

05-13-2009



IEET

103560302

To the Director of the U.S. Patent and Trademark Office

ed documents or the new address(es) below.

1. Name of conveying party(ies)

Equistar Chemicals, LP

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance/Execution Date(s):

Execution Date(s) 03/03/2009

☐ Assignment

☐ Merger

☒ Security Agreement

☐ Change of Name

☐ Joint Research Agreement

☐ Government Interest Assignment

☐ Executive Order 9424, Confirmatory License

☐ Other

2. Name and address of receiving party(ies)

Name:

Internal Address: Citibank, N.A., as Administrative

Agent and Collateral Agent

Street Address: 390 Greenwich Street, 1st Floor

City: New York

State: New York

Country: USA

Zip: 77010

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application or patent number(s):

☐ This document is being filed together with a new application.

A. Patent Application No.(s)

B. Patent No.(s)

SEE SCHEDULE I

Additional numbers attached? ☒ Yes ☐ No

5. Name and address to whom correspondence concerning document should be mailed:

Name: Tina Qualls

Internal Address: Corporation Service Company

Street Address: 1133 Avenue of the Americas

City: New York

State: New York Zip: 10036

Phone Number: 212-768-4260 ext 2015

Fax Number:

Email Address: tqalls@cscinfo.com

6. Total number of applications and patents involved: 336

7. Total fee (37 CFR 1.21(h) & 3.41) \$

☐ Authorized to be charged by credit card

☐ Authorized to be charged to deposit account

☒ Enclosed

☐ None required (government interest not affecting title)

8. Payment Information

a. Credit Card Last 4 Numbers

Expiration Date

b. Deposit Account Number

Authorized User Name

9. Signature:

Tina Qualls

Name of Person Signing

Signature

Date

Total number of pages including cover sheet, attachments, and documents.

16

Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1450, Alexandria, V.A. 22313-1450

## EQUISTAR CHEMICALS, LP

### PATENTS AND PATENT APPLICATIONS

#### PATENT APPLICATIONS AND PATENTS OWNED BY EQUISTAR CHEMICALS, LP

App. No./Patent No.	Title
5486333	BLOW MOLDING EXTRUSION DIE WITH RECTANGULAR SLOTS
6180552	TRANSITION METAL COMPLEXES CONTAINING NEUTRAL, MULTIDENTATE AZACYCLIC LIGANDS
6384229	TRANSITION METAL COMPLEXES CONTAINING NEUTRAL, MULTIDENTATE AZACYCLIC LIGANDS
6204216	OLEFIN POLYMERIZATION CATALYSTS CONTAINING AMINE DERIVATIVES
6281308	OLEFIN POLYMERIZATION CATALYSTS CONTAINING AMINE DERIVATIVES
6127484	OLEFIN POLYMERIZATION PROCESS
6040261	SUPPORTED SINGLE-SITE CATALYST AND OLEFIN POLYMERIZATION PROCESS
6331601	SUPPORTED SINGLE-SITE CATALYST AND OLEFIN POLYMERIZATION PROCESS
6201076	OLEFIN POLYMERIZATION PROCESS WITH FATTY AMINE ADDITIVES FOR IMPROVED ACTIVITY AND REDUCED FOULING
6211311	SUPPORTED OLEFIN POLYMERIZATION CATALYST
6291386	PROCESS FOR THE IN-SITU PREPARATION OF SINGLE-SITE TRANSITION METAL CATALYSTS AND POLYMERIZATION PROCESS
6790805	PROCESS FOR THE IN-SITU PREPARATION OF SINGLE-SITE TRANSITION METAL CATALYSTS AND POLYMERIZATION PROCESS
6194527	PROCESS FOR MAKING POLYOLEFINS
6294626	OLEFIN POLYMERIZATION CATALYSTS CONTAINING MODIFIED BORAARYL LIGANDS
6232260	SINGLE-SITE CATALYSTS FOR OLEFIN POLYMERIZATION
6376629	SINGLE-SITE CATALYSTS FOR OLEFIN POLYMERIZATION
6265504	PREPARATION OF ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE
6228959	SINGLE-SITE CATALYSTS CONTAINING HOMOAROMATIC LIGANDS
6476165	OLEFIN POLYMERIZATION PROCESS USING FATTY AMINE ADDITIVES AND BORON-MODIFIED SUPPORTED CATALYSTS
6239239	QUINOLINOXY AND PYRIDINOXY SINGLE-SITE CATALYSTS CONTAINING BENZYL LIGANDS
6255415	ETHYLENE POLYMERIZATION PROCESS
6498221	SINGLE-SITE CATALYSTS CONTAINING CHELATING N-OXIDE LIGANDS
6875829	SINGLE-SITE CATALYSTS CONTAINING CHELATING N-OXIDE LIGANDS

App. No./Patent No.	Title
6444765	OLEFIN POLYMERIZATION PROCESS FOR PRODUCING BROAD MWD POLYMERS
6812304	OLEFIN POLYMERIZATION PROCESS FOR PRODUCING BROAD MWD POLYMERS
6403736	ETHYLENE POLYMERIZATION PROCESS
6566460	CONTINUOUS RECOVERY OF POLYMER FROM A SLURRY LOOP REACTOR
6486270	HIGH MOLECULAR WEIGHT, MEDIUM DENSITY POLYETHYLENE
6770715	HIGH MOLECULAR WEIGHT, MEDIUM DENSITY POLYETHYLENE
6451933	BIMETALLIC OLEFIN POLYMERIZATION CATALYSTS
6414099	SINGLE-SITE CATALYSTS BASED ON CAGED DIIMIDE LIGANDS
6495485	SINGLE-SITE CATALYSTS BASED ON CAGED DIIMIDE LIGANDS
6355733	POLYETHYLENE BLENDS AND FILMS
6469088	POLYOLEFIN INSULATION COMPOSITIONS HAVING IMPROVED OXIDATIVE STABILITY
6414162	BIMETALLIC CATALYSTS FOR OLEFIN POLYMERIZATION
6660678	SINGLE-SITE CATALYSTS FOR OLEFIN POLYMERIZATION
6908973	SINGLE-SITE CATALYSTS FOR OLEFIN POLYMERIZATION
6673882	SUPPORTED SINGLE-SITE CATALYSTS USEFUL FOR OLEFIN POLYMERIZATION
6392154	FAST CURING POLYMER COMPOSITION
6388013	IMPROVED POLYOLEFIN FIBER COMPOSITIONS
6664349	ETHYLENE POLYMERIZATION PROCESS
6579957	SINGLE-SITE CATALYSTS BASED ON ANIONIC THIOPYRAN DIOXIDE LIGANDS
6759361	ALUMINOBORONATE ACTIVATORS FOR SINGLE-SITE OLEFIN POLYMERIZATION CATALYSTS
6933354	ALUMINOBORONATE ACTIVATORS FOR SINGLE-SITE OLEFIN POLYMERIZATION CATALYSTS
6541583	POLYPROPYLENE PREPARATION
6489414	CHELATING PYRIMIDINES AS LIGANDS FOR SINGLE-SITE OLEFIN POLYMERIZATION CATALYSTS
6875830	CHELATING PYRIMIDINES AS LIGANDS FOR SINGLE-SITE OLEFIN POLYMERIZATION CATALYSTS
6391988	TRIS(PYRAZOYL) BASED ANIONS
6583240	ETHYLENE POLYMERIZATION PROCESS
6440889	AMINE ELIMINATION PROCESS FOR MAKING SINGLE-SITE CATALYSTS
6544918	OLEFIN POLYMERIZATION CATALYSTS CONTAINING CHELATING DIANIONIC LIGANDS
6583242	SUPPORTED OLEFIN POLYMERIZATION CATALYSTS
6562973	METHOD FOR MAKING LATE TRANSITION METAL CATALYSTS FOR OLEFIN POLYMERIZATION
6635701	ORIENTED HIGH DENSITY POLYETHYLENE FILM, COMPOSITIONS AND PROCESS SUITABLE FOR PREPARATION THEREOF
6743845	ORIENTED HIGH DENSITY POLYURETHANE FILM, COMPOSITIONS AND PROCESS SUITABLE FOR PREPARATION THEREOF
6693154	TRANSITION METAL CATALYSTS FOR OLEFIN POLYMERIZATION

App. No./Patent No.	Title
6583209	PROPYLENE POLYMER COMPOSITES HAVING IMPROVED MELT STRENGTH
6455704	PROCESS FOR THE PREPARATION OF BASE-FREE CARBAZOLIDE ANIONS
6793866	IMPROVED PROCESS FOR PRODUCING BONDED ACTIVATED CARBON STRUCTURES AND ARTICLES
6586545	COMPLEXES BASED ON FOUR-MEMBERED CYCLIC ANIONIC SIX-ELECTRON-DONOR LIGANDS
6596826	OLEFIN POLYMERIZATION CATALYSTS CONTAINING 1,3-DIBORETANYL LIGANDS
6689848	LATE TRANSITION METAL POLYMERIZATION CATALYSTS
6844389	ETHYLENE POLYMER COMPOSITIONS HAVING IMPROVED MELT STRENGTH
7037970	PROCESS FOR INCREASING THE MELT STRENGTH OF ETHYLENE-VINYL CARBOXYLATE COPOLYMERS
6635728	PREPARATION OF ULTRA-HIGH-MOLECULAR-WEIGHT POLYETHYLENE
6613841	PREPARATION OF MACHINE DIRECTION ORIENTED POLYETHYLENE FILMS
6673131	FUEL ADDITIVE COMPOSITIONS AND DISTILLATE FUELS CONTAINING SAME
6902704	INJECTION PUMP ASSEMBLY FOR COMBINATORIAL REACTOR AND RELATED METHOD
6646072	PROCESS FOR MAKING POLYOLEFIN COMPOSITIONS CONTAINING EXFOLIATED CLAY
6979718	PROCESS FOR MAKING POLYOLEFIN COMPOSITIONS CONTAINING EXFOLIATED CLAY
6780807	ACYCLIC ANIONIC SIX-ELECTRON-DONOR ANCILLARY LIGANDS
6908972	METHOD FOR MAKING POLYOLEFINS
6559251	PROCESS FOR MAKING LOW-DENSITY POLYOLEFINS
6838410	CATALYSTS FOR MAKING POLYOLEFINS
7022785	DIIMINE COMPLEXES FOR OLEFIN POLYMERIZATION
6656995	PROCESS FOR PRODUCING OLEFIN POLYMER COMPOSITES HAVING IMPROVED MELT STRENGTH
6649698	POLYETHYLENE BLENDS
6765074	OLEFIN POLYMERIZATION PROCESS
6693157	OLEFIN POLYMERIZATION CATALYSTS CONTAINING TRIQUINANE LIGANDS
6875879	OLEFIN POLYMERIZATION CATALYSTS CONTAINING TRIQUINANE LIGANDS
6924340	PROCESS FOR REMOVAL OF INTERMEDIATE HYDROGEN FROM CASCADED POLYOLEFIN SLURRY REACTORS
7396892	PROCESS FOR REMOVAL OF INTERMEDIATE HYDROGEN FROM CASCADED POLYOLEFIN SLURRY REACTORS
7094723	CATALYSTS CONTAINING AT LEAST ONE HETEROCYCLIC LIGAND FOR IMPROVING THE CATALYSTS' PERFORMANCE OF OLEFIN POLYMERIZATION
6756455	HIGH-TEMPERATURE SOLUTION PROCESS FOR POLYOLEFIN MANUFACTURE
6642326	USE OF SILANES TO ENHANCE ACTIVITY IN SINGLE-SITE POLYMERIZATIONS
6630547	USE OF SILANES TO CONTROL MOLECULAR WEIGHT IN OLEFIN POLYMERIZATIONS

App. No./Patent No.	Title
	DEFORMATION OF ELONGATION
7125939	OLEFIN POLYMERIZATION WITH POLYMER BOUND SINGLE-SITE CATALYSTS
7071259	FUNCTIONALIZED PROPYLENE POLYMER COMPOSITIONS AND COMPOSITES CONTAINING SAME
7144964	SOLUTION POLYMERIZATION PROCESS UTILIZING PREASSEMBLED BIMETALLIC ZIEGLER-NATTA CATALYST
6967231	OLEFIN POLYMERIZATION PROCESS
7402546	MAGNESIUM CHLORIDE SUPPORT
7273914	OLEFIN POLYMERIZATION METHODS
7078362	CARBENE DONOR-MODIFIED ZIEGLER-NATTA CATALYSTS
11/054202	PREPARATION OF MULTILAYER POLYETHYLENE THIN FILMS
7183348	SHEAR MODIFICATION OF POLYOLEFIN-CLAY NANOCOMPOSITES
7439290	LINEAR LOW DENSITY POLYETHYLENE COMPOSITIONS AND FILMS
11/053962	MULTILAYER POLYETHYLENE THIN FILMS
7189675	OLEFIN POLYMERIZATION CATALYST ON PLASMA-CONTACTED SUPPORT
11/977610	POLYETHYLENE COMPOSITIONS HAVING IMPROVED PRINTABILITY
7196147	OLEFIN POLYMERIZATION PROCESS WITH IMPROVED OPERABILITY AND POLYMER PROPERTIES
7230056	IMPROVED CATALYST PREPARATION METHOD
7151145	PROCESS FOR NARROWING SHORT-CHAIN BRANCHING DISTRIBUTION IN TWO-STEP ETHYLENE POLYMERIZATIONS AND PRODUCTS
7473745	PREPARATION OF MULTIMODAL POLYETHYLENE
12/315552	PREPARATION OF MULTIMODAL POLYETHYLENE
7232604	FLAME RETARDANT CROSSLINKABLE COMPOSITIONS AND ARTICLES
7122497	OLEFIN POLYMERIZATION CATALYST
11/221119	MODIFIED TIE-LAYER COMPOSITIONS AND IMPROVED CLARITY MULTI-LAYER BARRIER FILMS PRODUCED THEREWITH
11/283662	POLYOLEFIN COMPOSITIONS
11/238568	ADHESIVE BLENDS FOR STYRENE POLYMERS AND ARTICLES
7091291	OLEFIN POLYMERIZATION PROCESS
11/312033	HIGH TEAR STRENGTH FILM
7238754	SOLID STATE PROCESS TO MODIFY THE MELT CHARACTERISTICS OF POLYETHYLENE RESINS AND PRODUCTS
7423098	POLYETHYLENE PROCESS
7348371	CELLULOSIC-REINFORCED COMPOSITES HAVING INCREASED RESISTANCE TO WATER ABSORPTION
11/332939	TIE-LAYER ADHESIVE COMPOSITIONS FOR STYRENE POLYMERS AND ARTICLES
11/362625	SOLID STATE MODIFICATION OF PROPYLENE POLYMERS
11/403296	IMPROVED PROCESS FOR THE PRODUCTION OF ETHYLENE COPOLYMERS
11/430757	RESIDENCE TIME DISTRIBUTION METHOD AND APPARATUS FOR OPERATING A CURVILINEAR PRESSURE VESSEL WHERE TRANSPORT PHENOMENA TAKE PLACE

App. No./Patent No.	Title
	IMPROVED MELT STRENGTH
6838520	IMPROVED ADHESIVES FOR FLUOROPOLYMER FILMS AND STRUCTURES CONTAINING SAME
7456241	ADHESIVE BLEND POWDERS
6861485	MULTI-CATALYST SYSTEM FOR OLEFIN POLYMERIZATION
6930156	POLYMER BOUND SINGLE-SITE CATALYSTS
6767975	OLEFIN POLYMERIZATION WITH PYRIDINE MOIETY-CONTAINING SINGLE-SITE CATALYSTS
7091272	OLEFIN POLYMERIZATION WITH PYRIDINE MOIETY-CONTAINING SINGLE-SITE CATALYSTS
6949605	SOFT TOUCH POLYOLEFIN COMPOSITIONS
6998451	OLEFIN POLYMERIZATION PROCESS
6933353	OLEFIN POLYMERIZATION PROCESS
11/352620	EXTRUSION COATING PROCESS AND COATED SUBSTRATES HAVING IMPROVED HEAT SEAL PROPERTIES
6818713	PROCESS FOR MAKING POLYETHYLENE
6998443	FLAME RETARDANT INSULATION COMPOSITIONS HAVING IMPROVED ABRASION RESISTANCE
7019073	METHOD FOR PREPARING CYCLODEXTRIN-POLYOLEFIN BLENDS AND PRODUCTS MADE THEREFROM
6939930	HYDROSILANE ADDITIVES FOR INCREASED POLYOLEFIN MOLECULAR WEIGHT
6936655	CROSSLINKABLE WIRE AND CABLE COMPOSITIONS HAVING IMPROVED ABRASION RESISTANCE
7005489	ZWITTERIONIC METALLOCYCLES
6903170	OLEFIN POLYMERIZATION PROCESS USING TRIISOBUTYLALUMINUM AS A SCAVENGER
6800703	METHOD FOR PREPARING PROPYLENE POLYMERS HAVING BROAD MOLECULAR WEIGHT DISTRIBUTION
6936671	PROCESS FOR COPOLYMERIZING ETHYLENE WITH VINYL SILANES
6958377	OLEFIN POLYMERIZATION PROCESS
7049262	CRYOGENIC METHOD FOR FORMING A SUPPORTED CATALYST
6982305	OLEFIN POLYMERIZATION IN THE PRESENCE OF A DEHYDROGENATION CATALYST
6844402	PREPARATION OF OLEFIN-ACRYLIC COPOLYMERS WITH LATE TRANSITION METAL CATALYSTS
6903169	LTMC POLYMERIZATION OF UNSATURATED MONOMERS
7473746	LTMC POLYMERIZATION OF UNSATURATED MONOMERS
7011892	PREPARATION OF POLYETHYLENE FILMS
7078081	PREPARATION OF POLYETHYLENE FILMS
7026415	CLATHROCHELATES AS OLEFIN POLYMERIZATION CATALYST COMPONENTS
10/774161	PREPARATION OF POLYETHYLENE FILMS
10/819605	PREPARATION OF POLYETHYLENE FILMS
7030188	IMPROVED MULTI-PHASE POLYPROPYLENE COMPOSITIONS
7230054	POLYMER RESINS WITH IMPROVED ENVIRONMENTAL STRESS CRACK RESISTANCE
6995220	ETHYLENE POLYMERIZATION PROCESS
11/523983	WHITE POLYOLEFIN COMPOSITIONS HAVING REDUCED DRE
7125929	ADHESIVE COMPOSITION HAVING IMPROVED CLARITY FOR COEXTRUDED BARRIER FILMS
10/879763	POLYETHYLENE FILMS HAVING HIGH RESISTANCE TO

App. No./Patent No.	Title
6762255	PREALKYLATED OLEFIN POLYMERIZATION CATALYSTS AND OLEFIN POLYMERIZATION EMPLOYING SUCH CATALYSTS
6995216	PROCESS FOR MANUFACTURING SINGLE-SITE POLYOLEFINS
6602966	IN-REACTOR PROCESS FOR MAKING ETHYLENE POLYMER NANOCOMPOSITE MATERIALS
6737487	POLYOLEFIN BLOCK COPOLYMERS
6884834	SHEAR MODIFICATION OF HDPE-CLAY NANOCOMPOSITES
6716928	GRAFTED PROPYLENE COPOLYMERS AND ADHESIVE BLENDS
6841500	BIMETALLIC INDENOINDOLYL CATALYSTS
6864210	BIMETALLIC OLEFIN POLYMERIZATION CATALYSTS CONTAINING INDIGOID LIGANDS
6984677	FLAME RETARDANT INSULATION COMPOSITION HAVING IMPROVED SCORCH RESISTANCE
6884749	SUPPORTED CATALYSTS WHICH REDUCE SHEETING IN OLEFIN POLYMERIZATION, PROCESS FOR THE PREPARATION AND THE USE THEREOF
6630548	STATIC REDUCTION
6803421	HIGH FLOW FILLED PROPYLENE POLYMER COMPOSITIONS HAVING IMPROVED IMPACT AND DIMENSIONAL PROPERTIES
6835777	ADHESIVE COMPOSITIONS HAVING IMPROVED PERFORMANCE
6894115	DUAL-FUNCTIONALIZED ADHESIVE COMPOSITIONS
6914097	PROCESS FOR PRODUCING ACID FUNCTIONALIZED POLYOLEFINS AND PRODUCTS
6683150	HIGH MOLECULAR WEIGHT POLYPROPYLENE PROCESS
6716936	CASCADED BOILING POOL REACTORS FOR PRODUCING BIMODAL LOW TO MEDIUM DENSITY POLYETHYLENE POLYMERS
6887923	PROCESSING AIDS FOR ENHANCED MACHINE DIRECTION ORIENTATION RATES AND PROPERTY ENHANCEMENT OF POLYOLEFIN FILMS USING HYDROCARBON WAXES
6713576	OLEFIN POLYMERIZATION CATALYSTS BASED ON CONVEX, POLYCYCLIC LIGANDS
7238765	IMPROVED HIGH DENSITY POLYETHYLENE AND INSULATION COMPOSITIONS FOR WIRE AND CABLE
6693155	PROPYLENE POLYMERIZATION PROCESS
6774078	OLEFIN POLYMERIZATION CATALYSTS BASED ON ANNULATED CYCLOPENTADIENYL LIGANDS
6812183	TRIPLE-DECKER CATALYSTS BASED ON DELOCALIZED DIANIONIC LIGANDS
6710005	ALUMINOXANE MODIFICATION
6841506	POLYMERIZATION CATALYST SYSTEM CONTAINING POLYETHER-MODIFIED ALUMINOXANE
7084221	POLYMERIZATION CATALYST SYSTEM CONTAINING POLYETHER-MODIFIED ALUMINOXANE
6903162	PREPARATION OF POLYETHYLENE FILMS
6921804	CASCADED POLYOLEFIN SLURRY POLYMERIZATION EMPLOYING DISENGAGEMENT VESSEL BETWEEN REACTORS
6984599	OLEFIN POLYMERIZATION CATALYSTS BASED ON HYDROXYL-DEPLETED CALIXARENE LIGANDS
10/410112	METHOD OF IMPROVING DISPERSION DURING A PLASTIC COMPOUNDING PROCESS BY USE OF A PARTICULATE POLYMER
6794468	OLEFIN POLYMERIZATION PROCESS
7375162	FILLED PROPYLENE POLYMER COMPOSITIONS HAVING

App. No./Patent No.	Title
11/435946	PLUG-FLOW METHOD AND APPARATUS FOR OPERATING A CURVILINEAR PRESSURE VESSEL WHERE TRANSPORT PHENOMENA OCCUR
11/432252	EXTRUSION COATING PROCESS FOR IMPROVED ADHESION TO METAL(LIZED) SUBSTRATES
11/471685	OLEFIN POLYMERIZATION PROCESS
11/499133	PROPYLENE ELASTOMER-CONTAINING ADHESIVE BLENDS
11/527090	OLEFIN POLYMERIZATION PROCESS
11/606752	ETHYLENE POLYMERIZATION PROCESS
7429635	PREPARATION OF ULTRA HIGH MOLECULAR WEIGHT LINEAR LOW DENSITY POLYETHYLENE
12/072175	PREPARATION OF ULTRA HIGH MOLECULAR WEIGHT LINEAR LOW DENSITY POLYETHYLENE
12/220941	PREPARATION OF ULTRA HIGH MOLECULAR WEIGHT LINEAR LOW DENSITY POLYETHYLENE
11/528411	PROCESS FOR MALEATING POLYMERIZATION RESIDUES AND PRODUCTS
7399809	MODIFYING POLYETHYLENE MADE BY ZIEGLER OR SINGLE-SITE CATALYST WITH FREE RADICAL INITIATOR
11/651265	PROCESS FOR PRODUCING MULTI-LAYER STRUCTURES HAVING IMPROVED METAL ADHESION
11/897438	POLYOLEFIN RESIN BLENDS FOR CRACK-RESISTANT PIPE
11/698591	MDO MULTILAYER POLYETHYLENE FILM
11/717944	BARRIER PROPERTIES OF SUBSTANTIALLY LINEAR HDPE FILM WITH NUCLEATING AGENTS
11/799907	DYNAMIC SEAL ASSEMBLY
11/807315	METHOD FOR CONVEYING POLYMER
11/809688	PREPARATION OF POLYETHYLENE
11/888501	IMPROVED RHEOLOGY-MODIFIED GRAFTS AND ADHESIVE BLENDS
11/890726	MONOMER CONCENTRATION PREDICTION AND CONTROL IN A POLYMERIZATION PROCESS
11/899090	OLEFIN POLYMERIZATION PROCESS
11/899112	OLEFIN POLYMERIZATION PROCESS
11/899092	OLEFIN POLYMERIZATION PROCESS
11/899113	OLEFIN POLYMERIZATION PROCESS
11/894016	PREPARING MULTIMODAL POLYETHYLENE HAVING CONTROLLED LONG CHAIN BRANCHING DISTRIBUTION
11/906306	MODIFICATION OF POLYETHYLENE WITH OZONE
12/006532	PREPARATION OF WIRES AND CABLES
12/002482	REMOVAL OF METAL CONTAMINANTS FROM POLYETHYLENE
12/006370	IMPROVED TIE-LAYER ADHESIVES FOR STYRENE POLYMERS AND ARTICLES
12/154268	OLEFIN POLYMERIZATION PROCESS
12/150724	OLEFIN POLYMERIZATION PROCESS
12/156844	BIMODAL POLYETHYLENE PROCESS AND PRODUCTS
12/218597	PROCESS FOR THE PREPARATION OF MULTIMODAL POLYETHYLENE RESINS
12/231458	POLYETHYLENE THICK FILM AND PROCESS FOR PREPARING POLYETHYLENE
12/284630	POLYMER REMOVAL FROM A POLYMER MIXER
12/288471	POLYOLEFIN-METAL LAMINATE
12/290792	OLEFIN POLYMERIZATION PROCESS



App. No./Patent No.	Title
12/284486	MODIFYING TUBULAR LDPE WITH FREE RADICAL INITIATOR
12/313575	QUALITY ASSURANCE METHOD FOR OLEFIN POLYMERIZATION CATALYSTS
12/287449	IMPROVED MULTIMODAL POLYETHYLENE PIPE RESINS AND PROCESS
12/288360	MAR RESISTANT THERMOPLASTIC ALLOYS
12/288826	POLYETHYLENE HAVING FASTER CRYSTALLIZATION RATE AND IMPROVED ENVIRONMENTAL STRESS CRACKING RESISTANCE
12/313336	METHOD FOR TIMING A POLYMER PUMP CONTAINING POLYMER
12/313576	PROCESS FOR MAKING ETHYLENE HOMOPOLYMERS
12/316949	LUBRICATING OIL
Applied for 1/8/09	PREPARATION OF POLYOLEFIN-BASED ADHESIVES
5367022	GRAFTED POLYMERIC PRODUCTS, AND ADHESIVE BLENDS
08/287078	ZR/V MULTI-SITE OLEFIN POLYMERIZATION CATALYST AND POLYMER
5314579	PROCESS FOR REMOVING HYDROCARBONS FROM POLYMER SLURRIES
5266627	HYDROLYZABLE SILANE COPOLYMER COMPOSITIONS RESISTANT TO PREMATURE CROSSLINKING AND PROCESS
5639818	PEROXIDE MODIFIED PP/PE BLENDS WITH SUPERIOR MELT STRENGTH
5246779	MICROFINE PROPYLENE POLYMER POWDERS AND PROCESS FOR THEIR PREPARATION
5225468	NON-TARNISHING FLAME RETARDANT INSULATION COMPOSITIONS
5256488	NON-TARNISHING FLAME RETARDANT INSULATION COMPOSITIONS
5486333	BLOW MOLDING EXTRUSION DIE WITH RECTANGULAR SLOTS
5412012	FLAME RETARDANT INSULATION COMPOSITIONS HAVING IMPROVED STRIPPABILITY
6197864	FLAME RETARDANT INSULATION COMPOSITIONS HAVING ENHANCED CURABILITY
6395669	CATALYST COMPONENT AND SYSTEM
5733480	SEMICONDUCTIVE EXTRUDABLE POLYOLEFIN COMPOSITIONS AND ARTICLES
5783611	COMPOSITION AND PROCESS FOR ROTATIONAL MOLDING FOAMED ARTICLES
5922778	IMPROVED ROTATIONAL MOLDING COMPOSITIONS AND PROCESS FOR PRODUCING FOAMED ARTICLES THEREFROM
6083434	ROTATIONAL MOLDING PROCESS FOR PRODUCING FOAMED ARTICLES
6328798	COATED POLYMERIC PARTICLES HAVING IMPROVED ANTI-BLOCK CHARACTERISTICS, METHOD OF MAKING SUCH PARTICLES, AND APPARATUS THEREFOR
6616968	COATED POLYMERIC PARTICLES HAVING IMPROVED ANTI-BLOCK CHARACTERISTICS, METHOD OF MAKING SUCH PARTICLES, AND APPARATUS THEREFOR
6171993	ENHANCED-IMPACT LLDPE WITH A SHEAR MODIFIABLE NETWORK STRUCTURE
6194339	ETHYLENE POLYMERIZATION CATALYST AND CATALYST SYSTEM
6184169	ETHYLENE POLYMERIZATION CATALYST AND CATALYST

App. No./Patent No.	Title
	SYSTEM
6323148	ETHYLENE POLYMERIZATION CATALYST AND CATALYST SYSTEM
6713585	ENHANCED-IMPACT LLDPE WITH A SHEAR MODIFIABLE NETWORK STRUCTURE
6281155	SUPPORTED OLEFIN POLYMERIZATION CATALYSTS
6310150	SUPPORTED OLEFIN POLYMERIZATION CATALYSTS
6177516	ADHESIVES AND COMPOSITE STRUCTURES FORMED THEREWITH
6326434	EXTRUSION COMPOSITIONS WITH IMPROVED MELT FLOW
6392153	ELECTRICAL CONDUCTIVE ASSEMBLY
6147167	PROCESS FOR PRODUCING POLYETHYLENE FILM COMPOSITION HAVING BROAD MOLECULAR WEIGHT DISTRIBUTION AND IMPROVED BUBBLE STABILITY
6039767	BLENDED DYES AND PROCESS FOR DYEING POLYPROPYLENE FIBERS
5576366	DYEABLE POLYOLEFIN COMPOSITIONS AND METHOD
6197852	POLYOLEFIN CONCENTRATES AND COMPOSITIONS HAVING IMPROVED CARBON BLACK DISPERSION
5744417	SUPPORTED CATALYST
5747404	POLYSILOXANE SUPPORTED METALLOCENE CATALYSTS
6121183	MODIFIED POLYSILOXANE CATALYSTS AND METHOD OF USING THE SAME
5539124	POLYMERIZATION CATALYSTS BASED ON TRANSITION METAL COMPLEXES WITH LIGANDS CONTAINING PYRROLYL RING (AZAMETALLOCENE POLYMERIZATION CATALYSTS)
5554775	BORABENZENE BASED OLEFIN POLYMERIZATION CATALYSTS
5637659	BORABENZENE BASED OLEFIN POLYMERIZATION CATALYSTS
6034027	BORABENZENE BASED OLEFIN POLYMERIZATION CATALYSTS CONTAINING A GROUP 3-10 METAL
5902866	AZABOROLINYL METAL COMPLEXES AS OLEFIN POLYMERIZATION CATALYSTS
6228958	AZABOROLINYL METAL COMPLEXES AS OLEFIN POLYMERIZATION CATALYSTS
5637660	POLYMERIZATION OF ALPHA-OLEFINS WITH TRANSITION METAL CATALYSTS BASED ON BIDENTATE LIGANDS CONTAINING PYRIDINE OR QUINOLINE MOIETY
6759493	TRANSITION METAL CATALYSTS CONTAINING BIDENTATE LIGANDS AND METHOD OF USING AND PREPARING SAME
6790918	TRANSITION METAL CATALYSTS CONTAINING BIDENTATE LIGANDS AND METHOD OF USING AND PREPARING SAME
5756611	ALPHA-OLEFIN POLYMERIZATION CATALYSTS
6620982	METHOD OF PRODUCING PURIFIED CYCLOPENTANE
6329561	IMPURITIES REMOVAL
6780395	SYNTHESIS GAS PRODUCTION
7090767	HYDRODESULFURIZATION OF GASOLINE FRACTIONS
6824674	PYROLYSIS GASOLINE STABILIZATION
6949686	PYROLYSIS GASOLINE STABILIZATION
6743961	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL
7043938	METHOD OF THAWING A CRYOGENIC UNIT
7019187	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL AND MILD CATALYTIC CRACKING
5371279	ACETIC ACID REMOVAL FROM LIQUID ETHER ACETATES

App. No./Patent No.	Title
6768038	ALPHA OLEFIN PRODUCTION
7041862	THERMAL CRACKING OF DIELS-ALDER ADDUCTS
7125483	OLEFIN PLANT CORROSION CONTROL
6727389	CYCLIC ORGANO-OXIDE STORAGE VENT SCRUBBING
6872862	PROPYLENE PRODUCTION
6979757	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL AND MILD CONTROLLED CAVITATION ASSISTED CRACKING
7078577	DIHYDRODICYCLOPENTADIENE PRODUCTION
7056097	SYSTEM AND METHOD FOR MONITORING THE MECHANICAL CONDITION OF A RECIPROCATING COMPRESSOR
7074976	PROPYLENE PRODUCTION
6927310	TRIPROPYLENE GLYCOL PRODUCTION
7073530	STORAGE TANK DE-INVENTORYING
6887070	FIRE FURNACE OPERATION AND APPARATUS
6977318	PROPYLENE PRODUCTION
6884917	1-BUTENE PRODUCTION
10/865257	CARBON DIOXIDE PRODUCTION
6948453	HYDROCARBON CRACKING
10/960678	HEAT EXCHANGER BAFFLE
7159603	MECHANICAL HOT TAPPING METHOD
7326823	AROMATIC COMPOUND RECOVERY
7270740	STARTUP OF AN OLEFINS PRODUCTION PLANT
7348466	SOLVENT EXTRACTION
11/181081	METHOD FOR TEMPORARY CLOSING AND REOPENING OF A REACTOR TUBE
7374664	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL FEEDSTOCK
7374661	THERMAL CRACKING
11/280789	INTEGRATED CRACKING AND METATHESIS PROCESS
7153985	
7396449	OLEFIN PRODUCTION UTILIZING CONDENSATE FEEDSTOCK
11/507414	METHOD FOR PROCESSING NATURAL GAS
11/584722	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL/CONDENSATE FEEDSTOCK WITH ENHANCED DISTILLATE PRODUCTION
11/635324	HYDROCARBON CRACKING
11/704007	VALVE CONSTRUCTION AND METHOD OF USE
11/800321	METHOD OF OPERATING A COOLING FLUID SYSTEM
11/800824	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL/CONDENSATE FEEDSTOCK AND HYDROTREATING
11/803905	HYDROCARBON THERMAL CRACKING USING ATMOSPHERIC RESIDUUM
7404889	HYDROCARBON THERMAL CRACKING USING ATMOSPHERIC DISTILLATION
11/894013	OLEFIN PRODUCTION UTILIZING A FEED CONTAINING CONDENSATE AND CRUDE OIL
11/894123	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL/CONDENSATE FEEDSTOCK AND SELECTIVE HYDROCRACKING
11/906307	TOLUENE PRODUCTION
11/978297	TUBE HANDLING METHOD AND APPARATUS
12/006435	OLEFIN PRODUCTION UTILIZING WHOLE CRUDE OIL/CONDENSATE FEEDSTOCK WITH A PARTITIONED

App. No./Patent No.	Title
	VAPORIZATION UNIT
12/009251	METHOD FOR REDUCING COKE AND OLIGOMER FORMATION IN A FURNACE
12/069811	METATHESIS PROCESS USING A FLUIDIZED BED REACTOR
12/152053	METATHESIS PROCESS USING A MOVING PHASE REACTOR
12/157300	EXTRACTIVE DISTILLATION
12/214910	FLARE GAS FLAMMABILITY CONTROL
6323384	PROCESS FOR ISOMERIZING LINEAR OLEFINS TO ISOOLEFINS
6303842	(Amended) METHOD OF PRODUCING OLEFINS FROM PETROLEUM RESIDUA
6111160	PROCESS FOR ISOMERIZING LINEAR OLEFINS TO ISOOLEFINS
5157205	PROCESS FOR REMOVING ALDEHYDES AND/OR VINYL ESTERS FROM GASEOUS OR LIQUID PROCESS STREAMS

# PATENT SECURITY AGREEMENT

## (Patents, Patent Applications and Patent Licenses)

March 3, 2009

WHEREAS, Equistar Chemicals, LP, a Delaware limited partnership (herein referred to as the "Grantor") owns, or in the case of licenses is a party to, the Patent Collateral (as defined below);

WHEREAS, LYONDELL CHEMICAL COMPANY, a Delaware corporation, as a Borrower and as Borrowers' Agent; EQUISTAR CHEMICALS, LP, a Delaware limited partnership, HOUSTON REFINING LP, a Delaware limited partnership, BASELL USA INC., a Delaware corporation and MILLENNIUM CHEMICALS INC., a Delaware corporation, and MILLENNIUM PETROCHEMICALS INC., a Virginia corporation, each as a Borrower (collectively, the "Borrowers"), the other US Guarantors party thereto, Citibank, N.A. as Administrative Agent and Collateral Agent, Citibank, N.A. as Fronting Bank and the other agents and parties thereto have entered into that Debtor-In-Possession Credit Agreement dated as of March 3, 2009 (as amended from time to time, the "Credit Agreement"); and

WHEREAS, pursuant to (i) a Guarantee and Security Agreement dated as of March 3, 2009 (as amended and/or supplemented from time to time, the "Security Agreement") among the Borrowers, the US Guarantors party thereto and Citibank, N.A. as Administrative Agent for the Secured Parties referred to therein (in such capacity, together with its successors in such capacity, the "Grantee"), and (ii) certain other Security Documents (including this Patent Security Agreement), the Grantor has secured certain of its obligations and guaranteed certain obligations of the other Borrowers and secured such guarantee (the "Secured Obligations") by granting to the Grantee for the benefit of such Secured Parties a continuing security interest in personal property of the Grantor, including all right, title and interest of the Grantor in, to and under the Patent Collateral (as defined below);

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantor hereby pledges and grants to the Grantee, to secure the Secured Obligations, a continuing security interest in all of the Grantor's right, title and interest in, to and under the following (all of the following items or types of property being herein collectively referred to as the "Patent Collateral"), whether now owned or hereafter acquired:

(xxii) each Patent owned by the Grantor, including, without limitation, each Patent or Patent application identified in Schedule 1 hereto;

(xxiii) each Patent License to which the Grantor is a party; and

(xxiv) all Grantor's claims for, and rights to sue for, past, present or future infringements of any Patent (including, without limitation, any Patent owned by the Grantor and identified in Schedule I), and all income, royalties, damages and payments now or hereafter due or payable with respect to any such Patent, including damages and payments for past, present or future infringements thereof, and all rights and benefits of the Grantor under any Patent License (including, without limitation, any Patent License identified in Schedule I).

The foregoing security interest is granted in conjunction with the security interests granted by the Grantor to the Grantee pursuant to the Security Agreement. The Grantor acknowledges and affirms that the rights and remedies of the Grantee with respect to the security interest in the Patent Collateral granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein in their entireties.

Unless otherwise defined herein or the context otherwise requires, terms used in this agreement have the meanings provided or provided by reference in the Credit Agreement and the Security Agreement.

In the event of any inconsistency between the terms or conditions of this Patent Security Agreement and the terms and conditions of the Security Agreement or Credit Agreement, the terms and conditions of the Security Agreement or Credit Agreement, as applicable, shall control.

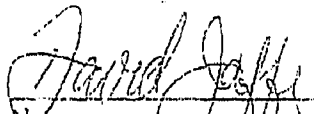
IN WITNESS WHEREOF, the Grantor has caused this Patent Security Agreement to be duly executed by its officer thereunto duly authorized as of the day first above written.

EQUISTAR CHEMICALS, LP

By: Alan Bigman  
Name: Alan Bigman  
Title: Authorized Person

UTURE PAGE TO PATENT SECURITY GRANT (ABL.}}

Citibank, N.A., as Collateral Agent

By   
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
DAVID DAFFE  
Director/Vice President

[SIGNATURE PAGE 10 PATENT SECURITY GRANT (AB)]