

FORM PTO-1619A
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02-02-2000

U.S. Department of Commerce
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PATENT

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☒ **New**

☐ **Resubmission (Non-Recordation)**
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☐ **Correction of PTO Error**
Reel # Frame #

☐ **Corrective Document**
Reel # Frame #

Conveyance Type

☒ **Assignment** ☐ **Security Agreement**

☐ **License** ☐ **Change of Name**

☐ **Merger** ☐ **Other**

U.S. Government
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☐ **Departmental File** ☐ **Secret File**

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Execution Date
Month Day Year
Dec. 14, 1999

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Execution Date
Month Day Year

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Mail documents to be recorded with required cover sheet(s) information to:
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

PATENT
REEL: 010506 FRAME: 0869

Correspondent Name and Address

Area Code and Telephone Number 312/861-2000

Name Bruce O. Bradford

Address (line 1) Kirkland & Ellis

Address (line 2) 200 East Randolph Drive

Address (line 3) Chicago, IL 60601

Address (line 4)

Pages

Enter the total number of pages of the attached conveyance document including any attachments.

27

Application Number(s) or Patent Number(s)



Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

09/059126

09/027709

08/979017

09/134622

09/016024

09/105516

09/296682

08/969235

08/995205

Patent Number(s)

4910106

4997603

5043113

5328760

5049275

5013439

4957620

4973532

5160627

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor.

Month Day Year

Patent Cooperation Treaty (PCT)

Enter PCT application number only if a U.S. Application Number has not been assigned.

PCT

PCT

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Number of Properties

Enter the total number of properties involved.

66

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): \$ 2640.00

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To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Bruce O. Bradford

Name of Person Signing

Bruce O. Bradford
Signature

12/30/99
Date

RECORDATION FORM COVER SHEET
CONTINUATION
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Patent Application Number(s)

Patent Number(s)

09/041163	08/839664	08/896513
09/043276	08/719668	09/250116
09/046341	09/041577	09/265064
09/206351	09/168632	08/914740
09/385933		

5449457	5169529	4650730
4731304	5281491	5240655
5453333	4774365	5264171
5352361	5186832	5284584
5667911	5565281	5691077

RECORDATION FORM COVER SHEET
CONTINUATION
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Patent Application Number(s)

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Patent Number(s)

5714072	5695545	4257997
4255376	4290987	4346142
4311477	4298666	4359510
4438185	4405688	4541981
4973434	5110326	4620956

RECORDATION FORM COVER SHEET
CONTINUATION
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Patent Number(s)

4966707	4938931	4976897
5102552	5582735	<input type="text"/>
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ASSIGNMENT OF PATENTS

THIS ASSIGNMENT OF PATENTS (this "Assignment") is made and entered into this 14th day of December, 1999 (the "Effective Date") by and between CELGARD LLC, a Delaware limited liability company, having a place of business at 86 Morris Avenue, Summit, NJ 07901 ("Seller"), and CELGARD, Inc., a Delaware corporation, having a principal place of business at 20 Burlington Mall Road, Suite 325, Burlington, MA 01803 ("Purchaser").

WHEREAS, Seller, CNA Holdings, Inc., a Delaware corporation, Daramic, Inc., a Delaware corporation ("Daramic") and Polypore, Inc., a Delaware corporation ("Polypore"), are parties to that certain Asset Purchase Agreement, dated as of August 26, 1999 (as amended, the "Agreement");

WHEREAS, Polypore and Daramic assigned their rights and obligations under the Agreement to Purchaser pursuant to an Assignment of Rights and Obligations Under Asset Purchase Agreement, dated as of the date hereof;

WHEREAS, pursuant to the Agreement, Purchaser wishes to acquire, and Seller wishes to assign, the entire right, title and interest in and to all Transferred Intellectual Property Rights (as such term is defined in the Agreement), including all such right, title and interest under the United States patents and patent applications identified and set forth on Schedule A and the foreign patents and patent applications identified and set forth on Schedule B (collectively, the "Patents"), together with the goodwill of the business in connection with which the Patent are used, including all foreign rights corresponding thereto.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Seller and Purchaser, each intending to be legally bound, hereby agree as follows:

1. Seller does hereby sell, assign, transfer and set over to Purchaser its entire right, title and interest in and to the Patents, together with the goodwill of the business in connection with which the Patents are used, and all registrations and applications therefor in the United States and in all foreign countries, including any renewals and extensions of the registrations that are or may be secured under the laws of the United States and all foreign countries, now or hereafter in effect, for Purchaser's own use and enjoyment, and for the use and

enjoyment of Purchaser's successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by Seller if this Assignment had not been made, together with all claims for damages by reason of past, present or future infringement or other unauthorized use of the Patents, with the right to sue for, and collect the same for, Purchaser's own use and enjoyment and for the use and enjoyment of its successors, assigns or other legal representatives.

2. Seller requests the Commissioner of Patents and Trademarks of the United States or, in the case of the countries outside the United States, the analogous individual or agency responsible for patents, to record Purchaser as owner of the Patents, including any variations thereof, for the sole use and enjoyment of Purchaser, its successors, assigns or other legal representatives.

3. This Assignment is intended to implement the provisions of the Agreement and shall not be construed to enhance, extend or limit the rights or obligations of Seller or Purchaser thereunder. To the extent any provision of this instrument is inconsistent with the Agreement, the provisions of the Agreement shall control.

4. This Assignment shall be governed by and construed in accordance with the laws of the State of New York, without regard to the conflicts of law provisions thereof.

* * * * *

IN TESTIMONY WHEREOF, Seller has caused this Assignment to be signed and executed by thereunto duly authorized on this 14th day of December, 1999.

CELGARD LLC

By: Ed Collins
Name: Ed Collins
Title: Assistant Secretary

STATE OF)
) SS.
COUNTY OF)

On this 14 day of December, 1999, there appeared before me Ed Collins, personally known to me, who acknowledged that he signed the foregoing Assignment as his voluntary act and deed on behalf of CELGARD LLC.

Kara Kidkour
Notary Public
 State of New York
 No. 01885013111
 Qualified in New York County
 Commission Expires Sept. 8, 2010

SCHEDULE A

PATENTS

TITLE	PATENT NO.	ISSUE DATE
Formation of Halgenated Polymeric Microporous Membranes Having Improved Strength Properties	4910106	3/20/90
Formation of Halgenated Polymeric Microporous Membranes Having Improved Strength Properties	4997603	3/5/91
Formation of Halgenated Polymeric Microporous Membranes Having Improved Strength Properties	5043113	8/27/91
Microporous Membrane From Cold-Rolled Precursor Films	5328760	7/12/94
Modified Microporous Structures	5049275	9/17/91
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	5013439	5/7/91
Liquid Chromatography Using Microporous Hollow Fibers	4957620	9/18/90
Battery Seaparator With Integral Thermal Fuse	4973532	11/27/90
Process for Making Microporous Membranes Having Gel-Filled Pores	5160627	11/3/92
Liquid Membrane Modules with Minimal Effective Membrane	5449457	9/12/95
Liquid Membrane Modules With Minimal Effective Membrane	5169529	12/8/92
Battery Separator	4650730	3/17/87
Battery Separator	4731304	3/15/88
Battery Separator	5281491	1/25/94
Process for Making a Battery Separator	5240655	8/31/93
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	5453333	9/26/95

TITLE	PATENT NO.	ISSUE DATE
Pervaporation Process for Separating Alcohols From Ethers	4774365	9/27/88
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	5264171	11/23/93
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	5352361	10/4/94
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Integral Turbulence Promoters	5186832	2/16/93
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	5284584	2/8/94
Methods of Making Cross-Ply Microporous Membrane Batter	5667911	9/16/97
Shutdown, Bilayer Battery Separator	5565281	10/15/96
Shutdown, Trilayer Battery Separator	5691077	11/25/97
Method for Solvent Extraction Using a Dual-Skinned Asymmetric Microporous Membrane	5714072	2/3/98
Degassing Liquids: Apparatus and Method	5695545	12/9/97
Solvent Stretch Process for Preparing a Microporous Film	4257997	3/24/81
Solvent Stretch Process for Preparing Microporous Films From Precursor Films of Controlled Crystalline Structure	4255376	3/10/81
Process for Preparing Microporous Hollow Fibers	4290987	9/22/81
Hydrophilic Monomer Treated Microporous Films and Process	4346142	8/24/82
Bag for Cultivating Mushrooms	4311477	1/19/82
Coated Open-Celled Microporous Membranes	4298666	11/3/81

TITLE	PATENT NO.	ISSUE DATE
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	4359510	11/16/82
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	4438185	3/20/84
Microporous Hollow Fiber and Process and Apparatus for Preparing Such Fiber	4405688	9/20/83
Microporous Hollow Fiber and Process and Apparatus for Preparing Such Fiber	4541981	9/17/85
Immobilized Liquid Membrane	4973434	11/27/90
Immobilized Liquid Membrane	5110326	5/5/92
Process for Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	4620956	11/4/86
Liquid/Liquid Extractions with Microporous Membranes	4966707	10/30/90
Microporous Membrane Trickle Bed Reactor	4938931	7/3/90
Composite Porous Membranes and Methods of Making the Same	4976897	12/11/90
Composite Porous Membranes and Methods of Making the Same	5102552	4/7/92
Removal of Organics From a Fluid Using a Permeable Membrane	5582735	12/10/96

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Trilayer Battery Separator	09/059126	4/13/98
Crosslinking of Polymers	09/027709	2/23/98
Portable Power Tools Having Low Rate, Rechargeable Batteries	08/979017	11/26/97

TITLE	APPLICATION NO.	FILING DATE
A Hydrophilic Polyolefin	09/134622	8/14/98
Separator for Gel Electrolyte Battery	09/016024	1/30/98
Polypropylene Microporous Membrane for Battery Separator	09/105516	6/26/98
Structurally Stable, Fusible Battery Separators and Method of Making Same	09/296682	4/20/99
Ethylene-Vinyl Alcohol Copolymer Battery Separator	08/969235	11/13/97
Penta-Layer Battery Separator	08/995205	12/19/97
Trilayer Battery Separator	09/041163	3/12/98
A Method of Making a Trilayer Battery Separator	08/839664	4/15/97
Ultra-Thin, Single-Ply Battery Separator	08/896513	6/22/97
Crosslinking of Polymers	09/043276	9/11/98
Pressure Vessel: Overmolding a Polyolefin Onto a Polyolefin	08/719668	9/25/96
Pressure Vessel: Overmolding a Polyolefin Onto a Polyolefin	09/250116	2/16/99
Microporous Hollow Fiber Blood Oxygenator	09/046341	3/23/98
Fiber-Reinforced, Composite Body Contactors	09/041577	3/13/98
Shell-Less Hollow Fiber Membrane Fluid Contactor	09/265064	3/8/99
A Thermoplastic, Unibody Transfer Device	09/206351	12/7/98
Device for Removing Entrained Gases From Liquids	09/168632	10/8/98
A Contactor for Degassing Liquids	08/914740	8/19/97
Battery Separators with Reduced Splitting Propensity	09/385933	8/30/99

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****AUSTRALIA****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Battery Separator	579728	5/25/89
Battery Separator	668704	9/4/96
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	652878	1/10/95

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Degassing Liquids: Apparatus and Method	18966/97	4/18/97

AUSTRIA**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****BELGIUM****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95
Battery Separator With Integral Thermal Fuse	391694	11/17/94
Battery Separator	0201875	9/4/91
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	0604972	7/23/97
Process for Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	210059	9/5/90
Liquid/Liquid Extractions With Microporous Membranes	246065	10/7/92

BRAZIL

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Battery Separator	P19206964	12/18/92
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	P19205173	12/28/92

CANADA**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	1231810	1/26/88
Microporous Membrane From Cold-Rolled Precursor Films	2007160	8/19/97
Battery Separator	1266504	3/6/90
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules having Flow-Directing Baffles	2085818	9/24/96
Bag for Cultivating Mushrooms	1131147	9/7/82
Vessel for Fungus Cultivation	1120721	3/30/82

PATENT APPLICATIONS

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Trilayer Battery Separator	2266152	3/18/99
Portable Power Tools Having Low Rate, Rechargeable Batteries	2246646	9/3/98
Separator For Gel Electrolyte Battery	2254809	12/1/98
Ethylene-Vinyl Alcohol Copolymer Battery Separator	2245394	8/24/98
Penta-Layer Battery Separator	2253017	11/5/98
Trilayer Battery Separator	2259786	1/19/99
A Method of Making a Trilayer Battery Separator	2233052	3/25/98
Battery Separator	2126316	12/18/92
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	2085380	12/15/92
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	2102156	11/1/93
Degassing Liquids: Apparatus and Method	2203051	4/18/97
Fiber-Reinforced, Composite Body Contactors	2262152	2/16/99
A Thermoplastic, Unibody Transfer Device	2264458	3/2/99

CHINA

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Methods of Making Cross-Ply Microporous Membrane Battery	95120142.5	12/22/95
Shutdown, Bilayer Battery Separator	95120034.8	12/1/95
Shutdown, Trilayer Battery Separator	95120899.3	12/19/95
Degassing Liquids: Apparatus and Method	97111519.2	5/9/97

EPC**PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Trilayer Battery Separator	99106727.3	4/1/99
Portable Power Tools Having Low Rate, Rechargeable Batteries	98121802.7	11/17/98
Separator for Gel Electrolyte Battery	99101376.4	1/26/99
Ethylene-Vinyl Alcohol Copolymer Battery Separator	98120792.1	11/3/98
Penta-Layer Battery Separator	98123315.8	12/8/98
Trilayer Battery Separator	99104437.1	3/5/99
A Method of Making a Trilayer Battery Separator	98106208.6	4/4/98
Battery Separator	93901174.8	12/18/92

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	92122016.6	12/24/92
Methods of Making Cross-Ply Microporous Membrane Battery	95119693.0	12/14/95
Shutdown, Trilayer Battery Separator	95119694.8	12/14/95
Shutdown, Trilayer Battery Separator	98118113.4	9/24/98
Method of Solvent Extraction Using a Dual-Skinned Asymmetric Microporous Membrane	96117668.2	11/5/96
Degassing Liquids: Apparatus and Method	97107549.4	5/7/97
Fiber-Reinforced, Composite Body Contactors	99104821.6	3/11/99
A Thermoplastic, Unibody Transfer Device	99104710.1	3/10/99

FRANCE**PATENTS**

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	129420	5/30/90
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process For Making the Same	342026	10/18/95
Battery Separator With Integral Thermal Fuse	391694	11/17/94
Battery Separator	0201875	9/4/91
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	0550262	4/2/97
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	0604972	7/23/97
Shutdown, Bilayer Battery Separator	0715364	4/1/98
Solvent Stretch Process for Preparing a Microporous Film	8012139	6/13/83
Solvent Stretch Process for Preparing Microporous Films From Precursor Films of Controlled Crystalline Structure	8012140	1/10/83
Coated Open-Celled Microporous Membranes	8103861	6/17/85

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	PATENT NO.	ISSUE DATE
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	8114890	4/16/84
Process for Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	210059	9/5/90
Liquid/Liquid Extractions With Microporous Membranes	246065	10/7/92
Composite Porous Membranes and Methods of Making the Same	321241	1/13/93

GERMANY**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	P3482377.8	5/30/90
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	68924224.7	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	69028418.7	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	68924552.1	10/18/95
Battery Separator With Integral Thermal Fuse	69014148.3	11/17/94
Battery Separator	P3681195.5	9/4/91

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	PATENT NO.	ISSUE DATE
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	P69218750.2	4/2/97
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	69312453.9	7/23/97
Shutdown, Bilayer Battery Separator	69501937	4/1/98
Solvent Stretch Process for Preparing a Microporous Film	3020335	3/25/93
Solvent Stretch Process for Preparing Microporous Films From Precursor Films of Controlled Crystalline Structure	DE3020372	3/10/94
Coated Open-Celled Microporous Membranes	P3107205.4	2/27/92
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	3130069	10/26/95
Process For Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	P3673908.1	9/5/90
Liquid/Liquid Extractions With Microporous Membranes	P3782086.9	10/7/92
Composite Porous Membranes and Methods of Making the Same	P3877542.5	1/13/93

ISRAEL

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Degassing Liquids: Apparatus and Method	120779	5/5/97

ITALY**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95
Battery Separator With Integral Thermal Fuse	391694	11/17/94
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	0550262	4/2/97

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FOREIGN PATENTS AND PATENT APPLICATIONS

Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	0604972	7/23/97
Process For Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	210059	9/5/90
Liquid/Liquid Extractions With Microporous Membranes	246065	10/7/92
Composite Porous Membranes and Methods of Making the Same	321241	1/13/93

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****JAPAN****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	1804088	11/26/93
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	2816449	8/21/98
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	2128906	5/2/97
Battery Separator With Integral thermal Fuse	2032395	3/19/96
Battery Separator	2108985	11/21/96
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	2139235	11/20/98
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	2519872	5/17/96
Solvent Stretch Process for Preparing a Microporous Film	1594342	12/14/90
Solvent Stretch Process for Preparing Microporous Films From Precursor Films of Controlled Crystalline Structure	1577000	8/24/90

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

Hydrophilic Monomer Treated Microporous Films and Process	1577006	8/24/90
Coated Open-Celled Microporous Membranes	1996632	12/8/95
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	1904850	2/8/95
Process for Preparing Microporous Polyethylene Film By Uniaxial Cold and Hot Stretching	1897244	1/23/95
Liquid/Liquid Extractions With Microporous Membranes	2058950	6/10/96
Battery Separator	2714605	11/7/97

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Microporous Membrane From Cold-Rolled Precursor Films	2396/90	1/9/90
Trilayer Battery Separator	102177/1999	4/9/99
Portable Power Tools Having Low Rate, Rechargeable Batteries	333616/1998	11/25/98
Separator for Gel Electrolyte Battery	8637/1999	1/18/99
Ethylene-Vinyl Alcohol Copolymer Battery Separator	323302/1998	11/13/98
Penta-Layer Battery Separator	359899/1998	12/18/98
Trilayer Battery Separator	66702/1999	3/12/99
A Method of Making a Trilayer Battery Separator	102299/1998	4/14/98

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Battery Separator	117416/97	4/22/97
Battery Separator	25844/92	1/17/92
Process for Making a Battery Separator	25850/92	1/17/92
Single Layer Porous Membrane	268012/92	9/10/92
Battery Separator	268013/92	9/10/92
Fusible Porous Membrane	23362/94	1/24/94
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	261843/96	10/2/96
Methods of Making Cross-Ply Microporous Membrane Battery	334415/1995	12/22/95
Shutdown, Bilayer Battery Separator	313891/1995	12/2/95
Shutdown, Trilayer Battery Separator	328554/1995	12/18/95
Method for Solvent Extraction Using a Dual-Skinned Asymmetric Microporous Membrane	293538/1996	11/6/96
Degassing Liquids: Apparatus and Method	117654/1997	5/8/97
Microporous Hollow Fiber Blood Oxygenator	50578/99	2/26/99
Fiber-Reinforced, Composite Body Contactors	68311/1999	3/15/99
A Thermoplastic, Unibody Transfer Device	66169/1999	3/12/99

SOUTH KOREA

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of Halgenated Polymeric Microporous Membranes Having Improved Strength Properties	67552	11/12/93
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	74824	6/25/94
Battery Separator With Integral Thermal Fuse	89010	9/12/95
Battery Separator	53702	8/10/86
Process for Preparing Microporous Polyethylene Film By Uniaxial cold and Hot Stretching	74221	6/3/94
Liquid/Liquid Extractions With Microporous Membranes	62929	6/22/93
Composite Porous Membranes and Methods of Making the Same	53929	8/19/92

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Trilayer Battery Separator	12650/1999	4/10/99
Portable Power Tools Having Low Rate, Rechargeable Batteries	42952/1998	10/14/98
Separator for Gel Electrolyte Battery	55651/1998	12/17/98
Ethylene-Vinyl Alcohol Copolymer Battery Separator	46084/1998	10/30/98

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	APPLICATION NO.	FILING DATE
Penta-Layer Battery Separator	55397/1998	12/16/98
Trilayer Battery Separator	4792/1999	2/11/99
A Method of Making a Trilayer Battery Separator	12581/1998	4/9/98
Battery Separator	94-702178	12/18/92
Porous Membrane Having Single layer Structure, Battery Separator Made Thereof	92-25660	12/24/92
Methods of Making Cross Ply-Microporous Membrane Battery	53447/1995	12/12/95
Shutdown, Bilayer Battery Separator	46052/1995	12/1/95
Shutdown, Trilayer Battery Separator	51954/1995	12/19/95
Degassing Liquids: Apparatus and Method	17805/1997	5/9/97

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****LIECHTENSTEIN****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96

MEXICO**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	183183	11/8/96

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Degassing Liquids: Apparatus and Method	973482	5/4/97

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****NETHERLANDS****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95
Battery Separator With Integral Thermal Fuse	391694	11/17/94
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	0604972	7/23/97
Shutdown, Bilayer Battery Separator	0715364	4/1/98
Liquid/Liquid Extractions with Microporous Membranes	246065	10/7/92

PCT

TITLE	APPLICATION NO.	FILING DATE
Device for Removal of Gas Bubbles and Dissolved Gases in Liquid	PCT/US98/17718	8/26/98

SOUTH AFRICA

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Battery Separator	92/9912	10/27/93
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	92/9949	9/29/93

SPAIN**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	2078240-3	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	2091787-2	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	2079377-4	10/18/95
Battery Separator With Integral Thermal Fuse	2064617-8	11/17/94
Liquid/Liquid Extractions With Microporous Membranes	2035050-3	10/7/92
Composite Porous Membranes and Methods of Making the Same	2037247-7	1/13/93

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****SWEDEN****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95

SWITZERLAND**PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Formation of halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95
Battery Separator with Integral Thermal Fuse	391694	11/17/94
Battery Separator	0201875	9/4/91
Liquid/Liquid Extractions with Microporous Membranes	246065	10/7/92

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****TAIWAN****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	NI-23451	1/27/86
Microporous Membrane From Cold-Rolled Precursor Films	NI-65131	6/9/94
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	NI-44755	5/31/91
Battery Separator With Integral Thermal Fuse	NI-35447	3/30/90
Battery Separator	NI-65908	8/22/94
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	NI-65483	7/12/94
Spiral-Wound Hollow Fiber Membrane Fabric Cartridges and Modules Having Flow-Directing Baffles	NI-070918	8/4/95
Methods of Making Cross-Ply Microporous Membrane Battery	NI-082914	1/1/97
Shutdown, Bilayer Battery Separator	UM-121871	3/21/97

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

Shutdown, Trilayer Battery Separator	NI-083801	4/21/97
Process for Preparing Microporous Polyethylene Film By Uniaxial Cold and Hot Stretching	NI-27262	12/5/87
Composite Porous Membranes and Methods of Making the Same	NI-36469	5/18/90

PATENT APPLICATIONS

TITLE	APPLICATION NO.	FILING DATE
Trilayer Battery Separator	88104233	3/18/99
Portable Power Tools Having Low Rate, Rechargeable Batteries	87114410	8/31/98
Separator For Gel Electrolyte Battery	87119915	12/1/98
Ethylene-vinyl Alcohol Copolymer Battery Separator	87113820	8/21/98
Penta-Layer Battery Separator	87118270	11/3/98
Trilayer Battery Separator	88100519	1/14/99
A Method of Making a Trilayer Battery Separator	87104866	4/1/98
Degassing Liquids: Apparatus and Method	86105159	4/21/97

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS****UNITED KINGDOM****PATENTS**

TITLE	PATENT NO.	ISSUE DATE
Surfactant Treated Polyolefinic Microporous Materials	129420	5/30/90
Formation of Halogenated Polymeric Microporous Membranes Having Improved Strength Properties	356045	9/13/95
Microporous Membrane From Cold-Rolled Precursor Films	378346	9/11/96
Microporous Membranes Having Increased Pore Densities and Process for Making the Same	342026	10/18/95
Battery Separator With Integral Thermal Fuse	391694	11/17/94
Battery Separator	0201875	9/4/91
Porous Membrane Having Single Layer Structure, Battery Separator Made Thereof	0550262	4/2/97
Hollow Fiber Membrane Fabric-Containing Cartridges and Modules Having Solvent-Resistant Thermoplastic Tube Sheets	0604972	7/23/97
Shutdown, Bilayer Battery Separator	0715364	4/1/98
Solvent Stretch Process for Preparing a Microporous Film	2051666B	3/9/83

CELGARD**SCHEDULE B****FOREIGN PATENTS AND PATENT APPLICATIONS**

TITLE	PATENT NO.	ISSUE DATE
Solvent Stretch Process for Preparing a Microporous Films From Precursor Films of Controlled Crystalline Structure	2051665B	3/9/83
Coated Open-Celled Microporous Membranes	2070847	2/1/84
Hydrophilic Polymer Coated Microporous Membranes Capable of Use as a Battery Separator	2081604	7/11/84
Process for Preparing Microporous Polyethylene Film by Uniaxial Cold and Hot Stretching	210059	9/5/90
Liquid/Liquid Extractions With Microporous Membranes	246065	10/7/92
Composite Porous Membranes and Methods of Making the Same	321241	1/13/93