106670.0	4/26/1999	135493.0	10/27/2001	RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS WITH RECYCLE OF VACUUM PUMP DILUENT

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Taiwan	INACTIVE	87113393.0	8/14/1998			ABATEMENT OF NF3 USING SMALL P ARTICLE FLUIDIZED BED
Taiwan	INACTIVE	86115994.0	10/28/1997	98796.0	11/11/1998	FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
Taiwan	ISSUED	87118040.0	10/30/1998	110459.0	12/11/1999	ADSORBENT AND METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
Taiwan	ISSUED	87116112.0	9/28/1998	165907.0	3/14/2003	SILICON NITRIDE FROM BIS(TERTI ARYBUTYLAMINO)SILANE
Taiwan	INACTIVE	88114304.0	8/20/1999	114092.0	4/21/2000	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
Taiwan	INACTIVE	89116680.0	8/17/2000	191247.0	11/21/2003	STORAGE AND SAFE DELIVERY OF HAZARDOUS SPECIALTY GASES BY ACID/BASE REACTIONS WITH IONIC POLYMERS
Taiwan	ISSUED	88120729.0	11/26/1999	125146.0	12/1/2000	ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
Taiwan	INACTIVE	89108566.0	5/4/2000			METHOD FOR ANISOTROPIC ETCHING OF COPPER THIN FILMS WITH A A BETA-DIKETONE, A BETA-KETOIMINE, OR A BREAKDOWN PRODUCT THEREOF
Taiwan	INACTIVE	88122177.0	12/16/1999	232928.0	5/21/2005	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
Taiwan	INACTIVE	88117702.0	10/13/1999	180102.0	10/20/2003	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
Taiwan	INACTIVE	88102497.0	2/20/1999	173317.0	7/4/2003	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
Taiwan	INACTIVE	88111312.0	7/2/1999	125539.0	1/11/2001	CHEMICAL GENERATOR WITH CONTROLLED MIXING AND CONCENTRATION FEEDBACK AND ADJUSTMENT
Taiwan	ISSUED	88109373.0	6/5/1999	161180.0	12/5/2002	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE
Taiwan	INACTIVE	88121391.0	12/7/1999	151063.0	6/18/2002	REGENERATION OF METAL CVD PRECURSORS
Taiwan	INACTIVE	89102878.0	2/18/2000	151794.0	3/1/2002	Synthesis of metal oxide and oxynitride
Taiwan	INACTIVE	88120192.0	11/18/1999			NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
Taiwan	INACTIVE	87115891.0	9/25/1998	133482.0	5/16/2001	ORDERED MESOPOROUS THIN FILMS
Taiwan	INACTIVE	89111354.0	6/9/2000	229675.0	3/21/2005	Production of Metal-Ligand Complexes
Taiwan	INACTIVE	89113151.0	7/3/2000	147481.0	4/18/2002	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Taiwan	INACTIVE	90108201.0	4/4/2001			Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
Taiwan	ISSUED	89121125.0	10/9/2000	225467.0	12/21/2004	Vacuum Preparation of Hydrogen Halide Drier
Taiwan	ISSUED	89121126.0	10/9/2000	130382.0	4/11/2001	Chemical Delivery System With Ultrasonic Fluid Sensors
Taiwan	INACTIVE	89120962.0	10/6/2000	161849.0	12/16/2002	Purification, Analysis and Deposition of Titanium Amides
Taiwan	INACTIVE	90100045.0	1/2/2001	195500.0	2/1/2004	Use of Alkylated Polyamines in Photoresist Developers
Taiwan	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Taiwan	INACTIVE					Mesoporous Films Having Reduced Dielectric Constants
Taiwan	INACTIVE	89125832.0	12/4/2000	199064.0	4/1/2004	Mesoporous Films Having Reduced Dielectric Constants
Taiwan	ISSUED	91103366.0	2/25/2002	180191.0	10/20/2003	High Purity Chemical Container with External Level Sensor and Liquid Sump
Taiwan	INACTIVE	90115177.0	6/21/2001	167634.0	4/7/2003	Process and Apparatus for Removing Particles from High Purity Gas Systems
Taiwan	INACTIVE	90108200.0	4/4/2001	242055.0	10/21/2005	Process for Metal Metalloid Oxides and Nitrides with Compositional Gradients
Taiwan	INACTIVE	90107555.0	3/29/2001	157699.0	6/11/2002	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
Taiwan	INACTIVE	90119819.0	8/13/2001	250258.0	3/1/2006	Sub-Atmospheric Gas Delivery Method and Apparatus
Taiwan	ISSUED	90114765.0	6/18/2001	160226.0	11/19/2002	Multiple Contents Container Assembly for Ultrapure Solvent Purging
Taiwan	INACTIVE	92100439.0	1/9/2003	299739.0	8/11/2008	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
Taiwan	INACTIVE					Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Taiwan	ISSUED	91100352.0	1/11/2002	235428.0	7/1/2005	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
Taiwan	ISSUED	90122400.0	9/10/2001	157044.0	6/1/2002	Chemical Delivery System with Spill Containment Door
Taiwan	ISSUED	91122071.0	9/25/2002	192312.0	12/11/2003	High Flow Rate Transportable UHP Gas Supply System
Taiwan	ISSUED	92100636.0	1/13/2003	226875.0	1/21/2005	Purification of Group IVb Metal Halides
Taiwan	INACTIVE	91135612.0	12/9/2002	220445.0	8/21/2004	Vapor Delivery From a Low Vapor Pressure Liquefied Compressed Gas
Taiwan	INACTIVE	92123835.0	8/28/2003			Single Source Mixtures of Metal Siloxides
Taiwan	INACTIVE	91123359.0	10/9/2002	257419.0	7/1/2006	Polishing Composition and Method for Chemical-Mechanical Planarization
Taiwan	ISSUED	93117687.0	6/18/2004	247755.0	1/21/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Taiwan	INACTIVE	97139269.0	10/13/2008			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
Taiwan	ISSUED	92100635.0	1/13/2003	249514.0	2/21/2006	Purification of Hexafluoro-1,3-butandiene
Taiwan	INACTIVE	92106110.0	3/19/2003	205933.0	6/21/2004	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluorid
Taiwan	ISSUED	92105527.0	3/13/2003	220444.0	8/21/2004	Stationary of Portable Bulk Containers and Method for Maximizing the Amount of Product in a Containe
Taiwan	ISSUED	92105526.0	3/13/2003	194275.0	1/11/2004	Transportation and Storage of Ultra-High Purity Products
Taiwan	ISSUED	93129850.0	10/1/2004	278577.0	4/11/2007	System for the Transportation and Storage of Ultra-High Purity Product and Transportation Method Thereo
Taiwan	ISSUED	92100438.0	1/9/2003	190294.0	11/11/2003	Cabinet for Chemical Delivery with Solvent Purge
Taiwan	INACTIVE	92118246.0	7/3/2003	240646.0	10/1/2005	Adsorbent for Water Removal from Ammonia
Taiwan	INACTIVE	92105964.0	3/18/2003	247737.0	1/21/2006	Sulfurpentafluoride Compounds and Methods for Making and Using Same
Taiwan	ISSUED	92113641.0	5/20/2003	198972.0	3/21/2004	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
Taiwan	ISSUED	93128626.0	9/21/2004	257461.0	7/1/2006	Purgeable Container for Low Vapor Pressure Chemicals
Taiwan	ISSUED	92108578.0	4/14/2003	250222.0	3/1/2006	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Taiwan	ISSUED	98114769.0	5/4/2009	397606.0	6/1/2013	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
Taiwan	INACTIVE	92114847.0	5/30/2003			Low Dielectric Materials and Methods for Making Same

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Taiwan	INACTIVE	92114842.0	5/30/2003	265531.0	11/1/2006	Low Dielectric Materials and Methods for Making Same
Taiwan	INACTIVE	95102894.0	5/30/2003	303834.0	12/1/2008	Low Dielectric Materials and Methods for Making Same
Taiwan	INACTIVE					Processing of Semiconductor Components with Dense Processing Fluids and Ultrasonic Energy
Taiwan	INACTIVE	93135906.0	11/22/2004	267898.0	12/1/2006	Method For Etching High Dielectric Constant Materials And For Cleaning Deposition Chambers for High Dielectric Constant Materials
Taiwan	INACTIVE					Method for Nitrogen Trifluoride Production
Taiwan	INACTIVE	92132340.0	11/18/2003	230686.0	4/11/2005	Method for Nitrogen Trifluoride Production
Taiwan	INACTIVE	93110177.0	4/13/2004	I247627	1/21/2006	Reactive Liquid Based Gas Storage and Delivery Systems
Taiwan	INACTIVE	93101798.0	1/27/2004	230702.0	4/11/2005	Process for Purifying Fluoroxy Compounds
Taiwan	INACTIVE					Non-Thermal Process for Forming Porous Low Dielectric Constant Films
Taiwan	ISSUED	92131720.0	11/12/2003	306125.0	2/11/2009	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
Taiwan	ISSUED	93100625.0	1/9/2004	260326.0	8/21/2006	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Taiwan	ISSUED	93100625.0	1/9/2004	260326.0	8/21/2006	Process for the Production and Purification of Bis(tertiary-butylamino)silane
Taiwan	ISSUED	93105331.0	3/1/2004	240959.0	10/1/2005	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
Taiwan	INACTIVE	93137670.0	12/6/2004	312292.0	7/21/2009	Purification Of Hydride Gases
Taiwan	INACTIVE	93109396.0	4/5/2004	270406.0	1/11/2007	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
Taiwan	INACTIVE	93135311.0	11/17/2004	297324.0	6/1/2008	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
Taiwan	INACTIVE	93113990.0	5/18/2004	251620.0	3/21/2006	Process for CVD of Hf and Zr Containing Oxynitride Films
Taiwan	ISSUED	94101466.0	1/18/2005	265141.0	11/1/2006	Process For The Purification of NF3
Taiwan	INACTIVE	93114638.0	5/24/2004	250221.0	3/1/2006	Mechanical Enhancer Additives for Low Dielectric Films
Taiwan	INACTIVE	93131394.0	10/15/2004	324178.0	5/1/2010	Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
Taiwan	INACTIVE	97136149.0	10/15/2004	391484.0	4/1/2013	Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
Taiwan	INACTIVE	93123119.0	8/2/2004			Processing of Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
Taiwan	INACTIVE	93123123.0	8/2/2004	302225.0	10/21/2008	Bridged Carbocyclic Compounds and Methods of Making and Using Same
Taiwan	ISSUED	93117688.0	6/18/2004	244457.0	12/1/2005	HIGH PURITY CHEMICAL CONTAINER WITH DIPTUBE AND LEVEL SENSOR TERMINATING IN LOWEST MOST POINT OF CONCAVE FLOOR
Taiwan	ISSUED	93124581.0	8/16/2004	257436.0	7/1/2006	Method and Vessel for the Delivery of Precursor Materials
Taiwan	INACTIVE	93120823.0	7/12/2004			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
Taiwan	ISSUED	93137666.0	12/6/2004	265149.0	11/1/2006	Process For Removing Water From Gaseous Substance
Taiwan	INACTIVE	94113719.0	4/28/2005	263255.0	10/1/2006	Method for Removing a Substance From a Substrate Using Electron Attachment
Taiwan	INACTIVE	94119390.0	6/10/2005	290998.0	12/11/2007	Liquid Media Containing Lewis Acidic Reactive Compounds for Storage and Delivery of Lewis Basic Gases
Taiwan	INACTIVE	93130137.0	10/5/2004	279434.0	4/21/2007	Tunable Composition and Method for Chemical-Mechanical Planarization with Aspartic Acid/Tolyltriazole
Taiwan	INACTIVE	93130132.0	10/5/2004	247796.0	1/21/2006	Chemical-Mechanical Planarization Composition Having PVNO and Associated Method for Use
Taiwan	ISSUED	93135313.0	11/17/2004	311997.0	7/11/2009	Aqueous Polyurethane Dispersion And Method For Making And Using Same
Taiwan	INACTIVE	94105085.0	2/21/2005	246944.0	1/11/2006	Transmission of Ultrasonic Energy Into Pressurized Fluids
Taiwan	INACTIVE	93130134.0	10/5/2004	286157.0	9/1/2007	Bicene/Tricine Containing Composition and Method for Chemical-Mechanical Planarization
Taiwan	INACTIVE	94106092.0	3/1/2005	275106.0	3/1/2007	Compositions for Preparing Low Dielectric Materials Containing Solvents
Taiwan	INACTIVE	94101465.0	1/18/2005	296268.0	5/1/2008	Process For Producing 1,1-Difluorovinyl Cycloaliphatic Compounds
Taiwan	INACTIVE	94122733.0	7/5/2005	294504.0	3/11/2008	Storage and Delivery Systems for Gases Held in Liquid Medium
Taiwan	INACTIVE	97116002.0	4/30/2008	356140.0	1/11/2012	Wick Systems for Complexed Gas Technology
Taiwan	INACTIVE	94101467.0	1/18/2005	248126.0	1/21/2006	Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
Taiwan	ISSUED	94132401.0	9/20/2005	290731.0	12/1/2007	Ionic Liquid Based Mixtures for Gas Storage and Delivery
Taiwan	INACTIVE					Method for Removal of Flux and Other Residue in Dense Fluid Systems
Taiwan	ISSUED	94118080.0	6/1/2005	271491.0	1/21/2007	Burner and Process for Combusiton of a Gas Capable of Reacting to Form Solid Products
Taiwan	INACTIVE	94131928.0	9/15/2005	265148.0	11/1/2006	Process for the Production of Nitrogen Trifluoride
Taiwan	INACTIVE	83101862.0	3/3/1994	100529.0	1/11/1999	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
Taiwan	INACTIVE	86105090.0	4/25/1997			Photoresist Stripping Compositions
Taiwan	INACTIVE	85106821.0	6/7/1996	85119.0	7/15/1997	Integrated Container Moulding and Filling Facility
Taiwan	ISSUED	87117167.0	11/4/1998	145347.0	10/20/2002	Aqueous Stripping And Cleaning Compositions
Taiwan	ISSUED	88100213.0	3/23/1999	156501.0	5/11/2002	Semi-Aqueous Alkanol Amino Stripping Solution For Appln In The Presence of Exposed Aluminum And/Or Coppe
Taiwan	INACTIVE	88114499.0	8/25/1998	198105.0	7/8/2004	Compositon And Method For Selectively Etching A Silicon Nitride Film
Taiwan	ISSUED	89101334.0	4/12/2000	164353.0	2/21/2003	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
Taiwan	INACTIVE	89110192.0	7/3/2000	145591.0	11/11/2001	Process For Removing Contaminant From A Surface And Compositon Useful Therefor
Taiwan	INACTIVE	90123516.0	9/25/2001	I262364	9/21/2006	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Taiwan	ISSUED	91114245.0	6/28/2002	I227267	2/1/2005	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Taiwan	INACTIVE	90106849.0	3/23/2001			Cleaning Compositions And Use Thereof Containing Ammonium Hydroxide And Fluorosurfactant
Taiwan	INACTIVE	92100282.0	1/8/2003	I300885	9/11/2008	Aqueous Stripping and Cleaning Composition
Taiwan	INACTIVE	90129807.0	12/3/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Taiwan	ISSUED	91112844.0	6/13/2002	I294910	3/21/2008	Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaners

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Taiwan	ISSUED	93100061.0	1/2/2004	I348492	9/11/2011	Composition And Method Used For Chemical Mechanical Planarization Of Metals
Taiwan	INACTIVE	92118661.0	7/9/2003			Composition For Removing Etching Residue and Use Thereof
Taiwan	ISSUED	94124607.0	7/20/2005	282043.0	6/1/2007	Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereo
Taiwan	ISSUED	93114257.0	5/20/2004	I322466	3/21/2010	Compositions Suitable For Removing Photoresist, Photoresist Byproducts And Etching Residue, And Use Thereo
Taiwan	ISSUED	98107781.0	3/10/2009	405848.0	8/21/2013	Semi-Aqueous Stripping and Cleaning Composition Containing Aminobenzenesulfonic Acid\
Taiwan	INACTIVE	94141345.0	11/24/2005	296357.0	5/1/2008	Compositions Comprising Tannic Acid as Corrosion Inhibitor
Taiwan	INACTIVE	94124608.0	7/20/2005	263271.0	10/1/2006	Method for Enhancing Fluorine Utilization
Taiwan	INACTIVE	93118357.0	5/23/2003	I249573	2/21/2006	Process and Composition for Removing Residues From the Microstructure of an Object
Taiwan	INACTIVE	94131707.0	9/14/2005			Silicon Nitride from Aminosilane Using PECVD
Taiwan	ISSUED	94121958.0	6/29/2005	274968.0	3/1/2007	Composition for Stripping and Cleaning and Use Thereof
Taiwan	INACTIVE					Semiconductor Cleaning Solution
Taiwan	INACTIVE	94141344.0	11/24/2005	299833.0	8/11/2008	Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
Taiwan	ISSUED	94135389.0	10/11/2005	295352.0	4/1/2008	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gases
Taiwan	INACTIVE					Synthesis of Pentafluorosulfanylnaphthalene
Taiwan	ISSUED	94133807.0	9/28/2005	303671.0	12/1/2008	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
Taiwan	INACTIVE	94143055.0	12/6/2005			Precursors for Silica or Metal Silicate Films
Taiwan	INACTIVE	95116297.0	5/8/2006	275424.0	3/11/2007	Enhanced Purge Effect in Gas Conduit
Taiwan	ISSUED	94138767.0	11/4/2005	265043.0	11/1/2006	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
Taiwan	INACTIVE	95103782.0	2/3/2006	294517.0	3/11/2008	System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
Taiwan	ISSUED	95103784.0	2/3/2006	377246.0	11/21/2012	Aqueous Based Residue Removers Comprising Fluoride
Taiwan	ISSUED	95103783.0	2/3/2006	312375.0	7/21/2009	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
Taiwan	ISSUED	94146815.0	12/27/2005	307723.0	3/21/2009	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
Taiwan	ISSUED	94146813.0	12/27/2005	332504.0	11/1/2010	Volatile Metal Beta-Ketoiminate Complexes
Taiwan	ISSUED	95104258.0	2/8/2006	265207.0	11/1/2006	Preparation of Metal Silicon Nitride Films via Cyclic Deposition
Taiwan	INACTIVE	95100378.0	1/4/2006	320052.0	2/1/2010	Composition and Associated Method for Catalyzing Removal Rates of Dielectric Films During Chemical Mechanical Planarization
Taiwan	INACTIVE	95105159.0	2/15/2006			Method for Defining a Feature on a Substrate
Taiwan	ISSUED	95116795.0	5/11/2006	305236.0	1/11/2009	Precursors for CVD Silicon Carbo-Nitride Films
Taiwan	INACTIVE	96105142.0	2/12/2007			Seal Installation Tool
Taiwan	INACTIVE	95109505.0	3/20/2006	302164.0	10/21/2008	Low-Dishing Composition and Method for Chemical-Mechanical Planarization with Branched-Alkylphenol-Substituted Benzotriazol
Taiwan	ISSUED	95113410.0	4/14/2006	302974.0	11/11/2008	Dual-Flow Valve and Internal Processing Vessel Isolation System
Taiwan	INACTIVE	95124539.0	7/5/2006	293900.0	3/1/2008	Free Radical Initiator in Remote Plasma Chamber Clean
Taiwan	INACTIVE	96117112.0	5/14/2007	338672.0	3/11/2011	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
Taiwan	ISSUED	95137426.0	10/11/2006	297106.0	5/21/2008	Aqueous Cleaning Composition and Method for Using Same
Taiwan	ISSUED	95122148.0	6/20/2006	338199.0	3/1/2011	Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
Taiwan	ISSUED	96106564.0	2/26/2007	317002.0	11/11/2009	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
Taiwan	ISSUED	95137427.0	10/11/2006	355416.0	1/1/2012	Aqueous Cleaning Composition for Removing Residues and Method Using Same
Taiwan	INACTIVE	95142486.0	11/16/2006	461560.0	11/21/2014	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
Taiwan	INACTIVE	96110432.0	3/26/2007			Turbomolecular Pump System for Gas Separation
Taiwan	INACTIVE	96112614.0	4/10/2007			Cleaning of Contaminated Articles by Aqueous Supercritical Oxidation
Taiwan	INACTIVE	95142485.0	11/16/2006			Selective Etching of Titanium Nitride with Xenon Difluoride
Taiwan	ISSUED	99101850.0	1/22/2010	475611.0	3/1/2015	Selective Etching and Formation of Xenon Difluoride
Taiwan	ISSUED	96100724.0	1/8/2007	336729.0	2/1/2011	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
Taiwan	INACTIVE	96115769.0	5/3/2007			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
Taiwan	INACTIVE	95136759.0	10/3/2006			Stabilizer-Fenton's Reaction Metal-Vinyl Pyridine Polymer-Surface-Modified Chemical Mechanical Planarization Composition and Associated Metho
Taiwan	ISSUED	95136762.0	10/3/2006	336732.0	2/1/2011	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
Taiwan	INACTIVE	96103247.0	1/29/2007			Cleaning Formulations
Taiwan	ISSUED	96119961.0	6/4/2007	335238.0	1/1/2011	Process for Separating Components of a Multi-Component Feed Stream
Taiwan	INACTIVE	95148046.0	12/20/2006			Formulation for Removal of Photoresist, Etch Residue and Bar
Taiwan	ISSUED	96104641.0	2/8/2007	355569.0	1/1/2012	Formulation for Removal of Photoresist, Etch Residue and Bar
Taiwan	ISSUED	96112613.0	4/10/2007	363106.0	5/1/2012	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
Taiwan	INACTIVE	96106565.0	2/26/2007			Top Coat for Lithography Processes
Taiwan	INACTIVE	97104341.0	2/4/2008			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbon
Taiwan	ISSUED	96117653.0	5/17/2007	345592.0	7/21/2011	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Taiwan	ISSUED	99133386.0	5/17/2007	405865.0	8/21/2013	Process for Producing Silicon Oxide Films From Organoaminosilane Precursors
Taiwan	ISSUED	96113533.0	4/17/2007	395268.0	5/1/2013	Materials and Methods of Forming Controlled Void
Taiwan	INACTIVE	97104344.0	2/4/2008			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystals
Taiwan	ISSUED	96114684.0	4/25/2007	339207.0	3/21/2011	Metal Complexes of Polydentate Beta-Ketoiminates

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Taiwan	INACTIVE	96142704.0	11/12/2007			Method and Composition for Restoring Dielectric Properties of Porous Dielectric Materials
Taiwan	ISSUED	96140410.0	10/26/2007	349081.0	9/21/2011	Leak Containment Apparatus for Reactive Gases
Taiwan	ISSUED	96126819.0	7/23/2007	314209.0	9/1/2009	Component Heater
Taiwan	ISSUED	97100599.0	1/7/2008	375870.0	11/1/2012	Cleaning Composition for Semiconductor Substrates
Taiwan	ISSUED	96118815.0	5/25/2007	360028.0	3/11/2012	Composition and Method for Photoresist Removal
Taiwan	INACTIVE	96120592.0	6/7/2007			High Flow GaCl3 Delivery
Taiwan	INACTIVE	96119830.0	6/1/2007			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layers
Taiwan	ISSUED	96132568.0	8/31/2007	369359.0	8/1/2012	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resins
Taiwan	ISSUED	96121044.0	6/11/2007	410428.0	10/1/2013	Low-Impurity Organosilicon Product as Precursor for CVD
Taiwan	INACTIVE	96123128.0	6/26/2007			Curing Dielectric Films Under a Reducing Atmosphere
Taiwan	ISSUED	96139078.0	10/18/2007	344666.0	7/1/2011	Solid Source Container With Inlet Plenum
Taiwan	ISSUED	96139077.0	10/18/2007	414908.0	11/11/2013	Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
Taiwan	ISSUED	96147308.0	12/11/2007	369413.0	8/1/2012	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Films
Taiwan	ISSUED	96145045.0	11/27/2007	363104.0	5/1/2012	Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
Taiwan	ISSUED	96147313.0	12/11/2007	369414.0	8/1/2012	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
Taiwan	INACTIVE	96148714.0	12/19/2007			Method and Slurry for Reducing Corrosion on Tungsten During Chemical Mechanical Polishing
Taiwan	INACTIVE	96148719.0	12/21/2007			Compositions for Chemical Mechanical Planarization of Copper
Taiwan	INACTIVE	97109388.0	3/17/2008			Synthesis of Pentahalosulfur Peroxides and Monoxides
Taiwan	INACTIVE	97104346.0	2/4/2008			Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
Taiwan	INACTIVE	97121612.0	6/10/2008			Oxopentafluorosulfanyl-Substituted Alicyclic Compounds
Taiwan	ISSUED	97104758.0	2/12/2008	347637.0	8/21/2011	Activated Chemical Process for Enhancing Material Properties of Dielectric Films
Taiwan	ISSUED	97106379.0	2/22/2008	506157.0	11/1/2015	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
Taiwan	INACTIVE	97113529.0	4/14/2008			Metal Precursor Solutions for Chemical Vapor Deposition
Taiwan	INACTIVE	97122608.0	6/17/2008	432597.0	4/1/2014	Plasma-Enhanced Cyclic Deposition Method of Metal Silicon Nitride Film
Taiwan	INACTIVE	97114559.0	4/21/2008	373463.0	10/1/2012	Tellurium (Te) Precursors for Making Phase Change Memory Materials
Taiwan	ISSUED	97122931.0	6/19/2008	512824.0	12/11/2015	Process for Forming Continuous Copper Thin Films Via Vapor Deposition
Taiwan	INACTIVE	97143750.0	11/12/2008			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
Taiwan	ISSUED	97120520.0	6/2/2008	439445.0	6/1/2014	Low Tempertaure Thermal Conductive Inks
Taiwan	INACTIVE	97117473.0	5/12/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Taiwan	INACTIVE					Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
Taiwan	INACTIVE	97142562.0	11/4/2008			Preparation of Metal-Containing Film Via ALD or CVD Processes
Taiwan	INACTIVE	97136987.0	9/25/2008			Cyclopentene as a Precursor for Carbon-Based Films
Taiwan	ISSUED	97149825.0	12/19/2008	480425.0	4/11/2015	Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
Taiwan	INACTIVE	97133292.0	8/29/2008			Method for Chemical Mechanical Planarization of a Metal-Containing Substrate
Taiwan	INACTIVE	97132799.0	8/27/2008			Method for Chemical Mechanical Planarization of Chalcogenide Materials
Taiwan	ISSUED	97145572.0	11/25/2008	361161.0	4/1/2012	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Taiwan	ISSUED	101104118.0	11/25/2008	491542.0	7/11/2015	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
Taiwan	ISSUED	97145571.0	11/25/2008	358380.0	2/21/2012	Vessels With Personnel Access Provisions
Taiwan	ISSUED	98126843.0	8/10/2009	374887.0	10/21/2012	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
Taiwan	INACTIVE	97139270.0	10/13/2008			Antireflective Coatings
Taiwan	INACTIVE	97139271.0	10/13/2008	440197.0	6/1/2014	Antireflective Coatings for Photovoltaic Applications
Taiwan	ISSUED	97142566.0	11/4/2008	353988.0	12/11/2011	Copper Precursors for Thin Film Deposition
Taiwan	ISSUED	97145570.0	11/25/2008	379917.0	12/21/2012	Tellurium Precursors for GST Films in an ALD or CVD Process
Taiwan	INACTIVE					Metal Complexes of Tridentate Beta-Ketoiminates
Taiwan	ISSUED	97145574.0	11/25/2008	419862.0	12/21/2013	Metal Complexes of Tridentate Beta-Ketoiminates
Taiwan	ISSUED	97149508.0	12/18/2008	375668.0	11/1/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
Taiwan	ISSUED	98103029.0	1/23/2009	382104.0	1/11/2013	Antimony Precursors for GST Films in ALD/CVD Processes
Taiwan	ISSUED	102129057.0	8/13/2013	529258.0	4/11/2016	Precursors for GST Films in ALD/CVD Processes
Taiwan	ISSUED	98107196.0	3/5/2009	420262.0	12/21/2013	Stripper for Dry Film Removal
Taiwan	INACTIVE	98108334.0	3/13/2009			Stripper for Copper/Low K BEOL Clean
Taiwan	ISSUED	98109291.0	3/20/2009	479567.0	4/1/2015	Improved Adhesion to Copper and Copper Electromigration Resistance
Taiwan	ISSUED	98111881.0	4/9/2009	435947.0	5/1/2014	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
Taiwan	INACTIVE	98127186.0	8/12/2009			Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
Taiwan	ISSUED	98141994.0	12/9/2009	408251.0	9/11/2013	Method for Removal of Carbon from an Organosilicate Materia
Taiwan	ISSUED	102121246.0	12/9/2009	506164.0	11/1/2015	Method for Removal of Carbon from an Organosilicate Materia
Taiwan	ISSUED	98114766.0	5/4/2009	394859.0	5/1/2013	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
Taiwan	ISSUED	101120021.0	6/4/2012	452167.0	9/11/2014	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same

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Taiwan	ISSUED	98120784.0	6/20/2009	385270.0	2/11/2013	Low Temperature Deposition of Silicon-Containing Films
Taiwan	ISSUED	98117891.0	5/27/2009	386390.0	2/21/2013	Improved Process Stability of NBDE Using Substituted Phenol Stabilizers
Taiwan	INACTIVE	98124480.0	7/20/2009			Removal of Trace Arsenic Impurities From Triethylphosphate (TEPO
Taiwan	ISSUED	98123763.0	7/14/2009	538037.0	6/11/2016	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Thereo
Taiwan	INACTIVE	98123140.0	7/8/2009			Aminosilanes for Shallow Trench Isolation Films
Taiwan	ISSUED	98130979.0	9/14/2009	412683.0	10/21/2013	Process and System for Providing Acetylene
Taiwan	INACTIVE	98128586.0	8/25/2009	394214.0	4/21/2013	Selective Etching of Silicon Dioxide Compositions
Taiwan	ISSUED	98127647.0	8/17/2009	371540.0	9/1/2012	Cross Purge Valve and Container Assembly
Taiwan	INACTIVE	98137170.0	11/2/2009			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
Taiwan	INACTIVE	98132764.0	9/28/2009			Method for Forming Through-Base Wafer Vias in Fabrication of Stacked Devices
Taiwan	ISSUED	98141993.0	12/9/2009	418647.0	12/11/2013	Precursors for Depositing Group 4 Metal-Containing Films
Taiwan	INACTIVE	98132766.0	9/28/2009			Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
Taiwan	ISSUED	98141063.0	12/1/2009	439565.0	6/1/2014	Dielectric Barrier Deposition Using Oxygen Containing Precursor
Taiwan	ISSUED	98137987.0	11/9/2009	412622.0	10/21/2013	Amino Vinylsilane Precursors for Stressed SiN Films
Taiwan	ISSUED	100140431.0	11/9/2009	437117.0	5/11/2014	Amino Vinylsilane Precursors for Stressed SiN Films
Taiwan	ISSUED	99125498.0	7/30/2010	424286.0	1/21/2014	Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
Taiwan	ISSUED	100104055.0	2/8/2011	431147.0	3/21/2014	Methods to Prepare Silicon-Containing Films
Taiwan	ISSUED	99107076.0	3/11/2010	466189.0	12/21/2014	Dielectric Films Comprising Silicon and Methods for Making Same
Taiwan	ISSUED	98142390.0	12/11/2009	461525.0	11/21/2014	Wet Clean Compositions for CoWP and Porous Dielectrics
Taiwan	ISSUED	98144607.0	12/23/2009	409324.0	9/21/2013	Combination, Method, and Composition for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
Taiwan	ISSUED	99107517.0	3/15/2010	422707.0	1/11/2014	Splashguard for High Flow Vacuum Bubbler Vesse
Taiwan	ISSUED	102101206.0	1/11/2013	480418.0	4/11/2015	Splashguard for High Flow Vacuum Bubbler Vesse
Taiwan	ISSUED	99111322.0	4/12/2010	492898.0	7/21/2015	Method for Making a Chlorosilane
Taiwan	ISSUED	99128531.0	8/25/2010	433930.0	4/11/2014	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
Taiwan	INACTIVE	86110759.0	7/29/1997	119075.0	12/26/2000	Chemical Mechanical Polishing Composition and Process
Taiwan	INACTIVE	91132715.0	11/6/2002	200300442.0	6/1/2003	Chemical Mechanical Polishing Compositions
Taiwan	ISSUED	99115039.0	5/11/2010	482219.0	4/21/2015	Dielectric Barrier Deposition Using Nitrogen Containing Precursor
Taiwan	INACTIVE	93132638.0	10/27/2004	I355408	1/1/2012	Alumina Abrasive for Chemical Mechanical Polishing
Taiwan	ISSUED	92102775.0	2/11/2003	I278499	4/11/2007	Catalytic Composition for Chemical-Mechanical Polishing, Method of Using Same, and Substrate Treated with Same
Taiwan	INACTIVE	95140601.0	11/2/2006			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
Taiwan	INACTIVE	96113075.0	4/13/2007			Fluoride-Modified Silica Sols for Chemical Mechanical Planarization
Taiwan	ISSUED	95110565.0	3/27/2006	I418618	12/11/2013	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
Taiwan	ISSUED	99122074.0	7/5/2010	441918.0	6/21/2014	Formulations and Method for Post-CMP Cleaning
Taiwan	ISSUED	100130947.0	8/29/2011	418661.0	12/11/2013	Electrodes for Electrolytic Germane Process
Taiwan	ISSUED	91120071.0	9/3/2002	221642.0	10/1/2004	Compositions for Chemical-Mechanical Planarization of Noble-Metal-Featured Substrates, Associated Methods, and Substrates Produced by Such Methods
Taiwan	ISSUED	93124405.0	8/13/2004	I350301	10/11/2011	Periodic Acid Compositionfor Polishing Noble Metal/High K Substrates
Taiwan	INACTIVE	91135743.0	12/10/2002	256413.0	6/11/2006	Compositions for Chemical Mechanical Planarization of Copper\r
Taiwan	INACTIVE	91102249.0	2/7/2002	I242040	10/21/2005	Chemical-Mechanical Planarization Using Ozone
Taiwan	ISSUED	92131676.0	11/12/2003	I332980	11/11/2010	A Slurry Composition and a Polishing Method Using the Same
Taiwan	ISSUED	99116897.0	5/26/2010	481617.0	4/21/2015	Volatile Group 2 Metal Precursors
Taiwan	INACTIVE	104106544.0	5/26/2010			Volatile Group 2 Metal Precursors
Taiwan	ISSUED	99129961.0	9/3/2010	436971.0	5/11/2014	Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
Taiwan	ISSUED	100112517.0	4/11/2011	426947.0	2/21/2014	Recovery of NF3 from Adsorption Operation
Taiwan	ISSUED	100105688.0	2/21/2011	431154.0	3/21/2014	Method of Making a Multicomponent Film
Taiwan	INACTIVE	99130118.0	9/6/2010	422703.0	1/11/2014	Additives to Silane for Thin Film Silicon Photovoltaic Devices
Taiwan	INACTIVE	91109873.0	5/13/2002	205734.0	6/11/2004	Cerium Oxide Abrasive and Manufacturing Method for Substrate
Taiwan	ISSUED	99131891.0	9/20/2010	452099.0	9/11/2014	Method and Composition for Chemical Mechanical Planarization of a Metal-Containing Substrate
Taiwan	ISSUED	100104057.0	2/8/2011	458713.0	11/1/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
Taiwan	INACTIVE	99133390.0	9/30/2010			Method for Exposing Through-Base Wafer Vias for Fabrication of Stacked Devices
Taiwan	ISSUED	99135836.0	10/20/2010	454589.0	10/1/2014	Group 4 Metal Precursors for Metal-Containing Films
Taiwan	ISSUED	99135840.0	10/20/2010	433955.0	4/11/2014	Methods for Deposition of Group 4 Metal Containing Films
Taiwan	ISSUED	99144847.0	12/20/2010	438267.0	5/21/2014	Method for Chemical Mechanical Planarization of a Copper-Containing Substrate
Taiwan	ISSUED	100119108.0	5/31/2011	491760.0	7/11/2015	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	ISSUED	99141983.0	12/2/2010	400244.0	7/1/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
Taiwan	INACTIVE	89108343.0	5/22/2000	262939.0	10/1/2006	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
Taiwan	ISSUED	99143108.0	12/9/2010	522384.0	2/21/2016	Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
Taiwan	ISSUED	99143295.0	12/10/2010	512809.0	12/11/2015	Method for Forming Through-Base Wafer Vias for Fabrication of Stacked Devices

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
Taiwan	ISSUED	99145076.0	12/21/2010	415966.0	11/21/2013	Low K Precursors Providing Superior Integration Attributes
Taiwan	ISSUED	100102924.0	1/26/2011	426953.0	2/21/2014	Method and Equipment for Selectively Collecting Process Effluent
Taiwan	ISSUED	100134861.0	9/27/2011	442969.0	7/1/2014	Recovering of Xenon by Adsorption Process
Taiwan	ISSUED	100104832.0	2/14/2011	434955.0	4/21/2014	Method for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
Taiwan	ISSUED	100143477.0	11/28/2011	444497.0	7/11/2014	Metal-Enolate Precursors for Depositing Metal-Containing Films
Taiwan	ISSUED	100119852.0	6/7/2011	434954.0	4/21/2014	Cylinder Surface Treatment for Monochlorosilane
Taiwan	ISSUED	100120602.0	6/13/2011	454463.0	10/1/2014	Complexes of Imidazole Ligands
Taiwan	ISSUED	100123576.0	7/8/2011	546418.0	8/21/2016	Method for Wafer Dicing and Composition Useful Thereof
Taiwan	ISSUED	100144719.0	12/5/2011	444499.0	7/11/2014	Aminovinylsilane for CVD and ALD SiO2 Films
Taiwan	ISSUED	100121517.0	6/20/2011	454563.0	10/1/2014	Chemical Mechanical Planarization Composition and Method with Low Corrosiveness
Taiwan	ISSUED	101108365.0	3/12/2012	454573.0	10/1/2014	Cleaning Formulations and Method of Using the Cleaning Formulations
Taiwan	INACTIVE	100142907.0	11/23/2011			Compositions and Methods for Texturing of Silicon Wafers
Taiwan	ISSUED	100148680.0	12/26/2011	459456.0	11/1/2014	CMP Slurry/Method for Polishing Ruthenium and Other Films
Taiwan	INACTIVE	101104766.0	2/14/2012			Fluorine Based Chamber Clean with Nitrogen Trifluoride Backup
Taiwan	ISSUED	101114791.0	4/25/2012	467675.0	1/1/2015	Cleaning Lead-Frames to Improve Wirebonding Process
Taiwan	ISSUED	92125785.0	9/18/2003	I302908	11/11/2008	Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
Taiwan	ISSUED	101120022.0	6/4/2012	496934.0	8/21/2015	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
Taiwan	ISSUED	101118402.0	5/23/2012	541248.0	7/11/2016	Organoaminosilane Precursors and Methods for Making and Using Same\r
Taiwan	ISSUED	102127178.0	7/29/2013	504775.0	10/21/2015	Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
Taiwan	ISSUED	101135006.0	9/24/2012	475167.0	3/1/2015	Solenoid Bypass for Continuous Operation of Pneumatic Valve
Taiwan	INACTIVE	101132407.0	9/5/2012			Precursors for Photovoltaic Passivation
Taiwan	ISSUED	101135160.0	9/25/2012	437005.0	5/11/2014	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	INACTIVE	101134365.0	9/19/2012	477643.0	3/21/2015	Oxygen Containing Precursors for Photovoltaic Passivation
Taiwan	INACTIVE	102117117.0	5/14/2013			Compositions and Methods for Texturing of Silicon Wafers
Taiwan	ISSUED	102112932.0	4/11/2013	515325.0	1/1/2016	High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
Taiwan	ISSUED	102101690.0	1/16/2013	462929.0	12/1/2014	Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
Taiwan	ISSUED	102102937.0	1/25/2013	516497.0	1/11/2016	Alkoxyaminosilane Compounds and Applications Thereof
Taiwan	INACTIVE	102109564.0	3/18/2013	475025.0	3/1/2015	Catalyst Synthesis for Organosilane Sol-Gel Reactions
Taiwan	ISSUED	102108316.0	3/8/2013	502645.0	10/1/2015	Low Temperature Silicon Containing Films
Taiwan	ISSUED	102108313.0	3/8/2013	496932.0	8/21/2015	Barrier Materials for Display Devices
Taiwan	INACTIVE	102111543.0	3/29/2013	468395.0	1/11/2015	Group 2 Imidazolate Formulations for Direct Liquid Injection
Taiwan	INACTIVE	104132737.0	10/5/2015			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	ISSUED	102116121.0	5/10/2013	481681.0	4/21/2015	Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
Taiwan	ISSUED	102118515.0	5/24/2013	500803.0	9/21/2015	Vessel with Filter and Method for Dispensing a Precursor-Containing Fluid Stream
Taiwan	INACTIVE	102121987.0	6/20/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
Taiwan	ISSUED	102137823.0	10/18/2013	563077.0	12/21/2016	Cleaning Formulations
Taiwan	ISSUED	102136413.0	10/8/2013	516880.0	1/11/2016	Stripping and Cleaning Compositions for Removal of Thick Film Resist
Taiwan	INACTIVE	103107964.0	3/7/2014	503407.0	10/11/2015	Chemical Mechanical Planarization for Tungsten-Containing Substrates
Taiwan	ISSUED	102137828.0	10/18/2013	522448.0	2/21/2016	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
Taiwan	ISSUED	104126004.0	10/18/2013	542680.0	7/21/2016	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
Taiwan	ISSUED	86115874.0	10/27/1997	126055.0	2/1/2001	Polish Process and Slurry for Planarization
Taiwan	INACTIVE	102137820.0	10/18/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorine
Taiwan	ISSUED	102145220.0	12/9/2013	516498.0	1/11/2016	Alkoxysilylamine Compounds and Applications Thereof
Taiwan	INACTIVE	103128189.0	8/15/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
Taiwan	INACTIVE	103129051.0	8/22/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
Taiwan	PENDING	102141075.0	11/12/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
Taiwan	DOCKETED					Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
Taiwan	ISSUED	103108257.0	3/10/2014	539991.0	7/1/2016	Onsite Ultra High Purity Chemicals or Gas Purification
Taiwan	INACTIVE	103101513.0	1/15/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
Taiwan	ISSUED	103125183.0	7/22/2014	552997.0	10/11/2016	Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
Taiwan	PENDING	105105739.0	7/22/2014			Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
Taiwan	ISSUED	103113480.0	4/11/2014	507562.0	11/11/2015	Method of Making a Multicomponent Film
Taiwan	INACTIVE	103113595.0	4/14/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefor
Taiwan	ISSUED	103121780.0	6/24/2014	516440.0	1/11/2016	Process for Making Trisilylamine
Taiwan	ISSUED	103120924.0	6/17/2014	542404.0	7/21/2016	System and Process for Recovery and Purfication of Nitrous Oxide
Taiwan	ISSUED	103121779.0	6/24/2014	507492.0	11/11/2015	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
Taiwan	ISSUED	103116758.0	5/12/2014	526674.0	3/21/2016	Ultrasonic Liquid Level Sensing Systems

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Taiwan	PENDING	104140001.0	5/12/2014			Ultrasonic Liquid Level Sensing Systems
Taiwan	PENDING	103121781.0	6/24/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	PENDING	104138136.0	6/24/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	ISSUED	103132507.0	9/19/2014	535729.0	6/1/2016	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	PENDING	104142370.0	9/19/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	PENDING	105112666.0	9/19/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
Taiwan	PENDING	103134755.0	10/6/2014			Barrier Chemical Mechanical Planarization Composition and Method Thereo
Taiwan	ISSUED	103134304.0	10/1/2014	565822.0	1/11/2017	Methods for Depositing Silicon Nitride Films
Taiwan	ISSUED	104123465.0	7/20/2015	542665.0	7/21/2016	Titanium Nitride Hard Mask and Etch Residue Remova
Taiwan	ISSUED	103143735.0	12/15/2014	554591.0	10/21/2016	Composition for Titanium Nitride Hard Mask and Etch Residue Remova
Taiwan	ISSUED	103134303.0	10/1/2014	532676.0	5/11/2016	System and Method for Xenon Recovery
Taiwan	ISSUED	104105880.0	2/24/2015	540138.0	7/1/2016	Organoaminosilanes and Methods for Making Same
Taiwan	ISSUED	104105878.0	2/24/2015	564435.0	1/1/2017	Electrolytic Apparatus, System and Method for the Efficient Production of Nitrogen Trifluorid
Taiwan	PENDING	104100449.0	1/7/2015			System and Method for Gas Recovery and Reuse
Taiwan	PENDING	104126300.0	8/12/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
Taiwan	DOCKETED					Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Films
Taiwan	ISSUED	104109250.0	3/23/2015	557259.0	11/11/2016	Compositions and Methods for the Deposition of Silicon Oxide Films
Taiwan	PENDING	105126656.0	3/23/2015			Compositions and Methods for the Deposition of Silicon Oxide Films
Taiwan	PENDING	105108882.0	3/22/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\
Taiwan	PENDING	104120205.0	6/23/2015			Improved Diptube Design for a Host Ampoule
Taiwan	PENDING	104137603.0	11/13/2015			Improved Valve Block Having Minimal Deadleg
Taiwan	PENDING	104122412.0	7/9/2015			Copper Corrosion Inhibition System
Taiwan	PENDING	104126748.0	8/17/2015			Purification of Nitrogen Trifluoride by Pressure Swing Adsorptio
Taiwan	PENDING	104118982.0	6/11/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
Taiwan	PENDING	104123466.0	7/20/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
Taiwan	PENDING	104127563.0	8/24/2015			Ultrasonic Liquid Level Sensing Systems
Taiwan	PENDING	104133313.0	10/8/2015			Slurry Supply Apparatus and Method
Taiwan	PENDING	104135152.0	10/26/2015			Compositions and Methods Using Same for Deposition of Silicon-Containing Film
Taiwan	PENDING	104135153.0	10/26/2015			Compositions and Methods Using Same for Deposition of Silicon-Containing Films
Taiwan	DOCKETED					Compositions and Methods Using Same for Deposition of Silicon-Containing Film
Taiwan	PENDING	104135889.0	10/30/2015			Silicon-Based Films and Methods of Forming the Same
Taiwan	PENDING	104135151.0	10/26/2015			Chemical Mechanical Polishing Slurry for Reducing Corrosion and Method of Use Therefo
Taiwan	PENDING	104138134.0	11/18/2015			Ultrasonic Liquid Level Sensing Systems
Taiwan	PENDING	104143648.0	12/24/2015			Stripping Compositions Having High WN/W Etching Selectivity
Taiwan	PENDING	104142551.0	12/17/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivatio
Taiwan	PENDING	105104163.0	2/5/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
Taiwan	PENDING	105100853.0	1/12/2016			COMPOSITE ABRASIVE PARTICLES FOR CHEMICAL MECHANICAL PLANARIZATION COMPOSITION AND METHOD OF USE THEREOF
Taiwan	PENDING	104143649.0	12/24/2015			Etchant Solutions and Method of Use Thereof
Taiwan	PENDING	105104255.0	2/15/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
Taiwan	PENDING	105102222.0	1/25/2016			Method and Precursors for Manufacturing 3D Devices
Taiwan	PENDING	105103876.0	2/4/2016			Compositions and Methods Using Same for Carbon Doped Silicon Containing Films
Taiwan	PENDING	105107261.0	3/9/2016			Process For Depositing Organosilicate Glass Films For Use As Resistive Random Access Memory
Taiwan	PENDING	105110601.0	4/1/2016			Composition For Treating Surface Of Substrate, Method And Device
Taiwan	PENDING	105110403.0	3/31/2016			Cleaning Formulations
Taiwan	PENDING	105110113.0	3/30/2016			Boron-Containing Compounds, Compositions, and Methods for the Deposition of a Boron Containing Film
Taiwan	PENDING	105113669.0	5/2/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Taiwan	PENDING	105110101.0	3/30/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Taiwan	PENDING	105111934.0	4/15/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
Taiwan	PENDING	105111936.0	4/15/2016			High Purity Tungsten Hexachloride and Method for Making Same
Taiwan	PENDING	105102219.0	1/25/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
Taiwan	PENDING	105114261.0	5/9/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
Taiwan	PENDING	105117471.0	6/2/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
Taiwan	PENDING	105130675.0	9/22/2016			CLEANING FORMULATIONS
Taiwan	PENDING	105130890.0	9/23/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
Taiwan	PENDING	105118643.0	6/14/2016			Halidosilane Compounds and Compositions and Processes for Depositing Silicon-Containing Films Using Same
Taiwan	PENDING	105124840.0	8/4/2016			PHOTORESIST CLEANING COMPOSITION USED IN PHOTOLITHOGRAPHY AND A METHOD FOR TREATING SUBSTRATE THEREWITH
Taiwan	PENDING	105123108.0	7/21/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films

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Taiwan	PENDING	105124088.0	7/29/2016			COMPOSITIONS AND METHODS FOR DEPOSITING SILICON NITRIDE FILMS
Taiwan	PENDING	105138711.0	11/24/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
Taiwan	PENDING	105129400.0	9/9/2016			Methods for Depositing a Conformal Metal or Metalloid Silicon Nitride Film and Resultant Films\r
Taiwan	PENDING	105142540.0	12/21/2016			COMPOSITIONS AND METHODS USING SAME FOR DEPOSITION OF SILICON-CONTAINING FILM\n
Taiwan	PENDING	106101964.0	1/19/2017			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
Thailand	INACTIVE	4766.0	8/28/1986			PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
Thailand	INACTIVE	7470.0	9/23/1988			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
Thailand	INACTIVE	23149.0	7/15/1994	6049.0	8/26/1996	INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
Thailand	INACTIVE	40032.0	10/7/1997			REGENERATION OF ADSORBENT BEDS
Thailand	INACTIVE	30012.0	2/12/1996	8684.0	12/25/1998	DILUTED NITROGEN TRIFLUORIDE THERMAL CLEANING PROCESS
Thailand	INACTIVE					ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
Thailand	INACTIVE	40416.0	10/29/1997	9093.0	8/19/1999	FLUOROCHEMICAL RECOVERY AND RECYCLE USING MEMBRANES
Thailand	INACTIVE	44905.0	7/14/1998	11760.0	1/24/2002	Purification Of Hydroxylamine
Thailand	INACTIVE	51947.0	7/29/1999	20292.0	8/1/2006	Compositon And Method For Selectively Etching A Silicon Nitride Film
Thailand	INACTIVE	59681.0	8/15/2000			Improved Metal Corrosion Inhibitor Additives For Semi-Aqueous Stripper/Cleaners To Protect Sensitive Metals
Thailand	INACTIVE	68646.0	9/27/2001	21686.0	4/3/2007	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitors
Thailand	ISSUED	74819.0	6/27/2002	41921.0	10/29/2014	Process For Removing Contaminant From A Surface And Composition Useful Therefor
Thailand	INACTIVE	70098.0	11/30/2001			Process For Producing Ammonia With Ultra-Low Metals Content
Thailand	INACTIVE					Semiconductor Cleaning Solution
Thailand	PENDING	1101001067.0	7/7/2011			Method for Wafer Dicing and Composition Useful Thereof
Thailand	PENDING	1301005804.0	10/9/2013			Stripping and Cleaning Compositions for Removal of Thick Film Resist
Thailand	PENDING	1501000036.0	1/7/2015			System and Method for Gas Recovery and Reuse
U.S.S.R.	INACTIVE	UNKNOWN	2/2/1995			PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
United States	PENDING	13/902375	5/24/2013			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
United States	INACTIVE	05/409589	10/25/1973	3961599.0	6/8/1976	APPARATUS FOR MAKING MINIATURE LAYER RESISTORS ON INSULATING CHIPS BY DIGITAL CONTROLS
United States	INACTIVE	05/820670	8/1/1977	4153659.0	5/8/1979	ENHANCING SOLVENT BARRIER PROP ERTY OF PIGMENTED POLYMERIC BO DIES
United States	INACTIVE	05/788724	4/19/1977	4091081.0	5/23/1978	NITROGEN FLUORIDE BY DIRECT FL UORINATION OF AMMONIUM BIFLUOR IDE
United States	INACTIVE	05/845695	10/26/1977	4108966.0	8/22/1978	PREPARATION OF IODINE PENTAFLU ORIDE BY DIRECT FLUORINATION O F MOLTEN IODINE
United States	INACTIVE	05/894114	4/6/1978	4193976.0	3/18/1980	REMOVAL OF DINITROGEN DIFLUORI DE FROM NITROGEN TRIFLUORIDE
United States	INACTIVE	06/166213	7/7/1980			EXFOLIATED GRAPHITE FLUORIDE
United States	INACTIVE	05/913784	6/8/1978	4156598.0	5/29/1979	PURIFICATION OF NITROGEN TRIFL UORIDE ATMOSPHERE
United States	INACTIVE	06/250505	4/2/1981	4358111.0	11/9/1982	PRESSURIZED, NON-REFILLABLE RE CREATION BALL FILLED WITH SULF UR HEXAFLUORIDE
United States	INACTIVE	06/190009	9/22/1980	4332736.0	6/1/1982	PRODUCTION OF 1-HYDROXYALKYLID ENE-1,1-DIPHOSPHONIC ACID
United States	INACTIVE	06/672773	11/19/1984			CONDENSATION SOLDERING WITH PE RFLUOROPHENANTHRENE
United States	INACTIVE	06/797092	11/12/1985	4622240.0	11/11/1986	PROCESS FOR MANUFACTURING THIC K-FILM ELECTRICAL COMPONENTS
United States	INACTIVE	07/101222	9/25/1987	4787957.0	11/29/1988	DESMEAR AND ETCHBACK USING NF3 /O2 GAS MIXTURES
United States	INACTIVE	07/028521	3/20/1987	4895876.0	1/23/1990	CONCENTRATED STABLE FLUOROCHEM ICAL AQUEOUS EMULSIONS CONTAIN ING TRIGLYCERIDES
United States	INACTIVE	07/100382	9/24/1987			PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
United States	INACTIVE	07/028522	3/20/1987	4866096.0	9/12/1989	STABLE FLUOROCARBON AQUEOUS EM ULSIONS
United States	INACTIVE	05/746923	12/2/1976	4134514.0	1/16/1979	LIQUID SOURCE MATERIAL CONTAIN ER AND METHOD OF USE FOR SEMIC ONDUCTOR DEVICE MANUFACTURING
United States	INACTIVE	05/940470	9/8/1978			LIQUID SOURCE MATERIAL CONTAIN ER AND METHOD OF USE FOR SEMIC ONDUCTOR DEVICE MANUFACTURING
United States	INACTIVE	06/123563	2/22/1980	4298037.0	11/3/1981	METHOD OF SHIPPING AND USING S EMICONDUCTOR LIQUID SOURCE MAT ERIALS
United States	INACTIVE	06/548311	11/3/1983			METHOD OF SHIPPING AND USING S EMICONDUCTOR LIQUID SOURCE MAT ERIALS
United States	INACTIVE	05/824375	8/15/1977	4140735.0	2/20/1979	PROCESS AND APPARATUS FOR BUBB LING GAS THROUGH A HIGH PURITY LIQUID
United States	INACTIVE	06/151741	5/20/1980			VAPOR MASS FLOW CONTROL SYSTEM
United States	INACTIVE	06/484198	4/12/1983	4436674.0	3/13/1984	VAPOR MASS FLOW CONTROL SYSTEM
United States	INACTIVE	06/288360	7/30/1981	4393013.0	7/12/1983	VAPOR MASS FLOW CONTROL SYSTEM
United States	INACTIVE	06/944189	12/22/1986			SEPTUM CLOSURE
United States	INACTIVE	06/946828	12/29/1986	4859375.0	8/22/1989	CHEMICAL REFILL SYSTEM
United States	INACTIVE	06/947914	3/17/1987	4855604.0	8/8/1989	ION BEAM INPLANT SYSTEM
United States	INACTIVE	06/947529	12/29/1986			METALIZED VALVE
United States	INACTIVE	06/947913	12/29/1986	4851821.0	7/25/1989	DISPOSABLE CHEMICAL CONTAINER
United States	INACTIVE	06/948120	12/30/1986	4842827.0	6/27/1989	VACUUM VAPOR TRANSPORT CONTROL
United States	INACTIVE	07/248686	9/23/1988	5041267.0	8/20/1991	ULTRA HIGH PURITY REAGENT CONT AINER WITH LARGE BREAKSEAL

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United States	INACTIVE	07/010159	2/2/1987	D310629	9/18/1990	VACUUM FURNACE BOTTLE
United States	INACTIVE	07/036979	4/10/1987			METHOD OF FORMING SILICON DIOXIDE GLASS FILMS
United States	INACTIVE	06/865147	5/20/1986	4696411.0	9/29/1987	LARGE BREAKSEAL ACTUATOR WITH BUILT-IN VALVE
United States	INACTIVE	07/263487	10/27/1988	4981724.0	1/1/1991	DEPOSITION OF SILICON OXIDE FILMS USING ALKYLSILANE LIQUID SOURCES
United States	INACTIVE	07/190815	5/6/1988	4851255.0	7/25/1989	ION IMPLANT USING TETRAFLUOROBORATE
United States	INACTIVE	07/473503	2/1/1990	4992306.0	2/12/1991	DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE FILMS USING AZIDOSILANE SOURCES
United States	INACTIVE	07/452901	12/19/1989			GAS PISTON LIQUID FLOW CONTROLLER
United States	INACTIVE	07/227966	8/3/1988	4827053.0	5/2/1989	PERFLUORINATED DI-ISOPROPYLMETHYL DECALIN
United States	INACTIVE	07/224089	7/25/1988	4904616.0	2/27/1990	METHOD OF DEPOSITING ARSINE, ANTIMONY AND PHOSPHINE SUBSTITUTES
United States	INACTIVE	07/188089	4/27/1988			SEPTUM CLOSURE
United States	INACTIVE	07/203401	6/6/1988	4881682.0	11/21/1989	VAPOR PHASE SOLDERING WITH PERFLUORINATED BUTYL DERIVATIVE COMPOUNDS
United States	INACTIVE	07/211484	6/24/1988	4869883.0	9/26/1989	INERT GAS PURIFIER FOR BULK NITROGEN WITHOUT THE USE OF HYDROGEN OR OTHER REDUCING GASES
United States	INACTIVE	07/283418	12/12/1988			FLUORINATED BETA-KETOIMINES AND BETA-KETOIMINATO METAL COMPLEXES
United States	INACTIVE	07/473546	2/1/1990	5013690.0	5/7/1991	METHOD FOR DEPOSITION OF SILICON FILMS FROM AZIDOSILANE SOURCES
United States	INACTIVE	07/430832	11/2/1989			HIGH STEP COVERAGE SILICON OXIDE THIN FILMS
United States	INACTIVE	07/502209	3/30/1990	5009725.0	4/23/1991	FLUXING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMIDE LIGANDS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/336928	4/12/1989			METHOD OF FORMING SILICON DIOXIDE GLASS FILMS
United States	INACTIVE	07/327281	3/22/1989	4979643.0	12/25/1990	CHEMICAL REFILL SYSTEM
United States	INACTIVE	07/329122	3/27/1989	4901910.0	2/20/1990	PERFLUORINATED PROPYL DERIVATIVE COMPOUNDS FOR VAPOR BATH SOLDERING
United States	INACTIVE	07/345379	4/28/1989	4965092.0	10/23/1990	PROCESS FOR THE MANUFACTURE OF COPPER THICK-FILM CONDUCTORS USING AN INFRARED FURNACE
United States	INACTIVE	07/357752	5/26/1989	4915127.0	4/10/1990	COMPRESSED GAS REGULATOR WITH PRESSURIZED SEALED BONNET
United States	INACTIVE	07/359245	5/31/1989	4966207.0	10/30/1990	DISPOSABLE CHEMICAL CONTAINER
United States	INACTIVE	07/473300	2/1/1990	4992299.0	2/12/1991	DEPOSITION OF SILICON NITRIDE FILMS FROM AZIDOSILANE SOURCES
United States	INACTIVE	07/502092	3/30/1990	5028724.0	7/2/1991	SYNTHESIS OF VOLATILE FLUORINATED AND NON-FLUORINATED METAL- BETA-KETONATE AND METAL-BETA-KETOIMINATO COMPLEXES
United States	INACTIVE	07/586845	9/21/1990	5124278.0	6/23/1992	AMINO REPLACEMENTS FOR ARSINE, ANTIMONY AND PHOSPHINE
United States	INACTIVE	07/655708	2/14/1991			METHOD FOR SAFE HANDLING OF ARSENIC AND PHOSPHORUS COMPOUNDS
United States	INACTIVE	07/433080	11/6/1989	4988640.0	1/29/1991	METHOD OF DOPING AND IMPLANTING USING ARSINE, ANTIMONY, AND PHOSPHINE SUBSTITUTES
United States	INACTIVE	07/477289	2/8/1990	5026929.0	6/25/1991	SYNTHESIS OF HIGHLY FLUORINATED AROMATIC COMPOUNDS
United States	INACTIVE	07/534810	6/5/1990	5062898.0	11/5/1991	SURFACE CLEANING USING A CRYOGENIC AEROSOL
United States	INACTIVE	07/534811	6/5/1990	5252733.0	10/12/1993	VOLATILE CROWN LIGAND BETA-DIKETONATE ALKALINE EARTH METAL COMPLEXES
United States	INACTIVE	07/491909	3/12/1990			FLUORINATED BETA-KETOIMINATO METAL COMPLEXES
United States	INACTIVE	07/616288	11/20/1990			DEPOSITION OF TUNGSTEN FILMS FROM MIXTURES OF TUNGSTEN HEXAFLUORIDE, ORGANOHYDROSILANES AND HYDROGEN
United States	INACTIVE	07/559009	7/27/1990	5028566.0	7/2/1991	METHOD OF FORMING SILICON DIOXIDE GLASS FILMS
United States	INACTIVE	07/572834	8/24/1990	5137047.0	8/11/1992	DELIVERY OF REACTIVE GAS FROM GAS PAD TO PROCESS TOOL
United States	INACTIVE	07/576291	8/31/1990	5227493.0	7/13/1993	FLUORINATED SULFONAMIDE DERIVATIVES
United States	INACTIVE	07/585765	9/20/1990	5086178.0	2/4/1992	FLUORINATED DIAZABICYCLOALKANE DERIVATIVES
United States	INACTIVE	07/638714	1/8/1991	5046925.0	9/10/1991	GAS PISTON LIQUID FLOW CONTROLLER
United States	INACTIVE	07/636316	12/31/1990	5098516.0	3/24/1992	PROCESS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER AND ETCHING OF COPPER
United States	INACTIVE	07/971747	11/4/1992			CHEMICAL STORAGE AND DISPENSING SYSTEM
United States	INACTIVE	07/635904	12/27/1990	5062902.0	11/5/1991	FLUXING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/650332	2/4/1991	5085731.0	2/4/1992	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER
United States	INACTIVE	07/762101	9/18/1991	5204141.0	4/20/1993	DEPOSITION OF SILICON DIOXIDE FILMS AT TEMPERATURES AS LOW AS 100 DEG.C. BY LPCVD USING ORGANODISILANE SOURCES
United States	INACTIVE	07/660474	2/21/1991	5069690.0	12/3/1991	PROCESS FOR KINETIC GAS-SOLID CHROMATOGRAPHIC SEPARATIONS
United States	INACTIVE	07/877683	5/1/1992			METHOD AND APPARATUS FOR TESTING CONTAINERS FOR CORROSION
United States	INACTIVE	07/677915	4/1/1991	5094701.0	3/10/1992	CLEANING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/677918	4/1/1991	5221366.0	6/22/1993	ETCHING AGENTS COMPRISING BETA-DIKETONE AND BETA-KETOIMINE LIGANDS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/985665	12/3/1992	5244615.0	9/14/1993	PROCESS FOR THE PRODUCTION OF PERMEATION RESISTANT CONTAINERS
United States	INACTIVE	07/779435	10/17/1991	5319118.0	6/7/1994	VOLATILE BARIUM PRECURSOR AND USE OF PRECURSOR IN OMCVD PROCESS
United States	INACTIVE	07/867599	4/13/1992	5273775.0	12/28/1993	PROCESS FOR SELECTIVELY DEPOSITING COPPER ALUMINUM ALLOY ONTO A SUBSTRATE
United States	INACTIVE	07/738065	7/30/1991	5098865.0	3/24/1992	HIGH STEP COVERAGE SILICON OXIDE THIN FILMS
United States	INACTIVE	07/816193	1/2/1992	5231865.0	8/3/1993	DIFFUSION GAS DILUTER
United States	INACTIVE	07/764566	9/20/1991	5187300.0	2/16/1993	VOLATILE PRECURSORS FOR COPPER CVD
United States	INACTIVE	07/869562	4/15/1992			APPARATUS TO CLEAN SOLID SURFACES USING A CRYOGENIC AEROSOL
United States	INACTIVE	07/777818	10/11/1991	5213622.0	5/25/1993	CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/777821	10/11/1991	5213621.0	5/25/1993	HALOGENATED CARBOXYLIC ACID CLEANING AGENTS FOR FABRICATING INTEGRATED CIRCUITS AND A PROCESS FOR USING THE SAME
United States	INACTIVE	07/898857	6/15/1992	5288662.0	2/22/1994	LOW OZONE DEPLETING ORGANIC CHLORIDES FOR USE DURING SILICON OXIDATION AND FURNACE TUBE CLEANING
United States	INACTIVE	07/781447	10/23/1991	5144049.0	9/1/1992	VOLATILE LIQUID PRECURSORS FOR THE CHEMICAL VAPOR DEPOSITION OF COPPER

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United States	INACTIVE	07/891516	6/1/1992	5233074.0	8/3/1993	PROCESS FOR SELECTIVELY ORTHO-FLUORINATING SUBSTITUTED AROMATIC COMPOUNDS
United States	INACTIVE	07/910947	7/9/1992	5230536.0	7/27/1993	BULKHEAD MOUNTING ASSEMBLY
United States	INACTIVE	07/982196	11/25/1992	5332444.0	7/26/1994	GAS PHASE CLEANING AGENTS FOR REMOVING METAL CONTAINING CONT AMINANTS FROM INTEGRATED CIRCU IT ASSEMBLIES AND A PROCESS FO R USING THE SAME
United States	INACTIVE	08/006896	1/21/1993			PROCESS AND APPARATUS FOR CALI BRATING HIGHLY SENSITIVEANALYT ICAL EQUIPMENT
United States	INACTIVE	07/958417	10/9/1992	5209028.0	5/11/1993	APPARATUS TO CLEAN SOLID SURFA CES USING A CRYOGENIC AEROSOL
United States	INACTIVE	07/970346	11/2/1992	5294261.0	3/15/1994	SURFACE CLEANING USING AN ARGO N OR NITROGEN AEROSOL
United States	INACTIVE	08/798984	2/11/1997			IMPROVED P2O5 ELECTROLYTIC SENSOR FOR EXTENDED LONGEVITY AT LOW LEVELS OF MOISTURE IN HIGH PURITY GASES
United States	INACTIVE	08/135383	10/12/1993	5364007.0	11/15/1994	INERT GAS DELIVERY FOR REFLOW SOLDER FURNACES
United States	INACTIVE	08/032368	3/17/1993	5290071.0	3/1/1994	COAXIAL CONDUIT BULKHEAD MOUNT ING ASSEMBLY
United States	INACTIVE	08/049042	4/16/1993	5359787.0	11/1/1994	HIGH PURITY BULK CHEMICAL DELI VERY SYSTEM
United States	INACTIVE	08/097424	7/26/1993			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
United States	INACTIVE	08/064185	5/18/1993	5322712.0	6/21/1994	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
United States	INACTIVE	08/089210	7/8/1993	5413670.0	5/9/1995	METHOD FOR PLASMA ETCHING OR C LEANING WITH DILUTED NF3
United States	INACTIVE	08/098496	7/28/1993	5298075.0	3/29/1994	FURNACE TUBE CLEANING PROCESS
United States	INACTIVE	08/163257	12/7/1993	5473065.0	12/5/1995	Fluorinated Diazabicycloalkane Derivatives
United States	INACTIVE	08/163254	12/7/1993	5367071.0	11/22/1994	PROCESS FOR PREPARING DIFLUORI NATED DIAZONIABICYCLOALKANE DE RIVATIVES
United States	INACTIVE	08/439349	5/11/1995	5637351.0	6/10/1997	CHEMICAL VAPOR DEPOSITION (CVD) OF SILICON DIXOIDE FILMS USI NG OXYGEN-SILICON SOURCE REACT ANTS AND A FREE RADICAL PROMOT ER
United States	INACTIVE	08/187422	1/25/1994			METHOD OF SELECTIVE FLUORINATION
United States	INACTIVE	08/216895	3/23/1994			NITROGEN TRIFLUORIDE THERMAL C LEANING APPARATUS AND PROCESS
United States	INACTIVE	08/200890	2/23/1994			CHEMICAL STORAGE AND DISPENSIN G SYSTEM
United States	INACTIVE	08/601627	2/14/1996	5612489.0	3/18/1997	ENHANCED SENSITIVITY FOR OXYGEN AND OTHER INTERACTIVE GASES IN SAMPLE GASES USING GAS CHROMATOGRAPHY
United States	INACTIVE	07/971875	11/5/1992	5288885.0	2/22/1994	PURIFICATION OF TRI-ALKYL COMP OUNDS OF GROUP 3A METALS
United States	INACTIVE	07/971874	11/5/1992	5248800.0	9/28/1993	PROCESS FOR THE PREPARATION OF TRIALKYL GALLIUM COMPOUNDS
United States	INACTIVE	07/971876	11/5/1992	5245065.0	9/14/1993	PROCESS FOR THE PREPARATION OF DI-ALKYL COMPOUNDS OF GROUP 2 B METALS
United States	INACTIVE	07/920735	7/28/1992	5232869.0	8/3/1993	METAL DEPOSITION
United States	INACTIVE	08/360845	2/27/1995	5473090.0	12/5/1995	PROCESS FOR THE PREPARATION OF TRIALKYL COMPOUNDS OF GROUP 3 A METALS
United States	INACTIVE	08/303986	9/9/1994	5539998.0	7/30/1996	HIGH PURITY BULK CHEMICAL DELIVERY SYSTEM
United States	INACTIVE	08/368571	1/4/1995			LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
United States	INACTIVE	08/330635	10/28/1994	5442084.0	8/15/1995	METHOD OF SELECTIVE FLUORINATI ON
United States	INACTIVE	08/441499	5/15/1995			DESTRUCTION OF HAZARDOUS GASES WITH CORONA PRODUCING REACTIO NS
United States	INACTIVE	08/384087	2/6/1995	5599425.0	2/4/1997	PREDECOMPOSITION OF ORGANIC CHLORIDES FOR SILICON PROCESSING
United States	INACTIVE	08/390612	2/17/1995	5797195.0	8/25/1998	NITROGEN TRIFLUORIDE THERMAL CLEANING APPARATUS AND PROCESS
United States	INACTIVE	08/454775	5/31/1995	5614019.0	3/25/1997	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
United States	INACTIVE	08/821484	3/21/1997	5753038.0	5/19/1998	METHOD FOR THE GROWTH OF INDUSTRIAL CRYSTALS
United States	INACTIVE	08/593779	1/30/1996	5637285.0	6/10/1997	PROCESS FOR NITROGEN TRIFLUORI DE SYNTHESIS
United States	INACTIVE	07/064268	6/18/1987	4828764.0	5/9/1989	N-FLUORO-N-PERFLUOROMETHYL SULFONAMIDES
United States	INACTIVE	08/475111	6/7/1995	5536302.0	7/16/1996	ADSORBENT FOR REMOVAL OF TRACE OXYGEN FROM INERT GASES
United States	INACTIVE	08/502508	7/13/1995	5874516.0	2/23/1999	NONFUNCTIONALIZED POLY(ARYLENE ETHERS)
United States	INACTIVE	08/502511	7/13/1995	5658994.0	8/19/1997	NONFUNCTIONALIZED POLY(ARYLENE ETHER) DIELECTRICS
United States	INACTIVE	08/651311	5/22/1996	5644921.0	7/8/1997	ULTRA HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
United States	INACTIVE	08/645439	5/13/1996	5626775.0	5/6/1997	PLASMA ETCH WITH TRIFLUOROACET IC ACID AND DERIVATIVES
United States	INACTIVE	60/006890	11/17/1995			PLASMA ETCH WITH TRIFLUOROACET IC ACID AND DERIVATIVES
United States	INACTIVE	60/012439	2/28/1996			ARGON RECOVERY FROM SILICON CR YSTAL FURNACE
United States	INACTIVE	08/626030	4/8/1996			PROCESS FOR PRODUCING BORON TRICHLORIDE
United States	INACTIVE	08/673991	7/1/1996			PROCESS FOR PRODUCING PERMEATI ON RESISTANT CONTAINERS
United States	INACTIVE	08/971545	11/17/1997	5910294.0	6/8/1999	ABATEMENT OF NF3 WITH METAL OXALATES
United States	INACTIVE	08/891313	7/10/1997	5862946.0	1/26/1999	GAS DISSOLUTION UNDER PRESSURE
United States	INACTIVE	60/021676	7/12/1996			GAS DISSOLUTION UNDER PRESSURE
United States	INACTIVE	08/667254	6/20/1996	RE35614	9/23/1997	PROCESS FOR IMPROVED QUALITY OF CVD COPPER FILMS
United States	INACTIVE	08/667132	6/20/1996	5733964.0	3/31/1998	SURFACTANTS FOR HETEROGENEOUS PROCESSES IN LIQUID OR SUPERCRITICAL CO2
United States	INACTIVE	08/678277	7/11/1996	5744196.0	4/28/1998	LOW TEMPERATURE DEPOSITION OF SILICON DIOXIDE USING ORGANOSI LANES
United States	INACTIVE	08/939424	9/29/1997			CLEANING ION BEAM IMPLANTATION DEVICES
United States	INACTIVE	60/030126	11/4/1996			CLEANING ION BEAM IMPLANTATION DEVICES
United States	INACTIVE	08/798983	2/11/1997			PURIFICATION OF NF3 BY DRYING AND ADSORPTION WITH HIGH SI/AL RATIO ADSORBENT
United States	INACTIVE	08/858800	5/20/1997	5902893.0	5/11/1999	PURIFICATION OF ORGANOSILANES OF GROUP 13 (IIIA) AND 15 (VA) IMPURITIES
United States	INACTIVE	08/735288	10/22/1996			HYDROGEN-FREE SIO2 USING PLASM A-ENHANCED CVD
United States	INACTIVE	07/862802	4/3/1992	5205841.0	4/27/1993	APPARATUS AND METHOD FOR EXTRACTING HYDROGEN

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United States	INACTIVE	09/046092	3/23/1998	5976222.0	11/2/1999	RECOVERY OF PERFLUORINATED COMPOUNDS FROM THE EXHAUST OF SEMICONDUCTOR FABS USING MEMBRANE AND ADSORPTION IN SERIES
United States	INACTIVE	08/914085	8/18/1997	6106790.0	8/22/2000	ABATEMENT OF NF3 USING SMALL PARTICLE FLUIDIZED BED
United States	INACTIVE	08/741843	10/31/1996	5730779.0	3/24/1998	FLUOROCHEMICAL RECOVERY AND RE CYCLE USING MEMBRANES
United States	ISSUED	08/939635	9/29/1997	6207860.0	3/27/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
United States	INACTIVE	09/415354	10/8/1999			THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
United States	ISSUED	09/535682	3/23/2000	6242645.0	6/5/2001	THERMALLY STABLE AMINOSULFUR TRIFLUORIDES
United States	ISSUED	08/939940	9/29/1997	6080886.0	6/27/2000	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
United States	ISSUED	09/483751	1/14/2000	6222064.0	4/24/2001	FLUORINATION WITH AMINOSULFUR TRIFLUORIDES
United States	ISSUED	08/964783	11/5/1997	5958356.0	9/28/1999	METHOD FOR REMOVAL OF MOISTURE FROM GASEOUS HCL
United States	INACTIVE	09/825491	4/3/2001			GAS CONTROL DEVICE AND METHOD OF SUPPLYING GAS
United States	INACTIVE	09/907020	7/17/2001			GAS CONTROL DEVICE AND METHOD OF SUPPLYING GAS
United States	INACTIVE	09/929858	8/14/2001			GAS CONTROL DEVICE AND METHOD OF SUPPLYING GAS
United States	ISSUED	08/944907	10/6/1997	5964230.0	10/12/1999	Solvent Purge Mechanism
United States	ISSUED	09/318003	5/25/1999	6138691.0	10/31/2000	SOLVENT PURGE MECHANISM
United States	INACTIVE	09/009099	1/20/1998	6103799.0	8/15/2000	Surface Tension Reduction With N,N'-Dialkyl Alkylenediamines
United States	ISSUED	08/942996	10/2/1997	5874368.0	2/23/1999	SILICON NITRIDE FROM BIS(TERTI ARYBUTYLAMINO)SILANE
United States	INACTIVE	09/138489	8/24/1998	6085548.0	7/11/2000	CONTROL VENT SYSTEM FOR ULTRA-HIGH PURITY DELIVERY SYSTEM FOR LIQUEFIED COMPRESSED GASES
United States	INACTIVE	09/093975	6/9/1998	6159859.0	12/12/2000	GAS PHASE REMOVAL OF SIO2/METALS FROM SILICON
United States	ISSUED	08/941530	9/30/1997	5955044.0	9/21/1999	METHOD AND APPARATUS FOR MAKING ULTRA-PURE HYDROGEN
United States	ISSUED	09/379007	8/23/1999	6277342.0	8/21/2001	STORAGE AND SAFE DELIVERY OF HAZARDOUS SPECIALTY GASES BY ACID/BASE REACTIONS WITH IONIC POLYMERS
United States	INACTIVE	09/020582	1/30/1998	5939546.0	8/17/1999	IMIDAZOLATE SULFURYL DIFLUORIDES
United States	INACTIVE	09/816293	3/23/2001			APPARATUS FOR DETECTING LIQUID DRY CONDITIONS FOR LIQUEFIED COMPRESSED GASES
United States	INACTIVE	09/201005	11/30/1998			ULRASONIC LEVEL SENSING IN A CHEMICAL REFILL SYSTEM
United States	ISSUED	08/977831	11/26/1997	6204174.0	3/20/2001	METHOD AND APPARATUS FOR HIGH RATE DEPOSITION OF TUNGSTEN
United States	INACTIVE	09/309250	5/10/1999			METHOD FOR ANISOTROPIC ETCHING OF COPPER THIN FILMS WITH A A BETA-DIKETONE, A BETA-KETOIMINE, OR A BREAKDOWN PRODUCT THEREOF
United States	INACTIVE	09/217113	12/21/1998	6469780.0	10/22/2002	Apparatus and Method for Detecting Particles in Reactive and Toxic Gases
United States	INACTIVE	09/481063	1/11/2000	6238849.0	5/29/2001	CYCLIC UREAS IN PHOTORESIST DEVELOPERS
United States	ISSUED	09/174196	10/16/1998	6217659.0	4/17/2001	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
United States	ISSUED	09/799644	3/6/2001	6514564.0	2/4/2003	DYNAMIC BLENDING GAS DELIVERY SYSTEM AND METHOD
United States	ISSUED	09/034876	3/4/1998	6025576.0	2/15/2000	BULK VESSEL HEATER SKID FOR LIQUEFIED COMPRESSED GASES
United States	INACTIVE	09/030039	2/25/1998	6060170.0	5/9/2000	FUNCTIONAL GROUPS FOR THERMAL CROSSLINKING OF POLYMERIC SYSTEMS
United States	ISSUED	09/095818	6/11/1998	5976991.0	11/2/1999	Deposition of Silicon Dioxide and Silicon Oxynitride Using Bis(Tertiarybutylamino)Silane
United States	INACTIVE	09/205046	12/4/1998			PURIFICATION OF GASES
United States	INACTIVE	09/206427	12/7/1998	6046364.0	4/4/2000	REGENERATION OF METAL CVD PRECURSORS
United States	INACTIVE	09/256933	2/24/1999	6616972.0	9/9/2003	Synthesis of metal oxide and oxynitride
United States	INACTIVE	09/196452	11/19/1998	6187248.0	2/13/2001	NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
United States	INACTIVE	09/666421	9/20/2000			NANOPOROUS POLYMERS FILMS FOR EXTREME LOW AND INTERLAYER DIELECTRICS
United States	INACTIVE	08/937407	9/25/1997	5858457.0	1/12/1999	ORDERED MESOPOROUS THIN FILMS
United States	INACTIVE	09/333157	6/14/1999			PURIFICATION OF GASES
United States	INACTIVE	09/251083	2/16/1999	6352676.0	3/5/2002	Abatement of F2 Using Small Particle Fluidized Bed
United States	ISSUED	09/535756	3/27/2000	6270843.0	8/7/2001	PROCESS FOR GENERATING USEFUL ELECTROPHILES FROM COMMON ANIONS AND THEIR APPLICATION IN ELECTROPHILIC REACTIONS WITH ORGANIC SUBSTRATES
United States	INACTIVE	09/329417	6/10/1999	6096913.0	8/1/2000	Production of Metal-Ligand Complexes
United States	INACTIVE	07/644550	1/23/1991	5086804.0	2/11/1992	Emergency Security Device for Head of a Leaking Gas Cylinder
United States	INACTIVE	08/226318	4/12/1994	5482536.0	1/9/1996	Apparatus for Containment and Scrubbing of Toxic Gas from a Leakage Location and Method Therefo
United States	ISSUED	09/432980	11/3/1999	6462142.0	10/8/2002	Processes for Improved Surface Properties Incorporating Compressive Heating of Reactive Gases
United States	ISSUED	09/432724	11/1/1999	6096922.0	8/1/2000	Process for the Synthesis of Dialkyl, Diaryl, and Arylalkyl Aminosulfur Trifluorides
United States	INACTIVE	09/544921	4/7/2000			Low VOC Cleanroom Cleaning Wipe
United States	INACTIVE	09/350074	7/8/1999	6238734.0	5/29/2001	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
United States	INACTIVE	09/546452	4/10/2000	6503561.0	1/7/2003	Liquid Precursor Mixtures for Deposition of Multicomponent Metal Containing Materials
United States	ISSUED	09/417668	10/14/1999	6221132.0	4/24/2001	Vacuum Preparation of Hydrogen Halide Drier
United States	INACTIVE	09/638586	8/15/2000			Improving CVD Copper Adhesion to Barrier Layer
United States	ISSUED	09/418084	10/14/1999	6264064.0	7/24/2001	Chemical Delivery System With Ultrasonic Fluid Sensors
United States	INACTIVE	09/542995	4/4/2000	6383257.0	5/7/2002	Reclamation and Separation of Perfluorocarbons Using Condensation
United States	INACTIVE	09/619604	7/19/2000	6307105.0	10/23/2001	High Purity Preparation of Fluorinated 1,3-dicarbonyls Using BDM (bis-fluoroxy difluoromethane
United States	INACTIVE	09/567387	5/9/2000	6639214.0	10/28/2003	Method for Improving the Performance of an Ion Mobility Spectrometer to Detect Trace Atmospheric Impurities in Gases
United States	INACTIVE	09/676426	9/29/2000	6602783.0	8/5/2003	Deposition of Titanium Amides
United States	INACTIVE	10/167084	6/10/2002	6946158.0	9/20/2005	Deposition of Titanium Amides

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United States	INACTIVE	60/157866	10/6/1999			Purification, Analysis and Deposition of Titanium Amides
United States	INACTIVE	09/478483	1/6/2000	6268115.0	7/31/2001	Use of Alkylated Polyamines in Photoresist Developers
United States	INACTIVE	09/455999	12/7/1999			Mesoporous Films Having Reduced Dielectric Constants
United States	INACTIVE	09/711573	11/13/2000	6592980.0	7/15/2003	Mesoporous Films Having Reduced Dielectric Constants
United States	INACTIVE	10/263254	10/2/2002	6818289.0	11/16/2004	Mesoporous Films Having Reduced Dielectric Constants
United States	INACTIVE	10/753134	1/7/2004			High Reliability Gas Mixture Back-up System
United States	ISSUED	09/566075	5/8/2000	6276168.0	8/21/2001	Purification of Nitrogen Trifluoride by Continuous Cryogenic Distillation
United States	ISSUED	09/567164	5/8/2000	6457327.0	10/1/2002	Process for Concentrating Fluorine Compounds
United States	INACTIVE	09/781855	2/12/2001			High Purity Chemical Container with External Level Sensor and Removable Dip Tube
United States	ISSUED	09/876243	6/7/2001	6526824.0	3/4/2003	High Purity Chemical Container with External Level Sensor and Liquid Sump
United States	INACTIVE	09/602933	6/23/2000	6436170.0	8/20/2002	Process and Apparatus for Removing Particles from High Purity Gas Systems
United States	INACTIVE	10/187342	6/28/2002	6517608.0	2/11/2003	Process and Apparatus for Removing Particles from High Purity Gas Systems
United States	INACTIVE	09/546867	4/10/2000	6537613.0	3/25/2003	Process for Metal Metalloid Oxides and Nitrides with Compositional Gradients
United States	INACTIVE	09/702189	10/31/2000	6514471.0	2/4/2003	Removing Fluorine From Semiconductor Processing Exhaust Gas
United States	INACTIVE	09/791409	2/22/2001			VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
United States	INACTIVE	10/323480	12/19/2002	6818783.0	11/16/2004	VOLATILE PRECURSORS FOR DEPOSITION OF METALS AND METAL-CONTAINING FILMS
United States	INACTIVE	60/194285	4/3/2000			Volatile Precursors for Copper CVD
United States	ISSUED	09/641933	8/18/2000	7013916.0	3/21/2006	Sub-Atmospheric Gas Delivery Method and Apparatus
United States	ISSUED	09/675376	9/29/2000	6837251.0	1/4/2005	Multiple Contents Container Assembly for Ultrapure Solvent Purging
United States	ISSUED	10/621766	7/17/2003	6840252.0	1/11/2005	Multiple Contents Container Assembly for Ultrapure Solvent Purging
United States	INACTIVE	10/942218	9/15/2004	6913029.0	7/5/2005	Multiple Contents Container Assembly for Ultrapure Solvent Purging
United States	INACTIVE	60/213092	6/21/2000			Multiple Contents Reservoir Container for Ultrapure Solvent Purging
United States	INACTIVE	60/215796	7/5/2000			Multiple Contents Reservoir Container for Ultrapure Solvent Purging
United States	INACTIVE	09/615877	7/13/2000	6462191.0	10/8/2002	Synthesis of 2-Deoxy-2-Fluoro-Arabinose Derivatives
United States	INACTIVE	09/782268	2/13/2001			Continuous Preparation of High Purity Bis(fluoroxy)difluoromethane (BDM) at Elevated Pressure
United States	INACTIVE	10/037739	12/27/2001	6534666.0	3/18/2003	Use of Water and Acidic Water to Purify Liquid MOCVD Precursors
United States	INACTIVE	10/768370	1/30/2004	6838573.0	1/4/2005	Copper CVD Precursors With Enhanced Adhesion Properties
United States	INACTIVE	10/046615	1/14/2002	6716955.0	4/6/2004	Poly(arylene ether) Polymer with Low Temperature Crosslinking Grafts and Adhesive Comprising the Same
United States	INACTIVE	09/761269	1/17/2001			Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
United States	ISSUED	09/944042	8/31/2001	6583048.0	6/24/2003	Organosilicon Precursors for Interlayer Dielectric Films with Low Dielectric Constants
United States	INACTIVE	09/676437	9/29/2000			Solvent Blend for Use in High Purity Precursor Remova
United States	ISSUED	09/661750	9/14/2000	6276404.0	8/21/2001	Chemical Delivery System with Spill Containment Door
United States	ISSUED	09/783900	2/15/2001	6524990.0	2/25/2003	Active Fluroide Catalysts for Fluorination Reactions
United States	INACTIVE	09/884406	6/19/2001	6932945.0	8/23/2005	Adsorbent Based Gas Delivery System with Integrated Purifier
United States	INACTIVE	09/767636	1/23/2001			Synthesis of Vicinal Difluoro Aromatics via Reductive Defluorination of Tetrafluoro Aromatic Compound
United States	INACTIVE	10/197969	7/17/2002	6515191.0	2/4/2003	Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
United States	ISSUED	10/357897	2/3/2003	6894200.0	5/17/2005	Synthesis of Vicinal Difluoro Aromatics and Intermediates Thereof
United States	INACTIVE	10/085249	2/27/2002	6837250.0	1/4/2005	CVD Chamber Cleaning Using Mixed PFCs from Capture/Recycle
United States	INACTIVE	10/016034	11/1/2001	6764670.0	7/20/2004	Removal of Thiothionylfluoride from Sulfur Tetrafluoride
United States	ISSUED	09/966197	9/28/2001	6614009.0	9/2/2003	High Flow Rate Transportable UHP Gas Supply System
United States	ISSUED	10/052052	1/17/2002	6770254.0	8/3/2004	Purification of Group IVb Metal Halides
United States	INACTIVE	10/439565	5/16/2003			Intra-Cylinder Tubular Pressure Regulator
United States	INACTIVE	10/016076	12/13/2001			Integrated Dynamic Blending Apparatus
United States	ISSUED	09/966195	9/28/2001	6616769.0	9/9/2003	Systems and Methods for Conditioning Ultra High Purity Gas Bulk Containers
United States	ISSUED	10/607897	6/27/2003	6814092.0	11/9/2004	Systems and Methods for Conditioning Ultra High Purity Gas Bulk Containers
United States	ISSUED	10/015495	12/12/2001	6474077.0	11/5/2002	Vapor Delivery From a Low Vapor Pressure Liquefied Compressed Gas
United States	ISSUED	10/179818	6/24/2002	6552209.0	4/22/2003	Preparation of Metal Imino/Amino Complexes for Metal Oxide and Metal Nitride Thin Films
United States	ISSUED	10/232052	8/30/2002	7033560.0	4/25/2006	Single Source Mixtures of Metal Siloxides
United States	ISSUED	09/938883	8/24/2001	6431229.0	8/13/2002	Solventless Purgeable Diaphragm Valved Manifold For Low Vapor Pressure Chemicals
United States	INACTIVE	10/245440	9/17/2002	6743267.0	6/1/2004	Gel-Free Colloidal Abrasive Polishing Compositions and Associated Methods
United States	INACTIVE	60/329482	10/15/2001			Gel-Free Colloidal Abrasive and Polishing Compositions
United States	ISSUED	10/029892	12/21/2001	6858697.0	2/22/2005	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
United States	ISSUED	10/602279	6/23/2003	7101948.0	9/5/2006	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
United States	INACTIVE	11/872221	10/15/2007			Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
United States	ISSUED	11/484094	7/11/2006	7300995.0	11/27/2007	Stabilizers to Inhibit the Polymerization of Substituted Cyclotetrasiloxane
United States	INACTIVE	09/345813	7/2/1999	6159264.0	12/12/2001	Composites Powdered Fillers and Polymer Matrix
United States	ISSUED	10/050352	1/16/2002	6544319.0	4/8/2003	Purification of Hexafluoro-1,3-butandiene

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United States	INACTIVE	10/102488	3/20/2002	6790428.0	9/14/2004	Process for the Reduction or Elimination of NH3/HF Byproduct in the Manufacture of Nitrogen Trifluoride
United States	INACTIVE	10/237224	9/6/2002	6886573.0	5/3/2005	Plasma Cleaning Gas with Lower Global Warming Potential than SF6
United States	ISSUED	10/101339	3/19/2002	6637469.0	10/28/2003	Product Delivery System for Stationary or Portable Bulk Containers
United States	ISSUED	10/101340	3/19/2002	6651703.0	11/25/2003	Transportation and Storage of Ultra-High Purity Products
United States	ISSUED	10/680267	10/6/2003	6938654.0	9/6/2005	Monitoring of Ultra-High Purity Product Storage Tanks During Transportation
United States	ISSUED	10/046614	1/14/2002	6953047.0	10/11/2005	Cabinet for Chemical Delivery with Solvent Purging
United States	ISSUED	11/104012	4/12/2005	7334595.0	2/26/2008	Cabinet for Chemical Delivery with Solvent Purging and Removal
United States	INACTIVE	10/120708	4/11/2002			Helical Built-in Purifier for Gas Supply Cylinders
United States	ISSUED	10/191719	7/9/2002	7446078.0	11/4/2008	Adsorbent for Water Removal from Ammonia
United States	INACTIVE	10/191726	7/8/2002			Fluid Containment Vessels with Chemically Resistant Coatings
United States	INACTIVE	10/192481	7/10/2002	6901941.0	6/7/2005	Vessel with Optimized Purge Gas Flow and Method Using Same
United States	INACTIVE	10/104214	3/22/2002	6479645.0	11/12/2002	Sulfurpentafluoride Compounds and Methods for Making and Using Same
United States	INACTIVE	10/253108	9/23/2002	6818919.0	11/16/2004	Light Emitting Layers for LED Devices Based on High Tg Polymer Matrix Compositions
United States	INACTIVE	10/987723	11/12/2004	7115430.0	10/3/2006	Light Emitting Layers for LED Devices Based on High Tg Polymer Matrix Compositions
United States	ISSUED	10/155726	5/23/2002	6648034.0	11/18/2003	Purgeable Manifold for Low Vapor Pressure Chemicals Containers
United States	ISSUED	10/669942	9/24/2003	6966348.0	11/22/2005	Purgeable Container for Low Vapor Pressure Chemicals
United States	ISSUED	10/150798	5/17/2002	6846515.0	1/25/2005	Methods for Using Porogens and/or Porogenated Precursors to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	ISSUED	10/409468	4/7/2003	7384471.0	6/10/2008	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	ISSUED	12/115838	5/6/2008	7943195.0	5/17/2011	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	ISSUED	13/031387	2/21/2011	8293001.0	10/23/2012	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	INACTIVE	12/115087	5/5/2008			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	ISSUED	13/439911	4/5/2012	9061317.0	6/23/2015	Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films with Low Dielectric Constants
United States	ISSUED	13/286634	11/1/2011	8951342.0	2/10/2015	Methods for Using Porogens for Low K Porous Organosilica Glass Films
United States	INACTIVE	60/373104	4/17/2002			Deposition of a Porous Insulating Film With a Dielectric Constant of 2.5 or Below
United States	INACTIVE	10/243153	9/13/2002	6838066.0	1/4/2005	Process for Recovery, Purification, and Recycle of Argon
United States	INACTIVE	10/925096	8/24/2004	7361316.0	4/22/2008	Process for Recovery, Purification, and Recycle of Argon
United States	ISSUED	10/158511	5/30/2002	7307343.0	12/11/2007	Low Dielectric Materials and Methods for Making Same
United States	ISSUED	10/964499	10/13/2004	7186613.0	3/6/2007	Low Dielectric Materials and Methods for Making Same
United States	ISSUED	10/278131	10/22/2002	6709487.0	3/23/2004	Adsorbent for Moisture Removal from Fluorine-Containing Fluids
United States	INACTIVE	10/337700	1/7/2003			Reducing Surface Tension and Oxidation Potential of Tin-based Solders
United States	INACTIVE	10/238803	9/10/2002			Cleaning of Processing Chambers with Dilute NF3 Plasmas
United States	INACTIVE	10/218087	8/12/2002			Process Solutions Containing Actylenic Diol Surfactants
United States	INACTIVE	10/339709	1/9/2003			Process Solutions Containing Surfactants
United States	INACTIVE	10/616662	7/10/2003	7129199.0	10/31/2006	Process Solutions Containing Surfactants
United States	INACTIVE	11/520971	9/14/2006	7591270.0	9/22/2009	Process Solutions Containing Surfactants
United States	INACTIVE	11/520983	9/14/2006			Process Solutions Containing Surfactants
United States	ISSUED	12/846369	7/29/2010	8227395.0	7/24/2012	Process Solutions Containing Surfactants
United States	INACTIVE	10/804513	3/19/2004	7521405.0	4/21/2009	Process Solutions Containing Surfactants
United States	INACTIVE	11/940374	11/15/2007			Process Solutions Containing Surfactants
United States	INACTIVE	12/959067	12/2/2010			Process Solutions Containing Surfactants
United States	INACTIVE	11/484075	7/11/2006	7482676.0	1/27/2009	Compositions for Preparing Low Dielectric Materials
United States	INACTIVE	11/484049	5/20/2003	7294585.0	11/13/2007	Compositions for Preparing Low Dielectric Materials
United States	INACTIVE	10/253054	9/24/2002			Processing of Semiconductor Components with Dense Processing Fluids and Ultrasonic Energy
United States	INACTIVE	10/198509	7/18/2002			Method for Etching High Dielectric Constant Materials and for Cleaning Deposition Chambers for High Dielectric Constant Materials
United States	INACTIVE	10/410803	4/10/2003			Method for Etching High Dielectric Constant Materials and for Cleaning Deposition Chambers for High Dielectric Constant Materials
United States	INACTIVE	10/723714	11/26/2003	7357138.0	4/15/2008	Method For Etching High Dielectric Constant Materials and for Cleaning Deposition Chambers for High Dielectric Constant Materials
United States	INACTIVE	10/253296	9/24/2002	7282099.0	10/16/2007	Dense Phase Processing Fluids for Microelectronic Component Manufacture
United States	INACTIVE	10/299482	11/19/2002			Method for Nitrogen Trifluoride Production
United States	ISSUED	10/687073	10/16/2003	6984366.0	1/10/2006	Method for Nitrogen Trifluoride Production
United States	INACTIVE	10/256158	9/26/2002	6681791.0	1/27/2004	Manifold Valve Position Indicator and Operator Alerting System
United States	INACTIVE	60/384258	5/30/2002			Apparatus and Method of Research for Creating and Testing Thin Films
United States	INACTIVE	10/621022	7/16/2003	7189795.0	3/13/2007	Poly(arylene ether)s Bearing Grafted Hydroxyalkyls for Use in Electrically Conductive Adhesives
United States	INACTIVE	10/350715	1/24/2003	6869582.0	3/22/2005	Process for the Synthesis of BrSF5
United States	INACTIVE	10/287903	11/5/2002			Process for Atomic Layer Deposition of Metal Films
United States	ISSUED	10/413787	4/15/2003	7172646.0	2/6/2007	Reactive Liquid Based Gas Storage and Delivery Systems
United States	INACTIVE	10/315398	12/9/2002	6893476.0	5/17/2005	Composition And Associated Methods For Chemical Mechanical Planarization Having High Selectivity For Metal Remova
United States	ISSUED	10/914113	8/9/2004	7247179.0	7/24/2007	Composition and Associated Methods for Chemical Mechanical Planarization Having High Selectivity for Metal Remova

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United States	ISSUED	10/353211	1/28/2003	7002040.0	2/21/2006	Process for Purifying Fluoroxy Compounds
United States	INACTIVE	10/654216	9/2/2003	7302812.0	12/4/2007	Process for Production of Isotopes
United States	ISSUED	10/295568	11/14/2002	7404990.0	7/29/2008	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
United States	ISSUED	10/624356	7/21/2003	7470454.0	12/30/2008	Non-Thermal Process for Forming Porous Low Dielectric Constant Films
United States	ISSUED	10/219164	8/13/2002	6896955.0	5/24/2005	Ionic Additives for Extreme Low Dielectric Constant Chemical Formulations
United States	INACTIVE	11/140463	5/19/2005			Method for Cleaning a Process Chamber
United States	ISSUED	10/342930	1/15/2003	6963006.0	11/8/2005	Process for the Production and Purification of Bis(tertiary-butylamino)silane
United States	INACTIVE	10/404195	4/1/2003			Low Dielectric Materials and Methods for Making the Same
United States	INACTIVE	447596.0	12/8/1989	5141604.0	8/25/1992	Dehydrogenation Reaction Utilizing Mobile Atom Transmissive Membrane
United States	INACTIVE	60/432358	12/9/2002			Composition and Associated Method for Oxide Chemical Mechanical Planarization
United States	INACTIVE	10/730527	12/8/2003			Composition and Associated Method for Oxide Chemical Mechanical Planarization
United States	INACTIVE	10/428447	5/2/2003	7311946.0	12/25/2007	Methods for Depositing Metal Films on Diffusion Barrier Layers by CVD or ALD Processes
United States	INACTIVE	11/939224	11/13/2007			Methods for Depositing Metal Films on Diffusion Barrier Layers by CVD Processes\r
United States	INACTIVE	11/738187	4/20/2007	7985449.0	7/26/2011	Methods for Depositing Metal Films Onto Diffusion Barrier Layers by CVD or ALD Processes
United States	INACTIVE	10/820864	4/9/2004	7524533.0	4/28/2009	Diffusion Barrier Layers and Processes for Depositing Metal Films Thereupon By CVD Or ALD Processes
United States	INACTIVE	60/442183	1/23/2003			Precursors for Depositing Silicon Containing Films and Processes Thereof
United States	ISSUED	10/695379	10/27/2003	7122222.0	10/17/2006	Precursors for Depositing Silicon Containing Films and Processes Thereof
United States	ISSUED	11/513950	8/30/2006	7288145.0	10/30/2007	Precursors for Depositing Silicon Containing Films
United States	ISSUED	09/077704	12/6/1996	6080297.0	6/27/2000	Method and Apparatus for Constant Composition Delivery of Hydride Gases for Semiconductor Processing
United States	ISSUED	08/761563	12/6/1996	5925232.0	7/20/1999	Method and Apparatus for Constant Composition Delivery of Hydride Gases for Semiconductor Processing
United States	ISSUED	10/379466	3/4/2003	7098149.0	8/29/2006	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
United States	ISSUED	10/624357	7/21/2003	7468290.0	12/23/2008	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
United States	ISSUED	12/262879	10/31/2008	7932188.0	4/26/2011	Mechanical Enhancement of Dense and Porous Organosilicate Materials by UV Exposure
United States	ISSUED	10/730506	12/8/2003	7160360.0	1/9/2007	Purification Of Hydride Gases
United States	INACTIVE	10/409230	4/8/2003	6669760.0	12/30/2003	Separation of C2F6 from CF4 By Adsorption on Activated Carbon
United States	INACTIVE	10/717050	11/19/2003	7250072.0	7/31/2007	Removal of Sulfur-Containing Impurities from Volatile Metal Hydrides
United States	INACTIVE	10/404190	4/1/2003			Method for Enhancing Deposition Rate of Chemical Vapor Deposition Films
United States	INACTIVE	685414.0	12/24/1984	4788491.0	11/29/1988	Method of the Measurement of Interstitial Atoms in Alloys Including the Hydrogen Content of Solid Hydrides, and of Sorbed Species on Surfac
United States	INACTIVE	673478.0	3/22/1991	5158656.0	10/27/1992	Method and Apparatus for the Electrolytic Preparation of Group IV and V Hydrides
United States	INACTIVE	731807.0	7/17/1991	5266731.0	11/30/1993	Electrocatalytic Hydrogenations of Nitriles to Amines
United States	INACTIVE	09/720663	7/6/1999			Method and Apparatus for the Preparation of High Purity Phosphine or Other Gas
United States	INACTIVE	10/696529	10/29/2003			Purification of Perfluoromethane
United States	INACTIVE	10/444217	5/23/2003	6844271.0	1/18/2005	Process for CVD of Hf and Zr Containing Oxynitride Films
United States	INACTIVE	60/499057	8/29/2003			Air Gaps Within a Semiconductor Substrate and Methods for Forming Same
United States	ISSUED	10/759666	1/16/2004	7077880.0	7/18/2006	Surface Modified Colloidal Abrasives, Including Stable Bimetallic Surface Coated Silica Sols for Chemical Mechanical Planarizatio
United States	INACTIVE	11/487443	7/17/2006	7429338.0	9/30/2008	Surface Modified Colloidal Abrasives, Including Stable Bimetallic Surface Coated Silica Sols for Chemical Mechanical Planarizatio
United States	ISSUED	10/763365	1/23/2004	7074378.0	7/11/2006	Process For The Purification of NF3
United States	INACTIVE	60/474266	5/29/2003			Mechanical Enhancer Additives for Low Dielectric Films
United States	ISSUED	10/842503	5/11/2004	8137764.0	3/20/2012	Mechanical Enhancer Additives for Low Dielectric Films
United States	ISSUED	10/689402	10/20/2003	7208049.0	4/24/2007	Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
United States	INACTIVE	11/519476	9/12/2006	7452426.0	11/18/2008	Process Solutions Containing Surfactants Used as Post-Chemical Mechanical Planarization Treatment
United States	INACTIVE	10/635046	8/5/2003			Processing of Semiconductor Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
United States	INACTIVE	10/737203	12/16/2003	7211553.0	5/1/2007	Processing of Substrates with Dense Fluids Comprising Acetylenic Diols and/or Alcohols
United States	INACTIVE	10/420369	4/22/2003			Precursors for Metal Containing Films
United States	INACTIVE	10/780183	2/17/2004			Precursors for Depositing Silicon-Containing Films and Processes Thereof
United States	ISSUED	10/788223	2/26/2004	7087102.0	8/8/2006	Process for Purification of Germane
United States	INACTIVE	10/784377	2/23/2004	7138550.0	11/21/2006	Bridged Carbocyclic Compounds and Methods of Making and Using Same
United States	ISSUED	10/602329	6/24/2003	7124913.0	10/24/2006	High Purity Chemical Container With Diptube and Level Sensor Terminating in Lowest Most Point of Concave Floo
United States	INACTIVE	60/496187	8/19/2003			Method and Apparatus for the Delivery of Solid Materials
United States	INACTIVE	60/587295	7/12/2004			Method and Apparatus for the Delivery of Solid Materials
United States	ISSUED	10/902778	8/2/2004	7261118.0	8/28/2007	Method and Vessel for the Delivery of Precursor Materials
United States	INACTIVE	10/619922	7/15/2003			Use of Hypofluorites, Fluoroperoxides, and/or Fluorotrioxides as Oxidizing Agent in Fluorocarbon Etch Plasma
United States	INACTIVE	10/619911	7/15/2003			Unsaturated Oxygenated Fluorocarbons for Selective Aniostropic Etch Applications
United States	ISSUED	10/730505	12/8/2003	6892473.0	5/17/2005	Process For Removing Water From Ammonia
United States	INACTIVE	11/095580	4/1/2005			Method for Removing a Substance From a Substrate Using Electron Attachment
United States	ISSUED	10/867068	6/14/2004	7303607.0	12/4/2007	Liquid Media Containing Lewis Acidic Reactive Compounds for Storage and Delivery of Lewis Basic Gases
United States	INACTIVE	60/507224	9/30/2003			Removal of Transition Metal Containing Barrier Materials from a Substrate

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	INACTIVE	10/942301	9/15/2004	7371688.0	5/13/2008	Removal of Transition Metal Ternary and/or Quaternary Barrier Materials from a Substrate
United States	INACTIVE	10/441242	5/19/2003			Deposition of Copper Films
United States	INACTIVE	10/800880	3/15/2004	7267842.0	9/11/2007	Method For Removing Titanium Dioxide Deposits From A Reactor
United States	ISSUED	10/683232	10/10/2003	7153335.0	12/26/2006	Tunable Composition and Method for Chemical-Mechanical Planarization with Aspartic Acid/Tolyltriazole
United States	ISSUED	10/683258	10/10/2003	7022255.0	4/4/2006	Chemical-Mechanical Planarization Composition with Nitrogen Containing Polymer and Method for Use
United States	INACTIVE	10/683231	10/10/2003			Chemical-Mechanical Planarization Composition Having PVNO and Associated Method for Use
United States	INACTIVE	11/101815	4/8/2005			Chemical-Mechanical Planarization Composition Having PVNO and Associated Method for Use
United States	ISSUED	10/715916	11/18/2003	7342068.0	3/11/2008	Aqueous Polyurethane Dispersion and Method for Making and Using Same
United States	INACTIVE	10/785298	2/24/2004	7439654.0	10/21/2008	Transmission of Ultrasonic Energy Into Pressurized Fluids
United States	INACTIVE	10/683233	10/10/2003			Bicene/Tricine Containing Composition and Method for Chemical-Mechanical Planarization
United States	INACTIVE	11/032593	1/10/2005			Bicine/Tricine Containing Composition and Method for Chemical-Mechanical Planarization
United States	INACTIVE	60/549251	3/2/2004			Compositions for Preparing Low Dielectric Materials Containing Improved Solvents
United States	INACTIVE	11/060371	2/18/2005			Compositions for Preparing Low Dielectric Materials Containing Solvents
United States	INACTIVE	12/538510	8/10/2009			Compositions for Preparing Low Dielectric Materials Containing Solvents
United States	ISSUED	10/763366	1/23/2004	7030283.0	4/18/2006	Process For Producing 1,1-Difluorovinyl Cycloaliphatic Compounds
United States	INACTIVE	60/516565	10/31/2003			Poly(arylene ether) Polymer with Low Temperature or UV Crosslinking Grafts and Dielectric Comprising the Same
United States	INACTIVE	10/978542	11/1/2004	7179878.0	2/20/2007	Poly(arylene ether) Polymer with Low Temperature or UV Crosslinking Grafts and Dielectric Comprising the Same
United States	INACTIVE	60/519507	11/12/2003			Silicon Thin Film Transistors and Solar Cells on Plastic Substrates
United States	INACTIVE	10/984107	11/9/2004			Silicon Thin Film Transistors and Solar Cells on Plastic Substrates
United States	INACTIVE	10/887561	7/8/2004	7396381.0	7/8/2008	Storage and Delivery Systems for Gases Held in Liquid Medium
United States	ISSUED	11/743925	5/3/2007	7648682.0	1/19/2010	Wick Systems for Complexed Gas Technology
United States	INACTIVE	11/518802	9/11/2006	7307772.0	12/11/2007	Hybrid Process for Depositing Electrochromic Coating
United States	INACTIVE	60/538832	1/23/2004			Cleaning CVD Chambers Following Deposition Of Porogen-Containing Materials
United States	ISSUED	10/948277	9/23/2004	7404845.0	7/29/2008	Ionic Liquid Based Mixtures for Gas Storage and Delivery
United States	INACTIVE	11/208723	8/23/2005	7563308.0	7/21/2009	Ionic Liquid Based Mixtures for Gas Storage and Delivery
United States	ISSUED	12/493751	6/29/2009	8202446.0	6/19/2012	Ionic Liquid Based Mixtures for Gas Storage and Delivery
United States	INACTIVE	11/702317	2/5/2007			Method for Removal of Flux and Other Residue in Dense Fluid Systems
United States	INACTIVE	60/554638	3/19/2004			Alkaline Post-CMP Cleaning Solution
United States	INACTIVE	11/065080	2/25/2005			Alkaline Post-Chemical Mechanical Planarization Cleaning Compositions
United States	ISSUED	10/862851	6/7/2004	7074034.0	7/11/2006	Burner and Process for Combustion of a Gas Capable of Reacting to Form Solid Products
United States	ISSUED	10/945243	9/20/2004	7045107.0	5/16/2006	Process for the Production of Nitrogen Trifluoride
United States	INACTIVE	11/070994	3/3/2005			Method for Removing a Residue From a Chamber
United States	INACTIVE	07/694343	5/1/1991	5244952.0	9/14/1993	Polyvinyl Butyral Pellicle Compositions
United States	INACTIVE	07/690110	4/23/1991	5139607.0	8/18/1992	Alkaline Stripping Compositions
United States	INACTIVE	07/647487	1/25/1991			Organic Stripping Compositions
United States	INACTIVE	08/590883	1/24/1996			Organic Stripping Composition
United States	INACTIVE	08/433677	5/4/1995			Organic Stripping Composition
United States	INACTIVE	08/446435	5/22/1995	5496491.0	3/5/1996	Organic Stripping Composition
United States	INACTIVE	08/338898	11/14/1994			Inhibited Organic Stripping Composition
United States	INACTIVE	08/002122	1/7/1993			Inhibited Organic Stripping Composition
United States	INACTIVE	08/379094	1/26/1995			Inhibited Organic Stripping Composition
United States	INACTIVE	07/867854	3/13/1992			Inhibited Organic Stripping Composition
United States	INACTIVE	08/431576	5/1/1995			Inhibited Organic Stripping Composition
United States	INACTIVE	08/162429	12/2/1993	5419779.0	5/30/1995	Stripping With Aqueous Composition Containing Hydroxylamine and an Alkanolamine
United States	INACTIVE	08/318467	10/5/1994			Aqueous Stripping Compositions Containing a Hydroxylamine and an Alkanolamine and Use Thereo
United States	INACTIVE	08/414042	3/30/1995			Aqueous Stripping Composition Containing a Hydroxylamine and an Alkanolamine and Use Thereo
United States	INACTIVE	08/501699	7/12/1995			Aqueous Stripping Composition Containing a Hydroxylamine and an Alkanolamine and Use Thereo
United States	INACTIVE	08/374205	1/13/1995	5554312.0	9/10/1996	Photoresist Stripping Composition
United States	INACTIVE	08/373559	1/17/1995	5597420.0	1/28/1997	Stripping Composition Having Monoethanolamine
United States	INACTIVE	08/378489	1/26/1995	5563119.0	10/8/1996	Stripping Compositions Containing Alkanolamine Compounds
United States	INACTIVE	08/432398	5/1/1995	5671591.0	9/30/1997	Integrated Container Moulding and Filling Facility
United States	INACTIVE	06/857841	4/30/1986	4744834.0	5/17/1988	Photoresist Stripper Comprising A Pyrrolidinone, A Diethylene Glycol Ether, A Polyglycol and a Quaternary Ammonium Hydroxide
United States	INACTIVE	07/473587	2/1/1990	5102777.0	4/7/1992	Resist Stripping
United States	INACTIVE	60/032588	12/9/1996			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
United States	INACTIVE	09/319589	12/8/1997			Method For Purification Of Citric Acid And Ammonium Citrate For Use In Semiconductor Processing
United States	INACTIVE	08/734354	10/21/1996			Crown Ethers In Stripping Compositions
United States	ISSUED	08/745754	11/8/1996	5698503.0	12/16/1997	Stripping And Cleaning Composition

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United States	ISSUED	08/744013	11/8/1996	5709756.0	1/20/1998	Basic Stripping And Cleaning Composition
United States	INACTIVE	08/855880	5/12/1997	5928430.0	7/27/1999	Aqueous Stripping And Cleaning Compositions Containing Hydroxylamine And Use Thereo
United States	INACTIVE	08/951424	10/16/1997	5988186.0	11/23/1999	Aqueous Stripping and Cleaning Compositions
United States	ISSUED	09/004937	1/9/1998	5997658.0	12/7/1999	Semi-Aqueous Alkanol Amino Stripping Solution for Appln in the Presence of Exposed Aluminum and/or Coppe
United States	INACTIVE	09/141897	8/28/1998	6162370.0	12/19/2000	Compositon And Method For Selectively Etching A Silicon Nitride Fil
United States	INACTIVE	09/652416	8/31/2000	6303514.0	10/16/2001	Composition And Method For Selectively Etching A Silicon Nitride Fil
United States	ISSUED	09/238851	1/27/1999	6828289.0	12/7/2004	Low Surface Tension, Low Viscosity, Aqueous, Acidic Compositions Containing Fluoride And Organic, Polar Solvents For Removal Of Photoresist And Organic And Inorganic Etch Re
United States	INACTIVE	10/942290	9/15/2004	7361631.0	4/22/2008	Compositions for the Removal of Organic and Inorganic Residue
United States	INACTIVE	09/318814	5/26/1999	6147002.0	11/14/2000	Process For Removing Contaminant From A Surface And Compositon Useful Therefo
United States	INACTIVE	09/533114	3/22/2000	6673757.0	1/6/2004	Process For Removing Contaminant From A Surface And Composition Useful Therefo
United States	INACTIVE	09/377398	8/19/1999			Improved Metal Corrosion Inhibitor Additives For Semi-Aqueous Stripper/Cleaners To Protect Sensitive Metal
United States	INACTIVE	09/929158	8/14/2001			Stripping And Cleaning Composition
United States	INACTIVE	09/668929	9/25/2000	6558879.0	5/6/2003	Photoresist Stripper/Cleaner Compositions Containing Aromatic Acid Inhibitor
United States	ISSUED	09/893968	6/29/2001	6627546.0	9/30/2003	Process For Removing Contaminant From A Surface And Composition Useful Therefo
United States	ISSUED	10/652308	9/2/2003	7524801.0	4/28/2009	Process for Removing Contaminant from a Surface and Composition Useful Therefo
United States	ISSUED	12/052806	3/21/2008	7700534.0	4/20/2010	Process for Removing Contaminant from a Surface and Composition Useful Therefor Descriptio
United States	INACTIVE	09/534303	3/23/2000	6358899.0	3/19/2002	Cleaning Compositions And Use Thereof Containing Ammonium Hydroxide And Fluorosurfactan
United States	INACTIVE	09/732414	12/7/2000	6656894.0	12/2/2003	Method For Cleaning Etcher Parts
United States	ISSUED	10/042612	1/9/2002	6943142.0	9/13/2005	Aqueous Stripping And Cleaning Composition
United States	ISSUED	11/139950	5/27/2005	8231733.0	7/31/2012	Aqueous Stripping and Cleaning Composition
United States	INACTIVE	10/349065	12/27/2000			Process For Producing Ammonia With Ultra-Low Metals Content
United States	INACTIVE	09/881552	6/14/2001			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaner
United States	ISSUED	10/877305	6/25/2004	7807613.0	10/5/2010	Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaner
United States	INACTIVE	12/893639	9/29/2010			Aqueous Buffered Fluoride-Containing Etch Residue Removers and Cleaner
United States	INACTIVE	10/254785	9/26/2002	7166419.0	1/23/2007	Compositions Substrate For Removing Etching Residue And Use Thereo
United States	ISSUED	11/436544	5/19/2006	7129029.0	10/31/2006	Compositions Substrate For Removing Etching Residue And Use Thereo
United States	ISSUED	12/321730	1/22/2009	RE42128	2/8/2011	Compositions for Removing Residue from a Substrate and Use Thereo
United States	PENDING	14/947711	11/20/2015			Composition and Method Used for Chemical Mechanical Planarization of Metal
United States	INACTIVE	60/437826	1/3/2003			Composition And Method Used For Chemical Mechanical Planarization Of Metal
United States	INACTIVE	10/744285	12/23/2003			Composition And Method Used For Chemical Mechanical Planarization Of Metal
United States	PENDING	12/213141	6/16/2008			Composition and Method Used for Chemical Mechanical Planarization of Metal
United States	ISSUED	10/191060	7/10/2002	6677286.0	1/13/2004	Composition For Removing Etching Residue and Use Thereof
United States	ISSUED	10/723737	11/26/2003	6821352.0	11/23/2004	Compositions For Removing Etching Residue and Use Thereof
United States	ISSUED	10/896589	7/22/2004	9217929.0	12/22/2015	Composition for Removing Photoresist and/or Etching Residue from a Substrate and Use Thereo
United States	INACTIVE	13/103597	5/9/2011			Composition For Removing Photoresist And/Or Etching Residue From a Substrate and Use Thereo
United States	INACTIVE	13/562993	7/31/2012			Composition For Removing Photoresist and/or Etching Residue From a Substrate and Use Thereo
United States	ISSUED	10/443867	5/23/2003	6951710.0	10/4/2005	Compositions Suitable For Removing Photoresist, Photoresist Byproducts And Etching Residue, And Use Thereo
United States	INACTIVE	10/683553	10/10/2003			Polishing Composition and Use Thereof
United States	ISSUED	12/047655	3/13/2008	7687447.0	3/30/2010	Semi-Aqueous Stripping and Cleaning Composition Containing Aminobenzenesulfonic Acid\
United States	INACTIVE	11/000147	11/30/2004			Compositions Comprising Tannic Acid as Corrosion Inhibito
United States	INACTIVE	60/257928	12/22/2000			Composition Comprising an Oxidizing and Complexing Compoun
United States	INACTIVE	10/451230	12/21/2001			Composition Comprising an Oxidizing and Complexing Compoun
United States	ISSUED	10/822804	4/13/2004	7220714.0	5/22/2007	Process and Composition for Removing Residues From the Microstructure of an Objec
United States	INACTIVE	10/920541	8/18/2004			Passivating ALD Reactor Chamber Internal Surfaces to Prevent Residue Buildu
United States	INACTIVE	60/583924	6/28/2004			Method for Characterizing Porous Low Dielectric Constant Film
United States	INACTIVE	60/580001	6/15/2004			Composition and Method Comprising Same for Removing Residue from a Substrat
United States	INACTIVE	10/929755	8/30/2004			Silicon Nitride from Aminosilane Using PECV
United States	INACTIVE	60/584733	7/1/2004			Composition for Stripping and Cleaning and Use Thereo
United States	ISSUED	11/155654	6/20/2005	8030263.0	10/4/2011	Composition for Stripping and Cleaning and Use Thereo
United States	ISSUED	13/217994	8/25/2011	8440599.0	5/14/2013	Composition for Stripping and Cleaning and Use Thereo
United States	INACTIVE	60/483147	6/27/2003			Semiconductor Cleaning Solution
United States	INACTIVE	11/301130	6/28/2004	7521408.0	4/21/2009	Semiconductor Cleaning Solution
United States	INACTIVE	11/000148	11/30/2004	7272453.0	9/18/2007	Method and Apparatus for Utilizing a Sequence Interpreter Approach to Control Logic of a Programmable Logic Controlle
United States	INACTIVE	60/590628	7/23/2004			Method for Removing Carbon-Containing Residues from a Substrate
United States	INACTIVE	10/264180	10/3/2002	6956206.0	10/18/2005	Negative Ion Atmospheric Pressure Ionization and Selected Ion Mass Spectrometry Using a 63Ni Electron Sourc
United States	ISSUED	10/966803	10/15/2004	7282084.0	10/16/2007	Liquid Media Containing Lewis Basic Reactive Compounds for Storage and Delivery of Lewis Acidic Gase
United States	INACTIVE	60/590620	7/23/2004			Cleaning CVD Chambers Following Deposition of Porogen-Containing Material

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United States	INACTIVE	60/701348	7/21/2005			Cleaning CVD Chambers Following Deposition of Porogen-Containing Materials
United States	INACTIVE	60/600315	8/10/2004			Low Defectivity Product Slurry for CMP and Associated Production Method
United States	INACTIVE	11/030503	1/6/2005	6979252.0	12/27/2005	Low Defectivity Product Slurry for CMP and Associated Production Method
United States	ISSUED	10/996743	11/24/2004	7285154.0	10/23/2007	Xenon Recovery System
United States	INACTIVE	60/605584	8/30/2004			Composition and Method for Etching High Dielectric Constant Substrates
United States	INACTIVE	60/613937	9/28/2004			Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
United States	ISSUED	11/228223	9/19/2005	7332445.0	2/19/2008	Porous Low Dielectric Constant Compositions and Methods for Making and Using Same
United States	INACTIVE	10/984251	11/9/2004			Electro-Optic Assemblies and Materials for Use Therein
United States	INACTIVE	60/618813	10/14/2004			Additives for Enhancing Mechanical Strength of Low Dielectric Constant Films
United States	INACTIVE	60/621165	10/22/2004			Etching and Cleaning of Silicon-Doped Diamond-Like Carbon Film
United States	ISSUED	11/008069	12/9/2004	7064227.0	6/20/2006	Precursors for Silica or Metal Silicate Films
United States	INACTIVE	11/082991	3/17/2005	7446055.0	11/4/2008	Aerosol Misted Deposition of Low Dielectric Organosilicate Films
United States	ISSUED	11/128515	5/13/2005	7264013.0	9/4/2007	Enhanced Purge Effect in Gas Conduit
United States	ISSUED	10/984108	11/9/2004	7727401.0	6/1/2010	Selective Purification of Mono-Terpenes for Removal of Oxygen Containing Species
United States	INACTIVE	60/649490	2/3/2005			System & Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
United States	ISSUED	11/340641	1/27/2006	7867779.0	1/11/2011	System and Method Comprising Same for Measurement and/or Analysis of Particles in Gas Stream
United States	ISSUED	11/050562	2/3/2005	7682458.0	3/23/2010	Aqueous Based Residue Removers Comprising Fluoride
United States	ISSUED	11/313495	12/19/2005	7888302.0	2/15/2011	Aqueous Based Residue Removers Comprising Fluoride
United States	ISSUED	11/051140	2/4/2005	7064224.0	6/20/2006	Organometallic Complexes and Their Use as Precursors to Deposit Metal Films
United States	INACTIVE	60/640338	12/30/2004			Volatile Copper(1) Beta-Ketoiminate Complexes
United States	ISSUED	11/111452	4/21/2005	7205422.0	4/17/2007	Volatile Metal Beta-Ketoiminate and Metal Beta-Diiminate Complexes
United States	ISSUED	11/111455	4/21/2005	7034169.0	4/25/2006	Volatile Metal Beta-Ketoiminate Complexes
United States	INACTIVE	11/057446	2/14/2005			Preparation of Metal Silicon Nitride Films via Cyclic Deposition
United States	INACTIVE	60/642225	1/7/2005			Composition and Associated Method for Catalyzing Removal Rates of Dielectric Films During Chemical Mechanical Planarization
United States	INACTIVE	11/233110	9/22/2005	7351662.0	4/1/2008	Composition and Associated Method for Catalyzing Removal Rates of Dielectric Films During Chemical Mechanical Planarization
United States	INACTIVE	60/652875	2/15/2005			Method for Defining a Feature on a Substrate
United States	INACTIVE	11/350322	2/8/2006			Method for Defining a Feature on a Substrate
United States	ISSUED	11/129862	5/16/2005	7875556.0	1/25/2011	Precursors for CVD Silicon Carbo-Nitride and Silicon Nitride Films
United States	ISSUED	12/267790	11/10/2008	7932413.0	4/26/2011	Precursors for CVD Silicon Carbo-Nitride Films
United States	ISSUED	13/051591	3/18/2011	8383849.0	2/26/2013	Precursors for CVD Silicon Carbo-Nitride Films
United States	ISSUED	13/614387	9/13/2012	8932675.0	1/13/2015	Methods for Depositing Silicon Carbo-Nitride Film
United States	PENDING	14/571943	12/16/2014			Precursors for CVD Silicon Carbo-Nitride Films
United States	INACTIVE	11/355420	2/16/2006	7380323.0	6/3/2008	Seal Installation Tool
United States	INACTIVE	60/664338	3/23/2005			Low-Dishing Composition and Method for Chemical-Mechanical Planarization with Branched-Alkylphenol-Substituted Benzotriazole
United States	INACTIVE	11/374714	3/14/2006			Low-Dishing Composition and Method for Chemical-Mechanical Planarization with Branched-Alkylphenol-Substituted Benzotriazole
United States	INACTIVE	60/672290	4/18/2005			Dual-Flow Valve and Internal Processing Vessel Isolation System
United States	ISSUED	11/399322	4/7/2006	7811532.0	10/12/2010	Dual-Flow Valve and Internal Processing Vessel Isolation System
United States	ISSUED	11/437326	5/19/2006	7736420.0	6/15/2010	Contact Methods for Formation of Lewis Gas/Liquid Systems and Recovery of Lewis Gas Therefrom
United States	ISSUED	11/249207	10/13/2005	7879782.0	2/1/2011	Aqueous Cleaning Composition and Method for Using Same
United States	INACTIVE	60/693205	6/23/2005			Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
United States	ISSUED	11/452290	6/14/2006	7700533.0	4/20/2010	Composition for Removal of Residue Comprising Cationic Salts and Methods Using Same
United States	ISSUED	11/365290	3/1/2006	7481074.0	1/27/2009	Self-Contained Distillation Purifier/Superheater for Liquid-Fill Product Container and Delivery Systems
United States	ISSUED	11/250250	10/14/2005	8772214.0	7/8/2014	Aqueous Cleaning Composition for Removing Residues and Method Using Same
United States	ISSUED	11/284193	11/21/2005	8197914.0	6/12/2012	Method for Depositing Zinc Oxide at Low Temperatures and Products Formed Thereby
United States	INACTIVE	11/395409	3/31/2006			Turbomolecular Pump System for Gas Separation
United States	INACTIVE	11/403749	4/13/2006			Cleaning of Contaminated Articles by Aqueous Supercritical Oxidation
United States	INACTIVE	60/711241	8/24/2005			Chemical-Mechanical Planarization Composition Having Ketooxime Compounds and Associated Method for Use
United States	INACTIVE	11/508427	8/23/2006	7316977.0	1/8/2008	Chemical-Mechanical Planarization Composition Having Ketooxime Compounds and Associated Method for Use
United States	INACTIVE	11/285056	11/22/2005			Selective Etching of Titanium Nitride with Xenon Difluoride
United States	ISSUED	12/360588	1/27/2009	8278222.0	10/2/2012	Selective Etching and Formation of Xenon Difluoride
United States	INACTIVE	60/712773	8/31/2005			CMP Composition of Boron Surface-Modified Abrasive and Nitro-Substituted Sulfonic Acid and Method of Use
United States	ISSUED	11/509223	8/24/2006	7678702.0	3/16/2010	CMP Composition of Boron Surface-Modified Abrasive and Nitro-Substituted Sulfonic Acid and Method of Use
United States	ISSUED	11/330815	1/12/2006	7534753.0	5/19/2009	pH Buffered Aqueous Cleaning Composition and Method for Removing Photoresist Residue
United States	INACTIVE	11/430614	5/9/2006			Analysis of a Reactive Gas Such as Silane for Particle Generating Impurities
United States	INACTIVE	60/723619	10/4/2005			System And Method For Reducing Particle Formation In A Gas Feed Stream During Pressure Reduction
United States	INACTIVE	60/723822	10/5/2005			Stabilizer-Fenton's Reaction Metal-Vinyl Pyridine Polymer-Surface-Modified Chemical Mechanical Planarization Composition and Associated Method
United States	INACTIVE	11/516002	9/5/2006			Stabilizer-Fenton's Reaction Metal-Vinyl Pyridine Polymer-Surface-Modified Chemical Mechanical Planarization Composition and Associated Method

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	INACTIVE	60/724757	10/7/2005			Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
United States	ISSUED	11/522768	9/18/2006	7754906.0	7/13/2010	Ti, Ta, Hf, Zr, and Related Metal Silicon Amides for ALD/CVD of Metal-Silicon Nitrides, Oxides or Oxynitride
United States	INACTIVE	11/342414	1/30/2006			Cleaning Formulations
United States	ISSUED	11/450666	6/9/2006	7837877.0	11/23/2010	Process for Separating Components of a Multi-Component Feed Strea
United States	INACTIVE	12/900530	10/8/2010			Process for Separating Components of a Multi-Component Feed Strea
United States	INACTIVE	60/753261	12/22/2005			Semi-aqueous Photoresist Stripper for Bi-level Photoresist Removal
United States	INACTIVE	60/753260	12/22/2005			Formulation for Removal of Photoresist, Etch Residue and Bar
United States	ISSUED	11/602662	11/21/2006	7674755.0	3/9/2010	Formulation for Removal of Photoresist, Etch Residue and Bar
United States	INACTIVE	60/791840	4/13/2006			Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
United States	ISSUED	11/687947	3/19/2007	8021536.0	9/20/2011	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
United States	ISSUED	13/208418	8/12/2011	8591720.0	11/26/2013	Method and Apparatus for Achieving Maximum Yield in the Electrolytic Preparation of Group IV and V Hydride
United States	INACTIVE	60/776610	2/22/2006			Top Coat for Lithography Processes
United States	INACTIVE	11/706243	2/15/2007			Top Coat for Lithography Processes
United States	INACTIVE	11/393561	3/30/2006			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbo
United States	INACTIVE	11/702742	2/6/2007			Preparation of Organic Compounds Bearing a Trifluoromethyl Group on a Quaternary Carbo
United States	INACTIVE	60/809255	5/30/2006			Diethylsilane as a Silicon Source in the Depositon of Metal Silicate Film
United States	ISSUED	11/829150	7/27/2007	7686351.0	3/30/2010	Soft Insert Gasket
United States	ISSUED	11/439554	5/23/2006	7875312.0	1/25/2011	Process for Producing Silicon Oxide Films From Organoaminosilane Precursor
United States	ISSUED	12/976041	12/22/2010	8530361.0	9/10/2013	Process for Producing Silicon and Oxide Films From Organoaminosilane Precursor
United States	ISSUED	13/964658	8/12/2013	8940648.0	1/27/2015	Process for Producing Silicon and Oxide Films From Organoaminosilane Precursor
United States	INACTIVE	60/792793	4/18/2006			Materials and Methods of Forming Controlled Voids
United States	ISSUED	11/693707	3/29/2007	8399349.0	3/19/2013	Materials and Methods of Forming Controlled Void
United States	ISSUED	13/767409	2/14/2013	8846522.0	9/30/2014	Materials and Methods of Forming Controlled Void
United States	ISSUED	14/323008	7/3/2014	9293361.0	3/22/2016	Materials and Methods of Forming Controlled Void
United States	INACTIVE	60/787603	3/30/2006			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystal
United States	INACTIVE	60/899679	2/6/2007			Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystal
United States	ISSUED	11/970510	1/7/2008	7662959.0	2/16/2010	Quaternary Trifluoromethylcyclohexane Derivatives for Liquid Crystal
United States	INACTIVE	60/794820	4/25/2006			Metal Complexes of Polydentate Beta-Ketoiminates
United States	ISSUED	11/735603	4/16/2007	7947814.0	5/24/2011	Metal Complexes of Polydentate Beta-Ketoiminates
United States	INACTIVE	11/601486	11/17/2006	7977121.0	7/12/2011	Method and Composition for Restoring Dielectric Properties of Porous Dielectric Material
United States	ISSUED	11/590029	10/31/2006	7448402.0	11/11/2008	Leak Containment Apparatus for Reactive Gases
United States	ISSUED	11/494412	7/27/2006	7456374.0	11/25/2008	Component Heater
United States	ISSUED	11/652407	1/11/2007	7879783.0	2/1/2011	Cleaning Composition for Semiconductor Substrates
United States	INACTIVE	60/809085	5/26/2006			Composition and Method for Photoresist Removal
United States	ISSUED	11/738699	4/23/2007	8288330.0	10/16/2012	Composition and Method for Photoresist Removal
United States	INACTIVE	60/812560	6/9/2006			High Flow GaCl3 Delivery
United States	INACTIVE	11/756091	5/31/2007			High Flow GaCl3 Delivery
United States	INACTIVE	60/810534	6/2/2006			Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layer
United States	INACTIVE	11/752722	5/23/2007	7919825.0	4/5/2011	Thin Film Transistors With Poly(Arylene Ether) Polymers as Gate Dielectrics and Passivation Layer
United States	ISSUED	11/514650	9/1/2006	7442822.0	10/28/2008	Stabilization of Nitrogen-Containing and Oxygen-Containing Organosilanes Using Weakly Basic Ion-Exchange Resin
United States	INACTIVE	60/813087	6/13/2006			Improved DEMS Product as Precursor for CVD
United States	INACTIVE	11/753153	5/24/2007			Low-Impurity Organosilicon Product as Precursor for CV
United States	ISSUED	13/205015	8/8/2011	8329933.0	12/11/2012	Low-Impurity Organosilicon Product as Precursor for CV
United States	ISSUED	13/668545	11/5/2012	8759563.0	6/24/2014	Low-Impurity Organosilicon Product as Precursor for CV
United States	INACTIVE	60/816896	6/27/2006			Curing Dielectric Films Under a Reducing Atmospher
United States	INACTIVE	11/764485	6/18/2007			Curing Dielectric Films Under a Reducing Atmospher
United States	INACTIVE	11/740410	4/26/2007			Photoimprintable Low Dielectric Constant Material and Method for Making and Using Sam
United States	INACTIVE	60/831161	7/14/2006			Low Temperature Sol-Gel Silicates as Dielectrics or Planarization Layers in Thin Film Transistor
United States	INACTIVE	11/773570	7/5/2007			Low Temperature Sol-Gel Silicates as Dielectrics or Planarization Layers for Thin Film Transistor
United States	INACTIVE	60/853014	10/19/2006			Solid Source Container With Inlet Plenu
United States	ISSUED	11/867171	10/4/2007	9109287.0	8/18/2015	Solid Source Container With Inlet Plenu
United States	INACTIVE	60/852758	10/19/2006			Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
United States	INACTIVE	11/868469	10/5/2007			Stripper Containing an Acetal or Ketal for Removing Post-Etched Photo-Resist, Etch Polymer and Residue
United States	INACTIVE	60/874653	12/13/2006			Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Film
United States	ISSUED	11/949868	12/4/2007	7678422.0	3/16/2010	Cyclic Chemical Vapor Deposition of Metal-Silicon Containing Film
United States	ISSUED	11/534336	9/22/2006	7477444.0	1/13/2009	Electro-Optic Display and Materials for Use Therei
United States	ISSUED	12/351880	1/12/2009	7986450.0	7/26/2011	Adhesives and Binders for Electro-Optic Displays

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	INACTIVE	60/861327	11/28/2006			Use of Organosilane Compounds to Modify Silicon Oxide, Nitride or Carbide Films
United States	INACTIVE	11/941532	11/16/2007			Organosilane Compounds for Modifying Dielectrical Properties of Silicon Oxide and Silicon Nitride Film
United States	INACTIVE	60/875200	12/15/2006			Splashguard for High Vacuum, High Flow Bubbler Vesse
United States	INACTIVE	60/908376	3/27/2007			Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
United States	ISSUED	11/939109	11/13/2007	8708320.0	4/29/2014	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
United States	ISSUED	14/205786	3/12/2014	9435027.0	9/6/2016	Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
United States	INACTIVE	14/205601	3/12/2014			Splashguard and Inlet Diffuser for High Vacuum, High Flow Bubbler Vesse
United States	INACTIVE	11/643307	12/21/2006			Method and Slurry for Reducing Corrosion on Tungsten During Chemical Mechanical Polishing
United States	INACTIVE	11/643519	12/21/2006			Method and Slurry for Tuning Low-K Versus Copper Removal Rates During Chemical Mechanical Polishing
United States	INACTIVE	13/052457	3/21/2011			Method and Slurry for Tuning Low-K Versus Copper Removal Rates During Chemical Mechanical Polishing
United States	INACTIVE	11/643309	12/21/2006			Compositions for Chemical Mechanical Planarization of Copper
United States	INACTIVE	11/688324	3/20/2007	7416717.0	8/26/2008	Synthesis of Pentahalosulfur Peroxides and Monoxides
United States	INACTIVE	60/878027	12/28/2006			Volatile Liquid Copper Precursors for Thin Film Applications
United States	INACTIVE	60/899458	2/5/2007			Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
United States	INACTIVE	11/753073	5/24/2007			Method of Purifying Organosilicon Compositions Used as Precursors in Chemical Vapor Deposition
United States	INACTIVE	11/387934	3/24/2006	7476620.0	1/13/2009	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
United States	INACTIVE	12/352700	1/13/2009			Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
United States	ISSUED	11/700526	1/31/2007	7691287.0	4/6/2010	Method for Immobilizing Ligands and Organometallic Compounds on Silica Surface, and their Application in Chemical Mechanical Planarizatio
United States	INACTIVE	11/761447	6/12/2007			Oxopentafluorosulfanyl-Substituted Alicyclic Compounds
United States	INACTIVE	60/890137	2/15/2007			Activated Chemical Process for Enhancing Material Properties of Dielectric Films
United States	ISSUED	12/023552	1/31/2008	7500397.0	3/10/2009	Activated Chemical Process for Enhancing Material Properties of Dielectric Films
United States	INACTIVE	60/903734	2/27/2007			Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
United States	INACTIVE	12/030186	2/12/2008			Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
United States	ISSUED	13/405453	2/27/2012	8828505.0	9/9/2014	Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
United States	INACTIVE	12/029831	2/12/2008			Plasma Enhanced Cyclic Chemical Vapor Deposition of Silicon-Containing Films
United States	INACTIVE	11/760967	6/11/2007	7689689.0	3/30/2010	Protection of Industrial Equipment from Network Storms Emanating from a Network System
United States	INACTIVE	60/911970	4/16/2007			Metal Precursor Solutions for Chemical Vapor Deposition
United States	INACTIVE	12/058200	3/28/2008			Metal Precursor Solutions for Chemical Vapor Deposition
United States	INACTIVE	12/157631	6/12/2008			Plasma Enhanced Cyclic Depositon Method of Metal Silicon Nitride Film
United States	INACTIVE	60/913798	4/24/2007			Tellurium (Te) Precursors for Making Phase Change Memory Materials
United States	INACTIVE	12/100824	4/10/2008	8377341.0	2/19/2013	Tellurium (Te) Precursors for Making Phase Change Memory Materials
United States	INACTIVE	60/910915	4/10/2007			Porogens, Porogenated Precursors and Methods for Using the Same to Provide Porous Organosilica Glass Films With Low Dielectric Constants
United States	INACTIVE	60/910965	4/10/2007			Activated Chemical Process for Enhancing Material Properties of Dielectric Films
United States	INACTIVE	60/943867	6/14/2007			Stabilizers for the Stabilizaiton of 2,5-Norbornadiene
United States	INACTIVE	11/752606	5/23/2007			Semiconductor Manufacture Employing Isopropanol Drying
United States	INACTIVE	60/945415	6/21/2007			Process for Forming Continuous Copper Thin Films Via Vapor Deposition
United States	INACTIVE	60/945748	6/22/2007			Process for Forming Continuous Copper Thin Films Via Vapor Deposition
United States	ISSUED	12/139585	6/16/2008	8283485.0	10/9/2012	Process for Selectively Depositing Copper Thin Films on Substrates With Copper and Ruthenium Areas Via Vapor Deposition
United States	INACTIVE	11/941157	11/16/2007			Deposition of Metal Films on Diffusion Layers by Atomic Layer Deposition and Organometallic Precursor Complexes Therefo
United States	INACTIVE	60/942007	6/5/2007			Low Tempertaure Thermal Conductive Inks
United States	ISSUED	12/126333	5/23/2008	8143431.0	3/27/2012	Low Temperature Thermal Conductive Inks
United States	INACTIVE	60/938233	5/16/2007			Strontium and Barium Precursors for Depositing Barium, Strontium Titanate Films
United States	INACTIVE	12/113397	5/1/2008			Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
United States	ISSUED	12/266058	11/6/2008	8247617.0	8/21/2012	Group 2 Metal Precursors for Depositing Multi-Component Metal Oxide Films
United States	INACTIVE	60/941891	6/4/2007			Low Dielectric Constant Barrier Layers Applied by Hot-Filament Chemical Vapor Deposition Method
United States	INACTIVE	60/942681	6/8/2007			Carbon Hardmask and or Anti-Reflective Coatings Applied by Hot-Filament Chemical Vapor Deposition Method
United States	INACTIVE	60/942563	6/7/2007			Radiography for Non-Destructive Industrial Gas Cylinder End Inspection
United States	ISSUED	11/768395	6/26/2007	7551346.0	6/23/2009	Electro-Optic Displays, and Materials for Use Therein
United States	INACTIVE	60/986469	11/8/2007			Preparation of Metal-Containing Film Via ALD or CVD Processes
United States	INACTIVE	12/255128	10/21/2008			Preparation of a Metal-Containing Film Via ALD or CVD Processes
United States	INACTIVE	60/975683	9/27/2007			Cyclopentene as a Precursor for Carbon-Based Films
United States	INACTIVE	12/211197	9/16/2008			Cyclopentene as a Precursor for Carbon-Based Films
United States	INACTIVE	60/956232	8/16/2007			Reverse Shallow Trench Isolation Process
United States	INACTIVE	11/961396	12/20/2007			Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
United States	INACTIVE	13/721608	12/20/2012			Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
United States	PENDING	14/822299	8/10/2015			Divided Electrochemical Cell and Low Cost High Purity Hydride Gas Production Process
United States	INACTIVE	60/968916	8/30/2007			Method and Composition for Chemical Mechanical Planarization of Chalcogenide Materials

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	ISSUED	12/193303	8/18/2008	7915071.0	3/29/2011	Method for Chemical Mechanical Planarization of Chalcogenide Materials
United States	INACTIVE	60/968920	8/30/2007			Method and Composition for Chemical Mechanical Planarization of Copper
United States	INACTIVE	12/195840	8/21/2008			Method for Chemical Mechanical Planarization of a Metal-Containing Substrate
United States	INACTIVE	60/968924	8/30/2007			Method and Composition for Chemical Mechanical Planarization of Chalcogenide Materials
United States	ISSUED	12/190882	8/13/2008	7678605.0	3/16/2010	Method for Chemical Mechanical Planarization of Chalcogenide Materials
United States	ISSUED	11/944669	11/26/2007	7971497.0	7/5/2011	Devices and Methods for Performing Inspections, Repairs, and/or Other Operations Within Vessels
United States	ISSUED	13/106430	5/12/2011	8616075.0	12/31/2013	System for Performing Inspections, Repairs, and/or Other Operations Within Vessels
United States	ISSUED	11/944788	11/26/2007	9222622.0	12/29/2015	Vessels With Personnel Access Provisions
United States	PENDING	14/961207	12/7/2015			Vessels With Personnel Access Provisions
United States	ISSUED	12/190125	8/12/2008	8129555.0	3/6/2012	Precursors for Depositing Silicon-Containing Films and Methods for Making and Using Same
United States	INACTIVE	60/979585	10/12/2007			Antireflective Coatings
United States	INACTIVE	12/244426	10/2/2008			Antireflective Coatings
United States	ISSUED	12/244455	10/2/2008	8987039.0	3/24/2015	Antireflective Coatings for Photovoltaic Applications
United States	INACTIVE	60/985428	11/5/2007			Copper Precursors for Thin Film Deposition
United States	ISSUED	12/258996	10/27/2008	8263795.0	9/11/2012	Copper Precursors for Thin Film Deposition
United States	INACTIVE	60/990386	11/27/2007			Tellurium Precursors for GST Films in an ALD or CVD Process
United States	ISSUED	12/272886	11/18/2008	7960205.0	6/14/2011	Tellurium Precursors for GST Films in an ALD or CVD Process
United States	ISSUED	11/945678	11/27/2007	7691984.0	4/6/2010	Metal Complexes of Tridentate B-Ketoiminates
United States	ISSUED	12/245196	10/3/2008	7723493.0	5/25/2010	Metal Complexes of Tridentate Beta-Ketoiminates
United States	INACTIVE	61/012632	12/10/2007			Method for Chemical Mechanical Planarization of Low-K Dielectric Materials
United States	INACTIVE	61/015028	12/19/2007			Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
United States	ISSUED	12/038409	2/27/2008	7968001.0	6/28/2011	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
United States	ISSUED	12/128381	5/28/2008	8440099.0	5/14/2013	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
United States	ISSUED	13/109488	5/17/2011	8092709.0	1/10/2012	Stabilizers for the Stabilization of Unsaturated Hydrocarbon-Based Precursor
United States	INACTIVE	61/023989	1/28/2008			Antimony Precursors for GST Films in ALD Processes
United States	ISSUED	12/355325	1/16/2009	8318252.0	11/27/2012	Antimony Precursors for GST Films in ALD/CVD Processes
United States	INACTIVE	13/572973	8/13/2012			Precursors for GST Films in ALD/CVD Processes
United States	INACTIVE	14/603878	1/23/2015			Precursors for GST Films in ALD/CVD Processes
United States	INACTIVE	61/034592	3/7/2008			Stripper for Dry Film Removal
United States	ISSUED	12/394183	2/27/2009	8357646.0	1/22/2013	Stripper for Dry Film Removal
United States	INACTIVE	61/036707	3/14/2008			Stripper for Copper/Low K BEOL Clean
United States	INACTIVE	12/400332	3/9/2009			Stripper for Copper/Low K BEOL Clean
United States	INACTIVE	61/038874	3/24/2008			Gas Phase Process to Improve Adhesion to Copper and Copper Electromigration Resistance
United States	INACTIVE	61/074843	6/23/2008			Adhesion to Copper and Copper Electromigration Resistance
United States	ISSUED	12/406467	3/18/2009	8043976.0	10/25/2011	Adhesion to Copper and Copper Electromigration Resistance
United States	INACTIVE	61/044270	4/11/2008			Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
United States	ISSUED	12/410529	3/25/2009	8092870.0	1/10/2012	Preparation of Metal Oxide Thin Film Via Cyclic CVD or ALD
United States	INACTIVE	12/192603	8/15/2008	7919409.0	4/5/2011	Materials for Adhesion Enhancement of Copper Film on Diffusion Barriers
United States	INACTIVE	61/121666	12/11/2008			Method for Removal of Carbon From an Organosilicate Materia
United States	INACTIVE	12/575772	10/8/2009			Method for Removal of Carbon from an Organosilicate Materia
United States	PENDING	13/936557	7/8/2013			Method for Removal of Carbon from an Organosilicate Materia
United States	INACTIVE	61/051403	5/8/2008			Formation of Binary and Ternary Metal Chalcogenide Materials and the Application Process for Phase Change Memory
United States	ISSUED	12/425821	4/17/2009	8765223.0	7/1/2014	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
United States	ISSUED	13/156501	6/9/2011	8507040.0	8/13/2013	Binary and Ternary Metal Chalcogenide Materials and Method of Making and Using Same
United States	INACTIVE	61/057891	6/2/2008			Method of Forming Silicon Nitride or Silicon Oxynitride at Low Temperature
United States	INACTIVE	61/058374	6/3/2008			Low Temperature Deposition of Silicon-Containing Films
United States	ISSUED	12/476734	6/2/2009	8298628.0	10/30/2012	Low Temperature Deposition of Silicon-Containing Films
United States	ISSUED	13/624190	9/21/2012	8906455.0	12/9/2014	Low Temperature Deposition of Silicon-Containing Films
United States	INACTIVE	61/055288	5/22/2008			Method and Composition for Post-CMP Cleaning of Copper Interconnects Comprising Noble Metal Barrier Layers
United States	INACTIVE	12/437045	5/7/2009			Method and Composition for Post-CMP Cleaning of Copper Interconnects Comprising Noble Metal Barrier Layers
United States	INACTIVE	61/056734	5/28/2008			Process Stability of NBDE Using Substituted Phenol Stabilizers
United States	ISSUED	12/470002	5/21/2009	8173213.0	5/8/2012	Process Stability of NBDE Using Substituted Phenol Stabilizers
United States	INACTIVE	61/089654	8/18/2008			Process for Restoring Dielectric Constant
United States	ISSUED	12/540395	8/13/2009	8283260.0	10/9/2012	Process for Restoring Dielectric Properties
United States	INACTIVE	12/179979	7/25/2008	8039658.0	10/18/2011	Removal of Trace Arsenic Impurities From Triethylphosphate (TEPO)
United States	INACTIVE	61/080474	7/14/2008			Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Therefo
United States	ISSUED	12/499556	7/8/2009	8580656.0	11/12/2013	Process for Inhibiting Corrosion and Removing Contaminant from a Surface During Wafer Dicing and Composition Useful Therefo

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	INACTIVE	61/080058	7/11/2008			Aminosilanes for Shallow Trench Isolation Films
United States	ISSUED	12/492201	6/26/2009	7999355.0	8/16/2011	Aminosilanes for Shallow Trench Isolation Films
United States	INACTIVE	61/088176	8/12/2008			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
United States	INACTIVE	13/058688	8/10/2009			Polymeric Compositions Comprising Per(Phenylethynyl) Arene Derivatives
United States	INACTIVE	61/086341	8/5/2008			High Coordination Sphere Group 2 Metal Beta-Diketiminate Precursors
United States	ISSUED	12/535192	8/4/2009	8313807.0	11/20/2012	High Coordination Sphere Group 2 Metal B-Diketiminate Precursors
United States	INACTIVE	61/097352	9/16/2008			Process and System for Providing Acetylene
United States	ISSUED	12/554052	9/4/2009	8129577.0	3/6/2012	Process and System for Providing Acetylene
United States	ISSUED	13/359790	1/27/2012	8915992.0	12/23/2014	Process and System for Providing Acetylene
United States	INACTIVE	61/092916	8/29/2008			Selective Etching of Silicon Dioxide Compositions
United States	ISSUED	12/504064	7/16/2009	8372756.0	2/12/2013	Selective Etching of Silicon Dioxide Compositions
United States	INACTIVE	61/091155	8/22/2008			Cross Purge Valve and Container Assembly
United States	ISSUED	12/464922	5/13/2009	8002247.0	8/23/2011	Cross Purge Valve and Container Assembly
United States	INACTIVE	12/266806	11/7/2008			Group 2 Metal Precursors for Deposition of Group 2 Metal Oxide Films
United States	ISSUED	12/257950	10/24/2008	8506661.0	8/13/2013	Polishing Slurry for Copper Films
United States	INACTIVE	12/242002	9/30/2008			Method for Forming Through-Base Wafer Vias in Fabrication of Stacked Devices
United States	INACTIVE	61/121336	12/10/2008			Precursors for Depositing Group 4 Metal-Containing Films
United States	ISSUED	12/629416	12/2/2009	8471049.0	6/25/2013	Precursors for Depositing Group 4 Metal-Containing Films
United States	INACTIVE	12/388862	2/19/2009	8268195.0	9/18/2012	Electrically Conductive Films Formed From Dispersions Comprising Polythiophenes and Ether Containing Polymers
United States	INACTIVE	61/015498	12/20/2007			Methods for In-Situ Chamber Cleaning Process for High Volume Manufacture of Semiconductor Materials
United States	INACTIVE	61/118769	12/1/2008			Dielectric Barrier Deposition Using Oxygen Containing Precursor
United States	ISSUED	12/623998	11/23/2009	8637396.0	1/28/2014	Dielectric Barrier Deposition Using Oxygen Containing Precursor
United States	INACTIVE	61/116653	11/21/2008			Volatile Group 2 Metal 1,3,5-Triazapentadienate Compounds
United States	INACTIVE	12/613952	11/6/2009			Volatile Group 2 Metal 1,3,5-Triazapentadienate Compounds
United States	INACTIVE	61/109362	10/29/2008			Method and Composition for Bulk Metal Polishing in Through Silicon Via Technology for Application of Stacked Devices
United States	INACTIVE	61/111537	11/5/2008			Method and Composition for Chemical Mechanical Planarization of a Meta
United States	INACTIVE	61/113624	11/12/2008			Amino Vinylsilane Precursors for Stressed SiN Films
United States	ISSUED	12/609542	10/30/2009	8580993.0	11/12/2013	Amino Vinylsilane Precursors for Stressed SiN Films
United States	INACTIVE	14/070957	11/4/2013			Amino Vinylsilane Precursors for Stressed SiN Films
United States	INACTIVE	61/231393	8/5/2009			Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
United States	ISSUED	12/841540	7/22/2010	8110535.0	2/7/2012	Semi-Aqueous Stripping and Cleaning Formulation for Metal Substrate and Methods for Using Same
United States	INACTIVE	61/301375	2/4/2010			Methods to Prepare Silicon-Containing Films
United States	ISSUED	13/015720	1/28/2011	8703625.0	4/22/2014	Methods to Prepare Silicon-Containing Films
United States	ISSUED	14/193417	2/28/2014	9502234.0	11/22/2016	Methods to Prepare Silicon-Containing Films
United States	INACTIVE	61/159939	3/13/2009			Dielectric Films Comprising Silicon and Methods for Making Same
United States	ISSUED	12/717572	3/4/2010	8703624.0	4/22/2014	Dielectric Films Comprising Silicon and Methods for Making Same
United States	INACTIVE	14/204577	3/11/2014			Dielectric Films Comprising Silicon and Methods for Making Same
United States	INACTIVE	61/138244	12/17/2008			Wet Clean Compositions for CoWP and Porous Dielectrics
United States	ISSUED	12/624970	11/24/2009	8361237.0	1/29/2013	Wet Clean Compositions for CoWP and Porous Dielectrics
United States	INACTIVE	61/159599	3/12/2009			Seatless Valve
United States	INACTIVE	61/140216	12/23/2008			Combination, Method, and Composition for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
United States	ISSUED	12/630304	12/3/2009	8506831.0	8/13/2013	Combination, Method, and Composition for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
United States	ISSUED	13/930273	6/28/2013	8790521.0	7/29/2014	Combination, Method, and Composition for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
United States	INACTIVE	61/141310	12/30/2008			Method and Composition for Chemical Mechanical Planarization of a Meta
United States	ISSUED	12/632111	12/7/2009	8414789.0	4/9/2013	Method and Composition for Chemical Mechanical Planarization of a Meta
United States	ISSUED	13/783835	3/4/2013	8841216.0	9/23/2014	Method and Composition for Chemical Mechanical Planarization of a Meta
United States	INACTIVE	61/141706	12/31/2008			Method and Composition for Chemical Mechanical Planarization of a Metal or a Metal Alloy
United States	ISSUED	12/632918	12/8/2009	8252688.0	8/28/2012	Method and Composition for Chemical Mechanical Planarization of a Metal or a Metal Alloy
United States	ISSUED	13/561398	7/30/2012	8697577.0	4/15/2014	Method and Composition for Chemical Mechanical Planarization of a Metal or a Metal Alloy
United States	INACTIVE	61/392180	10/12/2010			Aminosilanes and Methods for Making Same
United States	INACTIVE	13/251684	10/3/2011			Aminosilanes and Methods for Making Same
United States	ISSUED	12/407279	3/19/2009	8162296.0	4/24/2012	Splashguard for High Flow Vacuum Bubbler Vesse
United States	ISSUED	13/350989	1/16/2012	8944420.0	2/3/2015	Splashguard for High Flow Vacuum Bubbler Vesse
United States	INACTIVE	61/159237	3/11/2009			Method for Preparing Metal Complexes of Polydentate Beta-Ketoiminates
United States	ISSUED	12/702655	2/9/2010	8722933.0	5/13/2014	Method for Preparing Metal Complexes of Polydentate Beta-Ketoiminates
United States	INACTIVE	61/157659	3/5/2009			Amine-Containing Cleaning Compositions
United States	INACTIVE	61/169414	4/15/2009			Method for Making a Chlorosilane

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United States	ISSUED	12/754909	4/6/2010	8206676.0	6/26/2012	Method for Making a Chlorosilane
United States	INACTIVE	61/238268	8/31/2009			Water-Rich Stripping and Cleaning Formulation and Method for Using Same
United States	ISSUED	12/859624	8/19/2010	8518865.0	8/27/2013	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
United States	ISSUED	13/936656	7/8/2013	9201308.0	12/1/2015	Water-Rich Stripping and Cleaning Formulation and Method for Using Same
United States	INACTIVE	61/162947	3/24/2009			Chemical Vapor Deposition Method
United States	ISSUED	12/730088	3/23/2010	9212420.0	12/15/2015	Chemical Vapor Deposition Method
United States	INACTIVE	60/023299	7/26/1996			Chemical Mechanical Polishing Composition and Process
United States	ISSUED	09/043505	7/21/1997	6117783.0	9/12/2000	Chemical Mechanical Polishing Composition and Process
United States	INACTIVE	10/683730	10/10/2003	7033942.0	4/25/2006	Chemical Mechanical Polishing Composition and Process
United States	ISSUED	11/194467	8/2/2005	7314823.0	1/1/2008	Chemical Mechanical Polishing Composition and Process
United States	INACTIVE	60/023299	7/26/1996			Chemical Mechanical Polishing Composition and Process
United States	ISSUED	09/481050	1/11/2000	6313039.0	11/6/2001	Chemical Mechanical Polishing Composition and Process
United States	ISSUED	09/226996	1/7/1999	6635186.0	10/21/2003	Chemical Mechanical Polishing Composition and Process
United States	ISSUED	10/401405	3/27/2003	7276180.0	10/2/2007	Chemical Mechanical Polishing Composition and Process
United States	INACTIVE	10/689043	10/21/2003			Abasive-Free Chemical Mechanical Polishing Composition and Polishing Process Containing Same
United States	INACTIVE	09/985870	11/6/2001			Chemical Mechanical Polishing Compositions
United States	INACTIVE	61/177821	5/13/2009			Dielectric Barrier Deposition Using Nitrogen Containing Precursor
United States	ISSUED	12/772518	5/3/2010	8889235.0	11/18/2014	Dielectric Barrier Deposition Using Nitrogen Containing Precursor
United States	INACTIVE	60/514020	10/27/2003			Alumina Abrasive for Chemical Mechanical Polishing
United States	INACTIVE	60/526107	12/2/2003			Alumina Abrasive for Chemical Mechanical Polishing
United States	INACTIVE	10/972616	10/26/2004	7344988.0	3/18/2008	Alumina Abrasive for Chemical Mechanical Polishing
United States	INACTIVE	10/074757	2/11/2002			Catalytic Composition for Chemical-Mechanical Polishing, Method of Using Same, and Substrate Treated with Same
United States	ISSUED	10/619708	7/14/2003	7014669.0	3/21/2006	Catalytic Composition for Chemical-Mechanical Polishing, Method of Using Same, and Substrate Treated with Same
United States	ISSUED	10/361822	2/11/2003	7029508.0	4/18/2006	Catalyst Attached to Solid and Used to Promote Free Radical Formation in CMP Formulations
United States	INACTIVE	10/393542	3/19/2003			Catalyst Attached to Solid and Used to Promote Free Radical Formation in CMP Formulations
United States	ISSUED	11/264027	11/2/2005	7513920.0	4/7/2009	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
United States	INACTIVE	12/419625	4/7/2009			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
United States	INACTIVE	11/405485	4/18/2006	7427305.0	9/23/2008	Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
United States	INACTIVE	12/232712	9/23/2008			Free Radical-Forming Activator Attached to Solid and Used to Enhance CMP Formulations
United States	INACTIVE	60/664930	3/25/2005			High-Stability Composition and Method for Chemical-Mechanical Planarization with Low Potential for metal Contamination/Defectivit
United States	INACTIVE	60/792629	4/18/2006			Fluoride-Modified Silica Sols for Chemical Mechanical Planarization
United States	INACTIVE	11/783191	4/6/2007	8163049.0	4/24/2012	Fluoride-Modified Silica Sols for Chemical Mechanical Planarization
United States	INACTIVE	60/674678	4/26/2005			Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
United States	ISSUED	11/387934	3/24/2006	7476620.0	1/13/2009	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
United States	ISSUED	12/352700	1/13/2009	8114775.0	2/14/2012	Dihydroxy Enol Compounds Used in Chemical Mechanical Polishing Compositions Having Metal Ion Oxidizers
United States	INACTIVE	61/223526	7/7/2009			Surface Charge Modifiers in Cleaning Chemistries
United States	ISSUED	12/797903	6/10/2010	8765653.0	7/1/2014	Formulations and Method for Post-CMP Cleaning
United States	ISSUED	12/874503	9/2/2010	8361303.0	1/29/2013	Electrodes for Electrolytic Germane Process
United States	ISSUED	08/911076	8/14/1997	5891205.0	4/6/1999	Chemical Mechanical Polishing Composition
United States	ISSUED	10/057206	1/25/2002	7524346.0	4/28/2009	Compositions for Chemical-Mechanical Planarization of Noble-Metal-Featured Substrates, Associated Methods, and Substrates Produced by Such Methods
United States	ISSUED	12/431172	4/28/2009	8142675.0	3/27/2012	Compositions for Chemical-Mechanical Planarization of Noble-Metal-Featured Substrates, Associated Methods, and Substrates Produced by Such Methods
United States	INACTIVE	60/494954	8/14/2003			Periodic Acid Compositionfor Polishing Noble Metal/High K Substrates
United States	INACTIVE	60/494955	8/14/2003			Periodic Acid Compositionfor Polishing Noble Metal/High K Substrates
United States	ISSUED	10/568077	8/12/2004	7968465.0	6/28/2011	Periodic Acid Compositions for Polishing Ruthenium/Low K Substrates
United States	INACTIVE	09/757559	1/9/2001			Compositions for Chemical Mechanical Planarization of Tungsten
United States	INACTIVE	10/017934	12/12/2001	6866792.0	3/15/2005	Compositions for Chemical Mechanical Planarization of Copper\r
United States	INACTIVE	60/509920	10/10/2003			Cerium Oxide Abrasives for Chemical Mechanical Polishing
United States	INACTIVE	09/965233	9/25/2001	6638326.0	10/28/2003	Compositions for Chemical Mechanical Planarization
United States	INACTIVE	10/665417	9/22/2003	7033409.0	4/25/2006	Compositions for Chemical Mechanical Planarization of Tantalum and Tantalum Nitride
United States	INACTIVE	09/783069	2/13/2001	6756308.0	6/29/2004	Chemical-Mechanical Planarization Using Ozone
United States	INACTIVE	10/783651	2/19/2004			Chemical-Mechanical Planarization Using Ozone
United States	INACTIVE	10/690626	10/23/2003	7427361.0	9/23/2008	Particulate or Particle-Bound Chelating Agents
United States	INACTIVE	60/509922	10/10/2003			Particulate or Particle-Bound Chelating Agents
United States	INACTIVE	60/533054	12/30/2003			Chemical Mechanical Polishing of STI Features on Semiconductors: Water Polishing with Ceria Slurries
United States	INACTIVE	10/534699	11/13/2003			Chemical Mechanical Polishing Composition and Process
United States	ISSUED	13/008649	1/18/2011	8945367.0	2/3/2015	Electrolytic Apparatus, System and Method for the Safe Production of Nitrogen Trifluoride
United States	INACTIVE	60/572127	5/19/2004			Polishing Method to Reduce Dishing of Tungsten on a Dielectric

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United States	ISSUED	11/132315	5/19/2005	7316976.0	1/8/2008	Polishing Method to Reduce Dishing of Tungsten on a Dielectric
United States	ISSUED	10/619901	7/14/2003	7037350.0	5/2/2006	Compositon for Chemical-Mechanical Polishing and Method of Using Same
United States	INACTIVE	61/182186	5/29/2009			Volatile Group 2 Metal Precursors
United States	ISSUED	12/785041	5/21/2010	8859785.0	10/14/2014	Volatile Group 2 Metal Precursors
United States	INACTIVE	61/183889	6/3/2009			Method of Forming Strontium Titanate Films
United States	INACTIVE	61/240359	9/8/2009			Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
United States	INACTIVE	61/240436	9/8/2009			Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
United States	ISSUED	12/871284	8/30/2010	8507704.0	8/13/2013	Liquid Composition Containing Aminoether For Deposition of Metal-Containing Films
United States	INACTIVE	10/690623	10/23/2003	7247566.0	7/24/2007	CMP Method for Copper, Tungsten, Titanium, Polysilicon, and Other Substrates Using Organosulfonic Acids as Oxidizers
United States	ISSUED	12/419619	4/7/2009	9200180.0	12/1/2015	Chemical-Mechanical Planarization Composition Having Benzenesulfonic Acid and Per-Compound Oxidizing Agents, and Associated Method for Use
United States	ISSUED	11/212628	8/29/2005	7514363.0	4/7/2009	Chemical-Mechanical Planarization Composition Having Benzenesulfonic Acid and Per-Compound Oxidizing Agents, and Associated Method for Use
United States	ISSUED	12/760843	4/15/2010	8404024.0	3/26/2013	Recovery of NF3 from Adsorption Operation
United States	INACTIVE	61/307222	2/23/2010			Method of Making a Multicomponent Film
United States	ISSUED	13/023145	2/8/2011	8193027.0	6/5/2012	Method of Making a Multicomponent Film
United States	ISSUED	13/466275	5/8/2012	8563353.0	10/22/2013	Method of Making a Multicomponent Film
United States	INACTIVE	14/032985	9/20/2013			Method of Making a Multicomponent Film
United States	INACTIVE	61/241466	9/11/2009			Additives to Silane to Improve Dep Rate and Absorber Film Quality for Thin Film Silicon PV
United States	ISSUED	12/872806	8/31/2010	8535760.0	9/17/2013	Additives to Silane for Thin Film Silicon Photovoltaic Devices
United States	ISSUED	10/333643	5/24/2002	6827752.0	12/7/2004	Cerium Oxide Slurry, and Method of Manufacturing Substrate
United States	INACTIVE	10/984820	11/10/2004	7419911.0	7/2/2008	Compositions and Methods for Rapidly Removing Overfilled Substrates
United States	INACTIVE	12/201459	8/29/2008	8057696.0	11/15/2011	Compositions and Methods for Rapidly Removing Overfilled Substrates
United States	INACTIVE	61/245312	9/24/2009			Method and Composition for Chemical Mechanical Planarization of a Metal-Containing Substrate
United States	ISSUED	12/881574	9/14/2010	8222145.0	7/17/2012	Method and Composition for Chemical Mechanical Planarization of a Metal-Containing Substrate
United States	INACTIVE	13/529503	6/21/2012			Method and Composition for Chemical Mechanical Planarization of a Metal-Containing Substrate
United States	INACTIVE	61/301824	2/5/2010			Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
United States	INACTIVE	61/369448	7/30/2010			Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
United States	ISSUED	13/016127	1/28/2011	8703103.0	4/22/2014	Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
United States	INACTIVE	14/191730	2/27/2014			Volatile Imidazoles and Group 2 Imidazole Based Metal Precursors
United States	INACTIVE	61/247104	9/30/2009			Method for Exposing Through-Base Wafer Vias for Fabrication of Stacked Devices
United States	INACTIVE	12/888872	9/23/2010			Method for Exposing Through-Base Wafer Vias for Fabrication of Stacked Devices
United States	INACTIVE	61/247149	9/30/2009			Method for Exposing Through-Base Wafer Vias for Fabrication of Stacked Devices
United States	INACTIVE	61/254253	10/23/2009			Group 4 Metal Precursors Containing Ketoester and/or Ketoamide Ligands for Deposition of Group 4 Metal-Containing Films
United States	ISSUED	12/904421	10/14/2010	8952188.0	2/10/2015	Group 4 Metal Precursors for Metal-Containing Films
United States	INACTIVE	12/904461	10/14/2010			Methods for Deposition of Group 4 Metal Containing Films
United States	INACTIVE	61/251828	10/15/2009			Methods to Prepare Silicon-Containing Films
United States	INACTIVE	61/288895	12/22/2009			Method for Chemical Mechanical Planarization of a Copper-Containing Substrate
United States	ISSUED	12/964943	12/10/2010	8551887.0	10/8/2013	Method for Chemical Mechanical Planarization of a Copper-Containing Substrate
United States	INACTIVE	61/350750	6/2/2010			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
United States	ISSUED	13/114287	5/24/2011	8912353.0	12/16/2014	Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
United States	INACTIVE	61/267102	12/7/2009			Liquid Precursor for Depositing Group 4 Metal Containing Films
United States	ISSUED	12/950352	11/19/2010	8592606.0	11/26/2013	Liquid Precursor for Depositing Group 4 Metal Containing Films
United States	ISSUED	09/321036	5/27/1999	6251150.0	6/26/2001	Slurry Composition and Method of Chemical Mechanical Polishing Using Same
United States	INACTIVE	61/286211	12/14/2009			Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
United States	PENDING	12/961256	12/6/2010			Solvent Free Aqueous Polyurethane Dispersions and Methods of Making and Using the Same
United States	INACTIVE	61/286099	12/14/2009			Method for Forming Through-Base Wafer Vias for Fabrication of Stacked Devices
United States	ISSUED	12/959452	12/3/2010	8916473.0	12/23/2014	Method for Forming Through-Base Wafer Vias for Fabrication of Stacked Devices
United States	INACTIVE	61/289490	12/23/2009			Low k Precursors Providing Integration Damage Resistance
United States	INACTIVE	61/366671	7/22/2010			Low K Precursors Providing Integration Damage Resistance
United States	ISSUED	12/969042	12/15/2010	8753986.0	6/17/2014	Low K Precursors Providing Superior Integration Attributes
United States	ISSUED	14/270609	5/6/2014	9018107.0	4/28/2015	Low K Precursors Providing Superior Integration Attributes
United States	INACTIVE	61/307962	2/25/2010			Amidate Ligand Precursors for Depositing Metal Containing Films
United States	ISSUED	13/030227	2/18/2011	8642797.0	2/4/2014	Amidate Precursors for Depositing Metal Containing Films
United States	INACTIVE	61/289017	12/22/2009			Method for Chemical Mechanical Planarization of a Copper-Containing Substrate
United States	INACTIVE	61/298949	1/28/2010			Method and Equipment for Selectively Collecting Process Effluent
United States	ISSUED	13/009400	1/19/2011	8591634.0	11/26/2013	Method and Equipment for Selectively Collecting Process Effluent
United States	INACTIVE	61/388279	9/30/2010			Recovering of Xenon by Adsorption Process
United States	ISSUED	13/236112	9/19/2011	8535414.0	9/17/2013	Recovering of Xenon by Adsorption Process

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United States	INACTIVE	61/304574	2/15/2010			Method for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
United States	ISSUED	13/014009	1/26/2011	8858819.0	10/14/2014	Method for Chemical Mechanical Planarization of a Tungsten-Containing Substrate
United States	INACTIVE	61/370924	8/5/2010			Multidentate Ketoimine Ligands for Metal Complexes
United States	ISSUED	13/187833	7/21/2011	9079923.0	7/14/2015	Multidentate Ketoimine Ligands for Metal Complexes
United States	INACTIVE	61/418055	11/30/2010			Metal-Enolate Precursors for Depositing Metal-Containing Films
United States	INACTIVE	13/299448	11/18/2011			Metal-Enolate Precursors for Depositing Metal-Containing Films
United States	ISSUED	13/418747	3/13/2012	8962875.0	2/24/2015	Metal-Enolate Precursors for Depositing Metal-Containing Films
United States	INACTIVE	61/353870	6/11/2010			Cylinder Surface Treatment for Monochlorosilane
United States	ISSUED	13/090346	4/20/2011	8590705.0	11/26/2013	Cylinder Surface Treated Container for Monochlorosilane
United States	INACTIVE	61/354023	6/11/2010			Complexes of Imidazole Ligands
United States	ISSUED	13/152885	6/3/2011	9018387.0	4/28/2015	Complexes of Imidazole Ligands
United States	ISSUED	13/363918	2/1/2012	8680289.0	3/25/2014	Complexes of Imidazole Ligands
United States	INACTIVE	61/362896	7/9/2010			Method for Wafer Dicing and Composition Useful Thereof
United States	ISSUED	13/171252	6/28/2011	8883701.0	11/11/2014	Method for Wafer Dicing and Composition Useful Thereof
United States	ISSUED	14/195285	3/3/2014	9328318.0	5/3/2016	Method for Wafer Dicing and Composition Useful Thereof
United States	ISSUED	12/964266	12/9/2010	8460753.0	6/11/2013	Methods for Depositing Silicon Dioxide or Silicon Oxide Films Using Aminovinylsilanes
United States	INACTIVE	61/440176	2/7/2011			Method for Recovering High-Value Components from Waste Gas Streams
United States	INACTIVE	61/358309	6/24/2010			Chemical Mechanical Planarization Composition and Method With Low Corrosiveness
United States	ISSUED	13/154662	6/7/2011	8821751.0	9/2/2014	Chemical Mechanical Planarization Composition and Method with Low Corrosiveness
United States	INACTIVE	61/453282	3/16/2011			Cleaning Formulations
United States	ISSUED	13/414339	3/7/2012	8889609.0	11/18/2014	Cleaning Formulations and Method of Using the Cleaning Formulations
United States	INACTIVE	61/436000	1/25/2011			Novel Metal Complexes for Metal-Containing Film Deposition
United States	ISSUED	13/348228	1/11/2012	8617305.0	12/31/2013	Metal Complexes for Metal-Containing Film Deposition
United States	INACTIVE	61/416998	11/24/2010			Compositions and Methods for Texturing of Silicon Wafers
United States	INACTIVE	61/530760	9/2/2011			Compositions and Methods for Texturing of Silicon Wafers
United States	INACTIVE	13/296836	11/15/2011			Compositions and Methods for Texturing of Silicon Wafers
United States	INACTIVE	61/473288	4/8/2011			Volatile Azonine, Diazonine and Triazonine and Azoninate, Diazoninate and Triazoninate Metal Complexe
United States	INACTIVE	61/615507	3/26/2012			Volatile Azonine, Diazonine and Triazonine and Azoninate, Diazoninate, and Triazoninate Metal Complexe
United States	INACTIVE	61/804832	3/25/2013			Volatile Azonine, Diazonine and Triazonine and Azoninate, Diazoninate, and Triazoninate Metal Complexe
United States	INACTIVE	61/440469	2/8/2011			Group IV Metal Complexes for Metal-Containing Film Deposition
United States	ISSUED	13/362077	1/31/2012	8691710.0	4/8/2014	Group IV Metal Complexes for Metal-Containing Film Deposition
United States	INACTIVE	61/413159	11/12/2010			CMP Composition and Method Having Low Propensity for Fang Formation
United States	INACTIVE	61/427857	12/29/2010			CMP Slurry/Method for Polishing Ruthenium and Other Films
United States	ISSUED	13/325459	12/14/2011	8906123.0	12/9/2014	CMP Slurry/Method for Polishing Ruthenium and Other Films
United States	ISSUED	14/530965	11/3/2014	9224614.0	12/29/2015	CMP Slurry/Method for Polishing Ruthenium and Other Films
United States	INACTIVE	61/444353	2/18/2011			Fluorine Based Chamber Clean With Nitrogen Trifluoride Backup
United States	INACTIVE	13/353729	1/19/2012			Fluorine Based Chamber Clean with Nitrogen Trifluoride Backup
United States	INACTIVE	61/478582	4/25/2011			Cleaning Lead-Frames to Improve Wirebonding Process
United States	INACTIVE	14/113350	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
United States	ISSUED	10/665739	9/18/2003	7129311.0	10/31/2006	Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
United States	ISSUED	11/496135	7/31/2006	7531590.0	5/12/2009	Additives to Prevent Degradation of Alkyl-Hydrogen Siloxanes
United States	INACTIVE	61/493031	6/3/2011			Process for Carbon-Doped Silicon-Containing Films and Formulations Therefo
United States	ISSUED	14/122825	6/1/2012	9447287.0	9/20/2016	Compositions and Processes for Depositing Carbon-Doped Silicon-Containing Films
United States	PENDING	15/233018	8/10/2016			COMPOSITIONS AND PROCESSES FOR DEPOSITING CARBON-DOPED SILICON-CONTAINING FILMS
United States	INACTIVE	61/546610	10/13/2011			Process for Making Sb-Te-Containing and Ge-Sb-Te-Containing Films
United States	INACTIVE	61/489486	5/24/2011			Organoaminosilane Precursors and Methods for Making and Using Same
United States	INACTIVE	13/473006	5/16/2012			Organoaminosilane Precursors and Methods for Making and Using Same
United States	ISSUED	13/474076	5/17/2012	8771807.0	7/8/2014	Organoaminosilane Precursors and Methods for Making and Using Same\r
United States	ISSUED	14/291818	5/30/2014	9005719.0	4/14/2015	Organoaminosilane Precursors and Methods for Making and Using Same\r
United States	INACTIVE	61/677267	7/30/2012			Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
United States	ISSUED	13/949420	7/24/2013	9243324.0	1/26/2016	Non-Oxygen Containing Silicon-Based Films and Methods of Forming the Same
United States	ISSUED	13/245280	9/26/2011	8528581.0	9/10/2013	Solenoid Bypass for Continuous Operation of Pneumatic Valve
United States	ISSUED	13/352643	1/18/2012	8746272.0	6/10/2014	Solenoid Bypass System for Continuous Operation of Pneumatic Valve
United States	INACTIVE	61/551511	10/26/2011			Process of Making Electrophillic Fluorinating Agents
United States	INACTIVE	61/531749	9/7/2011			Precursors for Photovoltaic Passivation
United States	INACTIVE	13/595419	8/27/2012			Precursors for Photovoltaic Passivation
United States	INACTIVE	61/539717	9/27/2011			Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same

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United States	ISSUED	13/622117	9/18/2012	8993072.0	3/31/2015	Halogenated Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
United States	INACTIVE	61/536748	9/20/2011			Oxygen Containing Precursors for Photovoltaic Passivation
United States	INACTIVE	13/610311	9/11/2012			Oxygen Containing Precursors for Photovoltaic Passivation
United States	INACTIVE	13/475632	5/18/2012			Compositions and Methods for Texturing of Silicon Wafers
United States	INACTIVE	61/623217	4/12/2012			High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
United States	ISSUED	13/857507	4/5/2013	9460912.0	10/4/2016	High Temperature Atomic Layer Deposition of Silicon Oxide Thin Films
United States	PENDING	15/248214	8/26/2016			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON OXIDE THIN FILMS\n
United States	INACTIVE	61/587388	1/17/2012			Catalyst for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
United States	INACTIVE	61/706809	9/28/2012			Catalyst for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
United States	PENDING	13/738482	1/10/2013			Catalyst and Formulations Comprising Same for Alkoxysilanes Hydrolysis Reaction in Semiconductor Process
United States	INACTIVE	61/616628	3/28/2012			Silicon Precursors and Compositions Comprising Same for Depositing Low Dielectric Constant Films
United States	INACTIVE	61/617351	3/29/2012			Silicon Precursors and Compositions Comprising Same for Depositing Low Dielectric Constant Films
United States	INACTIVE	13/773931	2/22/2013			Silicon Precursors and Compositions Comprising Same for Depositing Low Dielectric Constant Films
United States	INACTIVE	61/591318	1/27/2012			Novel Alkoxyaminosilane Compounds and Applications Thereof
United States	ISSUED	13/745102	1/18/2013	9200167.0	12/1/2015	Alkoxyaminosilane Compounds and Applications Thereof
United States	PENDING	14/940249	11/13/2015			Alkoxyaminosilane Compounds and Applications Thereof
United States	INACTIVE	61/611808	3/16/2012			Catalyst Synthesis for Organosilane Sol-Gel Reactions
United States	INACTIVE	13/795636	3/12/2013			Catalyst Synthesis for Organosilane Sol-Gel Reactions
United States	INACTIVE	61/056755	5/28/2008			Fixture Drying Procedure and Apparatus
United States	ISSUED	12/474237	5/28/2009	9514972.0	12/6/2016	Fixture Drying Apparatus and Method
United States	ISSUED	09/227702	1/8/1999	6248177.0	6/19/2001	A Method of Cleaning a Wafer Carrier
United States	ISSUED	09/884450	6/18/2001	6926017.0	8/9/2005	Wafer Container Washing Apparatus
United States	ISSUED	10/282924	10/29/2002	7216655.0	5/15/2007	Wafer Container Washing Apparatus
United States	INACTIVE	61/608955	3/9/2012			Low Temperature Silicon Containing Films
United States	PENDING	14/383690	3/8/2013			Compositions and Methods for Making Silicon Containing Films
United States	INACTIVE	61/609045	3/9/2012			Barrier Materials for Display Devices
United States	PENDING	14/383723	3/8/2013			Barrier Materials for Display Devices
United States	INACTIVE	61/618019	3/30/2012			Group 2 Imidazolate Formulations for Direct Liquid Injection
United States	INACTIVE	13/848808	3/22/2013			Group 2 Imidazolate Formulations for Direct Liquid Injection
United States	INACTIVE	61/654508	6/1/2012			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
United States	ISSUED	13/902300	5/24/2013	9337018.0	5/10/2016	Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
United States	PENDING	14/511719	10/10/2014			Organoaminodisilane Precursors and Methods for Depositing Films Comprising Same
United States	PENDING	15/073899	3/18/2016			METHODS FOR DEPOSITING FILMS WITH ORGANOAMINODISILANE PRECURSORS \n
United States	INACTIVE	61/645222	5/10/2012			Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
United States	INACTIVE	61/710252	10/5/2012			Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
United States	ISSUED	13/832234	3/15/2013	8999193.0	4/7/2015	Chemical Mechanical Polishing Composition Having Chemical Additives and Methods for Using Same
United States	INACTIVE	61/652236	5/27/2012			Vessel with Filter
United States	INACTIVE	61/764851	2/14/2013			Vessel with Filter
United States	PENDING	13/897967	5/20/2013			Vessel with Filter
United States	PENDING	15/419395	1/30/2017			Vessel with Filter
United States	INACTIVE	61/662698	6/21/2012			Method and Apparatus for Removing Contaminants
United States	INACTIVE	13/913069	6/7/2013			Method and Apparatus for Removing Contaminants from Nitrogen Trifluoride
United States	INACTIVE	61/717152	10/23/2012			Cleaning Formulations
United States	INACTIVE	61/817134	4/29/2013			Cleaning Formulations
United States	ISSUED	14/010748	8/27/2013	9536730.0	1/3/2017	Cleaning Formulations
United States	INACTIVE	61/710901	10/8/2012			Stripping and Cleaning Compositions for Removal of Thick Film Resist
United States	INACTIVE	61/841596	7/1/2013			Stripping and Cleaning Compositions for Removal of Thick Film Resist
United States	INACTIVE	14/043330	10/1/2013			Stripping and Cleaning Compositions for Removal of Thick Film Resist
United States	PENDING	15/018564	2/8/2016			Stripping and Cleaning Compositions for Removal of Thick Film Resist
United States	INACTIVE	61/777165	3/12/2013			Chemical Mechanical Planarization for Tungsten-Containing Substrates
United States	INACTIVE	14/142087	12/27/2013			Chemical Mechanical Planarization for Tungsten-Containing Substrates
United States	INACTIVE	61/716471	10/19/2012			Chemical Polishing Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
United States	ISSUED	14/030657	9/18/2013	8859428.0	10/14/2014	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
United States	ISSUED	14/482590	9/10/2014	9062230.0	6/23/2015	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
United States	ISSUED	14/709609	5/12/2015	9305476.0	4/5/2016	Chemical Mechanical Polishing (CMP) Composition for Shallow Trench Isolation (STI) Applications and Methods of Making Thereo
United States	PENDING	15/058268	3/2/2016			CHEMICAL MECHANICAL POLISHING (CMP) COMPOSITION FOR SHALLOW TRENCH ISOLATION (STI) APPLICATIONS AND METHODS OF MAKING THEREOF
United States	ISSUED	08/789229	1/24/1997	5876490.0	3/2/1999	Polish Process and Slurry for Planarization

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United States	ISSUED	09/577347	5/24/2000	6964923.0	11/15/2005	Selective Polishing with Slurries Containing Polyelectrolytes
United States	ISSUED	10/673347	9/30/2003	6824579.0	11/30/2004	Selective Polishing with Slurries Containing Polyelectrolytes
United States	INACTIVE	61/716259	10/19/2012			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorin
United States	INACTIVE	61/790810	3/15/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorin
United States	INACTIVE	13/859263	4/9/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorin
United States	INACTIVE	14/046261	10/4/2013			Anodes for the Electrolytic Production of Nitrogen Trifluoride and Fluorin
United States	INACTIVE	61/735793	12/11/2012			Tris(alkoxysilyl)amine Compounds and Applications Thereof
United States	PENDING	14/096388	12/4/2013			Alkoxysilylamine Compounds and Applications Thereof
United States	INACTIVE	61/868208	8/21/2013			Compositions and Methods Using Same for Flowable Oxide Deposition
United States	INACTIVE	61/868632	8/22/2013			Compositions and Methods Using Same for Flowable Oxide Deposition
United States	PENDING	14/457397	8/12/2014			Compositions and Methods Using Same for Flowable Oxide Deposition
United States	INACTIVE	61/725863	11/13/2012			Slurry Supply Apparatus, Methods of Use and Methods of Manufacture
United States	INACTIVE	61/802950	3/18/2013			Slurry Supply Apparatus, Methods of Use and Methods of Manufacture
United States	PENDING	14/218578	3/18/2014			Slurry Supply and/or Chemical Blend Supply Apparatuses, Processes, Methods of Use and Methods of Manufacture
United States	INACTIVE	61/861739	8/2/2013			Slurry Supply Apparatus, Methods of Use and Methods of Manufacture
United States	INACTIVE	61/899560	11/4/2013			Slurry Supply and/or Chemical Blend Supply Apparatuses, Methods of Use and Methods of Manufactur
United States	ISSUED	13/839497	3/15/2013	9216364.0	12/22/2015	Onsite Ultra High Purity Chemicals or Gas Purificatio
United States	PENDING	14/940612	11/13/2015			Onsite Ultra High Purity Chemicals or Gas Purificatio
United States	INACTIVE	61/753635	1/17/2013			System and Method for Tungsten Hexafluoride Recovery and Reuse
United States	INACTIVE	14/149318	1/7/2014			System and Method for Tungsten Hexafluoride Recovery and Reuse
United States	INACTIVE	61/858799	7/26/2013			Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
United States	PENDING	14/329323	7/11/2014			Volatile Dihydropyrazinly and Dihydropyrazine Metal Complexes
United States	INACTIVE	61/810919	4/11/2013			Method of Making a Multicomponent Film
United States	ISSUED	14/245403	4/4/2014	9214630.0	12/15/2015	Method of Making a Multicomponent Film
United States	ISSUED	14/940340	11/13/2015	9543517.0	1/10/2017	Method of Making a Multicomponent Film
United States	INACTIVE	61/813950	4/19/2013			Metal Compound Coated Colloidal Particals Process for Making and Use Therefo
United States	INACTIVE	14/224839	3/25/2014			Metal Compound Coated Colloidal Particles Process for Making and Use Therefo
United States	INACTIVE	61/840940	6/28/2013			Process for Making Trisilylamine
United States	ISSUED	14/284983	5/22/2014	9284198.0	3/15/2016	Process for Making Trisilylamine
United States	ISSUED	15/013224	2/2/2016	9463978.0	10/11/2016	Process for Making Trisilylamine
United States	PENDING	14/295724	6/4/2014			Process for Recovery and Purification of Nitrous Oxide
United States	ISSUED	13/929346	6/27/2013	8974692.0	3/10/2015	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
United States	ISSUED	14/598472	1/16/2015	9305806.0	4/5/2016	Chemical Mechanical Polishing Slurry Compositions and Method Using the Same for Copper and Through-Silicon Via Application
United States	INACTIVE	61/823625	5/15/2013			Ultrasonic Liquid Level Sensing Systems
United States	ISSUED	14/163407	1/24/2014	8959998.0	2/24/2015	Ultrasonic Liquid Level Sensing Systems
United States	ISSUED	14/163518	1/24/2014	9316525.0	4/19/2016	Ultrasonic Liquid Level Sensing Systems
United States	ISSUED	15/079708	3/24/2016	9550260.0	1/24/2017	Ultrasonic Liquid Level Sensing Systems
United States	INACTIVE	61/839536	6/26/2013			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
United States	PENDING	14/293554	6/2/2014			Aza-Polysilane Precursors and Methods for Depositing Films Comprising Same
United States	INACTIVE	61/880261	9/20/2013			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
United States	PENDING	14/483751	9/11/2014			Organoaminosilane Precursors and Methods for Depositing Films Comprising Same
United States	INACTIVE	14/051969	10/11/2013			Barrier Chemical Mechanical Planarization Composition and Method Thereo
United States	ISSUED	14/502186	9/30/2014	9574110.0	2/21/2017	Barrier Chemical Mechanical Planarization Composition and Method Thereo
United States	INACTIVE	61/875956	9/10/2013			Reduction of Chloride Impurities in Organoaminosilane Materials
United States	INACTIVE	61/934121	1/31/2014			Reduction of Chloride Impurities in Organoaminosilane Materials
United States	INACTIVE	61/886406	10/3/2013			Methods for Depositing Silicon Nitride Films
United States	PENDING	14/498044	9/26/2014			Methods for Depositing Silicon Nitride Films
United States	INACTIVE	61/918943	12/20/2013			Titanium Nitride Hard Mask and Etch Residue Remova
United States	INACTIVE	62/028539	7/24/2014			Titanium Nitride Hard Mask and Etch Residue Remova
United States	ISSUED	14/642831	3/10/2015	9222018.0	12/29/2015	Titanium Nitride Hard Mask and Etch Residue Remova
United States	ISSUED	14/547864	11/19/2014	9472420.0	10/18/2016	Composition for Titanium Nitride Hard Mask and Etch Residue Remova
United States	INACTIVE	61/886383	10/3/2013			System and Method for Xenon Recovery
United States	PENDING	14/498354	9/26/2014			System and Method for Xenon Recovery
United States	INACTIVE	61/946164	2/28/2014			Organoaminosilanes and Methods for Making Same
United States	ISSUED	14/625158	2/18/2015	9233990.0	1/12/2016	Organoaminosilanes and Methods for Making Same
United States	PENDING	14/956748	12/2/2015			Organoaminosilanes and Methods for Making Same
United States	INACTIVE	61/944911	2/26/2014			Electrolytic Apparatus, System and Method for the Efficient Production of Nitrogen Trifluorid

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United States	ISSUED	14/560023	12/4/2014	9528191.0	12/27/2016	Electrolytic Apparatus, System and Method for the Efficent Production of Nitrogen Trifluorid
United States	INACTIVE	61/926649	1/13/2014			System and Method for Gas Recovery and Reuse
United States	PENDING	14/567353	12/11/2014			System and Method for Gas Recovery and Reuse
United States	INACTIVE	62/037392	8/14/2014			Pore Sealing Processes for Porous Ultra Low-K Dielectric PDEMS
United States	PENDING	14/820982	8/7/2015			Method and Composition for Providing Pore Sealing Layer on Porous Low Dielectric Constant Film
United States	INACTIVE	61/970602	3/26/2014			Low Temperature Atomic Layer Deposition of Silicon Oxide Thin Film
United States	PENDING	14/661652	3/18/2015			Compositions and Methods for the Deposition of Silicon Oxide Film
United States	INACTIVE	62/005403	5/30/2014			Chlorine-Containing Silicon Films and Methods for Making Same
United States	INACTIVE	62/136706	3/23/2015			Solid State Catalyst for Chemical Mechanical Planarization
United States	PENDING	15/070590	3/15/2016			Metal Compound Chemically Anchored Colloidal Particles and Methods of Production and Use Thereof\
United States	INACTIVE	61/982598	4/22/2014			Apparatus, Method, and System for Delivering Low Volatility Process Chemical to Process Too
United States	INACTIVE	62/143410	4/6/2015			Apparatus, Method, and System for Delivering Low Volatility Process Chemical to Process Too
United States	INACTIVE	62/156571	5/4/2015			Apparatus, Method, and System for Delivering Low Volatility Process Chemical to Process Too
United States	INACTIVE	62/016367	6/24/2014			Diptube Design for a Host Ampoule
United States	PENDING	14/744133	6/19/2015			Diptube Design for a Host Ampoule
United States	INACTIVE	62/080281	11/15/2014			Valve Block Having Minimal Deadleg
United States	INACTIVE	62/024046	7/14/2014			Copper Corrosion Inhibition System
United States	PENDING	14/790966	7/2/2015			Copper Corrosion Inhibition System
United States	ISSUED	14/466194	8/22/2014	9302214.0	4/5/2016	Purification of Nitrogen Trifluoride by Pressure Swing Adsorptio
United States	INACTIVE	62/012724	6/16/2014			Use of Alkyl-Alkoxysilacyclic Compounds as a Structure-Forming Precursors to Provide Porous Organosilica Glass Films with Low Dielectric Constant
United States	PENDING	14/732250	6/5/2015			Alkyl-Alkoxysilacyclic Compounds and Methods for Depositing Films Using Same
United States	INACTIVE	62/029145	7/25/2014			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
United States	PENDING	14/800323	7/15/2015			Chemical Mechanical Polishing (CMP) of Cobalt-Containing Substrate
United States	INACTIVE	62/043668	8/29/2014			Ultrasonic Liquid Level Sensing Systems
United States	PENDING	14/823027	8/11/2015			Ultrasonic Liquid Level Sensing Systems
United States	INACTIVE	62/018061	6/27/2014			Compositions and Methods for Depositing Silicon Nitride Film
United States	INACTIVE	62/037416	8/14/2014			Alkylaminosilane Compounds and Methods for Using Same
United States	INACTIVE	62/193250	7/16/2015			Alkylaminosilane Compounds and Methods for Using Same
United States	PENDING	62/359460	7/7/2016			ALKYLAMINOSILANE COMPOUNDS AND METHODS FOR USING SAME
United States	INACTIVE	62/057379	9/30/2014			Photoresis Stripper and Method of Use Thereof
United States	INACTIVE	62/061538	10/8/2014			Slurry Supply Apparatus and Method
United States	INACTIVE	62/068248	10/24/2014			Compositions and Methods for Using Same for Flowable Oxide Chemical Vapor Depoisitio
United States	INACTIVE	62/074219	11/3/2014			Silicon-Based Films and Methods of Forming the Same
United States	PENDING	14/924098	10/27/2015			Silicon-Based Films and Methods of Forming the Same
United States	INACTIVE	62/073636	10/31/2014			Chemical Mechanical Polishing Slurry for Reducing Corrosion and Method of Use Therefo
United States	PENDING	14/884104	10/15/2015			Chemical Mechanical Polishing Slurry for Reducing Corrosion and Method of Use Therefo
United States	INACTIVE	62/081266	11/18/2014			Ultrasonic Liquid Level Sensing Systems
United States	INACTIVE	62/097647	12/30/2014			Stripping Compositions Having High WN/W Etching Selectivity
United States	PENDING	14/976737	12/21/2015			Stripping Compositions Having High WN/W Etching Selectivity
United States	INACTIVE	62/095857	12/23/2014			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivatio
United States	PENDING	14/964033	12/9/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivatio
United States	INACTIVE	62/115264	2/12/2015			Dishing Reducing in Tungsten Chemical Mechanical Polishing
United States	PENDING	15/014210	2/3/2016			Dishing Reducing in Tungsten Chemical Mechanical Polishing
United States	INACTIVE	62/102319	1/12/2015			COMPOSITE ABRASIVE PARTICLES FOR CHEMICAL MECHANICAL PLANARIZATION COMPOSITION AND METHOD OF USE THEREOF
United States	INACTIVE	62/221379	9/21/2015			Composite Abrasive Particles for Chemical Mechanical Planarization Composition and Method of Use Thereo
United States	PENDING	14/993128	1/12/2016			Composite Abrasive Particles for Chemical Mechanical Planarization Composition and Method of Use Thereo
United States	PENDING	15/208334	7/12/2016			COMPOSITE ABRASIVE PARTICLES FOR CHEMICAL MECHANICAL PLANARIZATION COMPOSITION AND METHOD OF USE THEREOF
United States	INACTIVE	62/097408	12/29/2014			Etchant Solutions and Method of Use Thereof
United States	PENDING	14/978383	12/22/2015			Etchant Solutions and Method of Use Thereof
United States	INACTIVE	62/115729	2/13/2015			Bis(Organoamino) Alkoxysilane Compounds and Applications Thereo
United States	PENDING	15/017913	2/8/2016			BISAMINOALKOXYSILANE COMPOUNDS AND METHODS FOR USING SAME TO DEPOSIT SILICON-CONTAINING FILMS \n
United States	INACTIVE	62/109381	1/29/2015			Method and Precursors for Manufacturing 3D Devices
United States	INACTIVE	62/183985	6/24/2015			Method and Precursors for Manufacturing 3D Devices
United States	PENDING	14/871233	9/30/2015			Method and Precursors for Manufacturing 3D Devices
United States	INACTIVE	62/113024	2/6/2015			Compositions and Methods Using Same for Carbon Doped Silicon Oxide
United States	INACTIVE	62/142546	4/3/2015			Compositions and Methods Using Same for Carbon Doped Silicon Oxide
United States	INACTIVE	62/130251	3/9/2015			Methods for Depositing Organosilicate Glass Films for Use as Resistive Random Access Memory

Country	Status	Application Number	Application Date	Patent Number	Grant Date	Title
United States	INACTIVE	62/298611	2/23/2016			METHODS FOR DEPOSITING ORGANOSILICATE GLASS FILMS FOR USE AS RESISTIVE RANDOM ACCESS MEMORY \n
United States	INACTIVE	62/141657	4/1/2015			Method of Treating Surface of Patterned Substrate
United States	PENDING	15/084169	3/29/2016			Composition For Treating Surface Of Substrate, Method And Device
United States	INACTIVE	62/140751	3/31/2015			Cleaning Formulations
United States	INACTIVE	62/140570	3/31/2015			Boron-Containing Compounds, Compositions, and Methods for the Deposition of a Boron Containing Film
United States	PENDING	15/079585	3/24/2016			Boron-Containing Compounds, Compositions, and Methods for the Deposition of a Boron Containing Films
United States	INACTIVE	62/155794	5/1/2015			Composition for TiN Hard Mask and Etch Residue Remova
United States	INACTIVE	62/164293	5/20/2015			TiN Hard Mask and Etch Residue Removal
United States	INACTIVE	62/281658	1/21/2016			TiN Hard Mask and Etch Residue Removal
United States	PENDING	15/138835	4/26/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
United States	INACTIVE	62/140846	3/31/2015			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
United States	PENDING	15/077374	3/22/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
United States	INACTIVE	62/149548	4/18/2015			Vessel and Method for Delivery of Precursor Materials
United States	PENDING	15/094551	4/8/2016			VESSEL AND METHOD FOR DELIVERY OF PRECURSOR MATERIALS
United States	INACTIVE	62/149155	4/17/2015			High Purity Tungsten Hexachloride and Method for Making Same
United States	PENDING	15/096872	4/12/2016			HIGH PURITY TUNGSTEN HEXACHLORIDE AND METHOD FOR MAKING SAME
United States	INACTIVE	62/153213	4/27/2015			Low Dishing Cu CMP Slurries
United States	PENDING	15/001846	1/20/2016			LOW DISHING COPPER CHEMICAL MECHANICAL PLANARIZATION
United States	INACTIVE	62/160933	5/13/2015			Container for Chemical Precursors in a Deposition Process
United States	PENDING	15/142847	4/29/2016			CONTAINER FOR CHEMICAL PRECURSORS IN A DEPOSITION PROCESS
United States	INACTIVE	62/171360	6/5/2015			Barrier CMP Slurries Using Ceria-Coated Silica Abrasives
United States	PENDING	15/166605	5/27/2016			BARRIER CHEMICAL MECHANICAL PLANARIZATION SLURRIES USING CERIA-COATED SILICA ABRASIVES\n
United States	INACTIVE	62/222259	9/23/2015			Cleaning Formulations
United States	PENDING	15/264078	9/13/2016			CLEANING FORMULATIONS
United States	INACTIVE	62/233251	9/25/2015			Stop-on-Nitride Additive
United States	PENDING	15/268956	9/19/2016			STOP-ON SILICON CONTAINING LAYER ADDITIVE
United States	INACTIVE	62/180382	6/16/2015			Halidosilane Compounds and Compositions and Processes for Depositing Silicon-Containing Films Using Same
United States	INACTIVE	62/181494	6/18/2015			Halidosilane Compounds and Compositions and Processes for Depositing Silicon-Containing Films Using Same
United States	INACTIVE	62/201352	8/5/2015			Photoresist Cleaning Composition used in Photolithography and a Method for Treating Substrate Therewith
United States	PENDING	15/227450	8/3/2016			PHOTORESIST CLEANING COMPOSITION USED IN PHOTOLITHOGRAPHY AND A METHOD FOR TREATING SUBSTRATE THEREWITH
United States	INACTIVE	62/196494	7/24/2015			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
United States	PENDING	15/210172	7/14/2016			Methods for Depositing Group 13 Metal or Metalloid Nitride Films
United States	INACTIVE	62/199593	7/31/2015			Methods for Depositing Silicon Nitride Films
United States	INACTIVE	62/202535	8/7/2015			Compounds and Methods for Depositing Silicon Containing Films
United States	INACTIVE	62/266997	12/14/2015			Compounds and Methods for Depositing Silicon Containing Films
United States	INACTIVE	62/296806	2/18/2016			COMPOUNDS AND METHODS FOR DEPOSITING SILICON CONTAINING FILMS \n
United States	PENDING	62/451825	1/30/2017			COMPOUNDS AND METHODS FOR DEPOSITING SILICON CONTAINING FILMS \n
United States	INACTIVE	62/259870	11/25/2015			Etching Compositions and Methods For Using Same
United States	INACTIVE	62/300382	2/26/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
United States	PENDING	15/357527	11/21/2016			ETCHING COMPOSITIONS AND METHODS FOR USING SAME
United States	INACTIVE	62/217296	9/11/2015			Methods for Depositing a Conformal Group 13-Doped Metal or Metalloid Silicon Nitride Film
United States	INACTIVE	62/237899	10/6/2015			Methods for Depositing a Conformal Metal or Metalloid Silicon Nitride Film
United States	INACTIVE	62/270259	12/21/2015			COMPOSITIONS AND METHODS USING SAME FOR DEPOSITION OF SILICON-CONTAINING FILM\n
United States	INACTIVE	62/280886	1/20/2016			HIGH TEMPERATURE ATOMIC LAYER DEPOSITION OF SILICON-CONTAINING FILMS\n
United States	PENDING	62/286606	1/25/2016			CHEMICAL MECHANICAL PLANARIZATION OF SILICON CONTAINING MATERIALS
United States	INACTIVE	62/292624	2/8/2016			Compositions and Methods for Depositing Silicon-Containing Films \n
United States	PENDING	62/300312	2/26/2016			COMPOSITIONS AND METHODS USING SAME FOR DEPOSITION OF SILICON-CONTAINING FILM\n
United States	PENDING	62/350844	6/16/2016			CHEMICAL MECHANICAL POLISHING (CMP) OF COBALT-CONTAINING SUBSTRATE\n
United States	PENDING	62/316089	3/31/2016			COMPOSITE PARTICLES, METHOD OF REFINING AND USE THEREOF
United States	PENDING	62/335396	5/12/2016			DELIVERY CONTAINER WITH FLOW DISTRIBUTOR
United States	PENDING	62/364959	7/21/2016			High Purity Ethylenediamine for Semiconductor Applications
United States	PENDING	62/344052	6/1/2016			CHEMICAL MECHANICAL PLANARIZATION SLURRY FOR Ru FILM
United States	PENDING	62/344222	6/1/2016			ADDITIVES FOR HIGH REMOVAL RATE CHEMICAL MECHANICAL PLANARIZATION SLURRIES\n
United States	PENDING	62/381222	8/30/2016			PRECURSORS AND FLOWABLE CVD METHODS FOR MAKING LOW-K FILMS TO FILL SURFACE FEATURES\n
United States	PENDING	62/357571	7/1/2016			ADDITIVES FOR BARRIER CHEMICAL MECHANICAL PLANARIZATION
United States	PENDING	62/367260	7/27/2016			COMPOSITIONS AND METHODS USING SAME FOR CARBON DOPED SILICON CONTAINING FILMS \n
United States	PENDING	62/415756	11/1/2016			PRECURSORS AND FLOWABLE CVD METHODS FOR MAKING LOW-K FILMS TO FILL SURFACE FEATURES\n

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United States	PENDING	62/396410	9/19/2016			COMPOSITIONS AND METHODS FOR THE DEPOSITION OF SILICON OXIDE FILMS
United States	PENDING	62/408167	10/14/2016			COMPOSITIONS AND METHODS FOR THE DEPOSITION OF SILICON OXIDE FILMS
United States	PENDING	62/417619	11/4/2016			COMPOSITIONS AND METHODS FOR THE DEPOSITION OF SILICON OXIDE FILMS
United States	PENDING	62/415702	11/1/2016			SILYL CARBODIIMIDES AS PRECURSORS IN A FLOWABLE CVD PROCESS TO FILL SURFACE FEATURES WITH SILICON CARBONITRIDE MATERIAL
United States	PENDING	62/416302	11/2/2016			Use of Sillyl Bridged Alkyl Compounds for Dense OSG Films
United States	PENDING	62/451809	1/30/2017			Thermal ALD of Carbon Doped Silicon Oxide
Venezuela	INACTIVE					FLUORINATED BETA-KETOIMINATO M ETAL COMPLEXES
Vietnam	PENDING	1-2009-01479	7/14/2009			Method of Wafer Dicing and Dicing Solution for Inhibiting Corrosion and Removing Contaminant From a Surface During Wafer Dicin
Vietnam	PENDING	1-2011-01777	7/6/2011			Solution for Semiconductor Wafer Dicing Inhibiting Adherence of Contamination Residues and Corrosion of the Exposed Metallization Areas and Method of Wafer Dicin
Vietnam	PENDING	1-2013-03526	4/25/2012			Cleaning Lead-Frames to Improve Wirebonding Process
Vietnam	PENDING	1-2015-04964	12/28/2015			Stripping Compositions Having High WN/W Etching Selectivity
Vietnam	PENDING	1-2015-04908	12/23/2015			Semi-Aqueous Photoresist or Semiconductor Manufacturing Residue Stripping and Cleaning Composition with Improved Silicon Passivatio
Vietnam	PENDING	1-2015-04965	12/28/2015			Etchant Solutions and Method of Use Thereof
Vietnam	PENDING	1-2016-01613	5/4/2016			TiN HARD MASK AND ETCH RESIDUE REMOVAL
Vietnam	PENDING	1-2016-01136	3/30/2016			Selectively Removing Titanium Nitride Hard Mask and Etch Residue Remova
Vietnam	PENDING	1-2016-04192	11/1/2016			CLEANING FORMULATIONS