

11-05-1999

FORM PTO-1565

REC



BT

U.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

MND 11/3/99

101193114

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Sterling Chemicals, Inc.  
Sterling Canada, Inc.  
Sterling Pulp Chemicals US, Inc.  
Sterling Pulp Chemicals, Inc.  
Sterling Fibers, Inc.  
Sterling Chemicals Energy, Inc.  
Sterling Chemicals International, Inc.



Additional names(s) of conveying party(ies) attached?  Yes  No

2. Name and address of receiving party(ies):

Name: The CIT Group/Business Credit, Inc.  
as administrative agent

Internal Address: 22nd Floor

Street Address: 1211 Avenue of the Americas

City: New York State: New York Zip: 10036

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

3. Nature of conveyance:

- Assignment
- Merger
- Security Agreement
- Change of Name
- Other \_\_\_\_\_

Execution Date: July 23, 1999

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: \_\_\_\_\_

Application Numbers: \_\_\_\_\_

See Attached List

Registration Numbers: \_\_\_\_\_

See Attached List

Additional numbers attached?  Yes  No

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

Name: Nora A. Whitescarver

Internal Address: Mayer, Brown & Platt

Street Address: 1909 K Street., NW

City: Washington State: D.C. ZIP: 20006

6. Total number of applications and patents involved: 69

7. Total fee (37 CFR 3.41): \$2760.00

- Enclosed (Check No 18057)
- Authorized to be charged to deposit account

8. Deposit account number: \_\_\_\_\_

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.

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.

Nora A. Whitescarver  
Name of Person Signing

Nora A. Whitescarver  
Signature

November 2, 1999  
Date

Total number of pages including cover sheet, attachments and documents : 36

11/04/1999 MTHAI1 00000226 4421707

01 FC:581

2760.00 OP

PATENT  
REEL: 010340 FRAME: 0293

SCHEDULE 1  
to Security Agreement

Item A



ISSUED PATENTS

OWNER	COUNTRY	PATENT NO.	ISSUE DATE	INVENTOR(S)	TITLE
Sterling Chemicals International, Inc.	United States	4,421,707	12/20/83	Kourtz & Daftary	Acrylic Wet Spinning Process
Sterling Chemicals International, Inc.	United States	4,459,332	7/10/84	Giglia	Flocked Fabric Laminate for Protection Against Chemical Agents
Sterling Chemicals International, Inc.	United States	4,495,030	1/22/85	Giglia	Filter Paper
Sterling Chemicals International, Inc.	United States	4,565,727	1/21/86	Giglia & Battistelli	Non-woven Activated Carbon Fabric
Sterling Chemicals International, Inc.	United States	4,597,843	7/1/86	Goupil & Musolino	Enhanced Bulk Porosity of Polymer Structures Via Plasma Technology
Sterling Chemicals International, Inc.	United States	4,866,107	9/12/89	Doxsee, Evans, O'Toole	Acrylic Containing Friction Materials
Sterling Chemicals International, Inc.	United States	4,904,343	2/27/90	Giglia & Battistelli	Non-woven Activated Carbon Fabric
Sterling Chemicals International, Inc.	United States	4,929,502	5/29/90	Giglia	Fibrillated Fibers and Articles Made Therefrom

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ISSUED PATENTS

OWNER	COUNTRY	PATENT NO.	ISSUE DATE	INVENTOR(S)	TITLE
Sterling Chemicals International, Inc.	United States	5,192,604	3/9/93	Giglia	Fibrillated Fibers and Articles Made Therefrom
Sterling Chemicals International, Inc.	United States	5,270,384	12/14/93	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,272,198	12/21/93	Kaminski & Evans	Asbestos-Free Microdenier Acrylic Fiber Reinforced Material for Gaskets and the Like
Sterling Chemicals International, Inc.	United States	5,284,910	2/8/94	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,306,782	4/26/94	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,362,562	11/8/94	Evans, Maranci & Kaminski	Crimped Acrylic Fibers Having Improved Thixotropic Performance
Sterling Chemicals International, Inc.	United States	5,372,632	12/13/94	Avotins & Evans	Process for Producing Fiber Bonded Agglomerated Ore Materials
Sterling Chemicals International, Inc.	United States	5,385,978	1/31/95	Evans, Maranci & Kaminski	Crimped Acrylic Fibers Having Improved Thixotropic Performance
Sterling Chemicals International, Inc.	United States	5,464,465	11/7/95	Avotins & Evans	Fiber Bonded Agglomerated Ore Materials

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Chemicals International, Inc.	United States	5,472,995	12/5/95	Kaminski & Evans	Asbestos-Free Gaskets and the Like Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,520,866	5/28/96	Kaminski & Evans	Process for the Preparation of Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,889,080	3/30/99	Kaminski & Evans	Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,889,082	3/30/99	Kaminski & Evans	Method for Manufacturing Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Canada, Inc.	United States	4325934	4/20/82	Swindells R Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4251503	4/12/81	Cowley G Swindells R	Control system for chlorine dioxide plants
Sterling Canada, Inc.	United States	4251224	2/17/81	Cowley G Swindells R	Control system for chlorine dioxide plants
Sterling Canada, Inc.	United States	4250159	2/10/81	Cowley G	Small scale chlorine dioxide plant
Sterling Canada, Inc.	United States	4336120	12/28/82	Cowley G	Small scale chlorine dioxide plant

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	4393035	7/12/83	Fredette MC	Method of producing hydrochloric and sulfuric acid from chlorine, sulfur dioxide and water
Sterling Canada, Inc.	United States	4393036	7/12/83	Fredette MC	Method of making mixed acid for R7 process
Sterling Canada, Inc.	United States	4729817	3/8/88	Reeve D Francis RC	Hydrogen peroxide delignification
Sterling Canada, Inc.	United States	4465658	8/14/84	Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4473540	9/25/84	Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4678655	7/7/87	Twardowski Z	Effluent acid recovery from Mathieson plants
Sterling Canada, Inc.	United States	4627969	12/9/86	Fredette MC Yang CS	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4931268	6/5/90	Fredette MC Yang CS	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4683039	7/28/87	Twardowski Z McGilvery JD	Prevaporation of chlorine dioxide
Sterling Canada, Inc.	United States	4780304	10/25/88	Bechberger EJ McGregor CR	Acid injection nozzle
Sterling Canada, Inc.	United States	5066477	11/19/91	Zell MS Fredette MC	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4731169	3/15/88	Lipsztajn M	Selective removal of chlorine from solutions of chlorine dioxide and chlorine

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	4853096	8/1/89	Lipzajtajn M McGilvery JD Twardowski Z	Production of chlorine dioxide in an electrolytic cell
Sterling Canada, Inc.	United States	4767510	8/30/88	Lipzajtajn M	Electrolytic production of chlorine dioxide
Sterling Canada, Inc.	United States	4802959	2/7/89	Lipzajtajn M	Electrosynthesis of persulfate
Sterling Canada, Inc.	United States	4806215	2/21/89	Twardowski Z	Combined process for the production of chlorine dioxide and sodium hydroxide
Sterling Canada, Inc.	United States	5174868	12/29/92	Lipzajtajn M Twardowski Z Fredette MC	Chlorine dioxide generation from chloric acid
Sterling Canada, Inc.	United States	5284553	2/8/94	Lipzajtajn M Twardowski Z Fredette MC Bechberger EJ	Chlorine dioxide generation from chloric acid
Sterling Canada, Inc.	United States	5116595	5/26/92	Scribner HC Fredette MC Bechberger EJ	Metathesis of acidic by-product of chlorine dioxide generating apparatus
Sterling Canada, Inc.	United States	5593653	1/14/97	Scribner HC Fredette MC Bechberger EJ Pu C	Metathesis of acidic by-product of chlorine dioxide generating apparatus
Sterling Canada, Inc.	United States	5205995	4/27/93	Scribner HC Fredette MC Bechberger EJ	Metathesis of acidic by-product of chlorine dioxide generating apparatus

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	5399332	3/21/95	Pu C	Dynamic leaching procedure for metathesis
Sterling Canada, Inc.	United States	5676920	10/14/97	Lipsztajn M	Low acidity chlorine dioxide generation process
Sterling Canada, Inc.	United States	5277768	1/11/94	Twardowski Z	Membrane cell washing
Sterling Canada, Inc.	United States	5256261	10/26/93	Lipsztajn M Rizzi J	Membrane cell operation
Sterling Canada, Inc.	United States	5851374	12/22/98	Cowley G Lipsztajn M	Process for Production of Chlorine Dioxide
Sterling Canada, Inc.	United States	5366714	11/22/94	Bigauskas TD	Hydrogen peroxide based chlorine dioxide process
Sterling Canada, Inc.	United States	4915927	4/10/90	Lipsztajn M Twardowski Z Cowley G	Electrosynthesis of chloric acid

PATENT SECURITY AGREEMENT

This PATENT SECURITY AGREEMENT (this "Agreement"), dated as of July 23, 1999, is made among STERLING CHEMICALS, INC., a Delaware corporation, STERLING CANADA, INC., a Delaware corporation, STERLING PULP CHEMICALS US, INC., a Delaware corporation, STERLING PULP CHEMICALS, INC., a Georgia corporation, STERLING FIBERS, INC., a Delaware corporation, STERLING CHEMICALS ENERGY, INC., a Delaware corporation, and STERLING CHEMICALS INTERNATIONAL, INC., a Delaware corporation (the "Grantors"), and THE CIT GROUP/BUSINESS CREDIT, INC., as administrative agent (together with any successor(s) thereto in such capacity, the "Administrative Agent") for each of the Current Assets Secured Parties.

W I T N E S S E T H :

WHEREAS, pursuant to a Revolving Credit Agreement, dated as of July 23, 1999 (as amended, supplemented, amended and restated or otherwise modified from time to time, the "Credit Agreement"), among Sterling Chemicals, Inc., a Delaware corporation (the "Company"), Sterling Canada, Inc., a Delaware corporation, Sterling Pulp Chemicals US, Inc., a Delaware corporation, Sterling Pulp Chemicals, Inc., a Georgia corporation, Sterling Fibers, Inc., a Delaware corporation, Sterling Chemicals Energy, Inc., a Delaware corporation, and Sterling Chemicals International, Inc., a Delaware corporation (collectively, the "Borrowers"), the various financial institutions as are, or may from time to time become, parties thereto (the "Lenders"), DLJ Capital Funding, Inc., as the Syndication Agent, Credit Suisse First Boston, as the Documentation Agent, and the Administrative Agent, the Lenders and the Issuer have extended Commitments to make Credit Extensions to the Borrowers;

WHEREAS, in connection with the Credit Agreement, the Grantors have executed and delivered a Current Assets Security Agreement, dated as of July 23, 1999 (as amended, supplemented, amended and restated or otherwise modified from time to time, the "Security Agreement");

WHEREAS, as a condition precedent to the making of the Credit Extensions (including the initial Credit Extension) under the Credit Agreement and pursuant to clause (e) of Section 4.5 of the Security Agreement, the Grantors are required to execute and deliver this Agreement and to grant to the Administrative Agent a continuing security interest in all of the Patent Collateral (as defined below) to secure all Current Assets Obligations;

WHEREAS, the Grantors have duly authorized the execution, delivery and performance of this Agreement; and



NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and in order to induce (i) the Current Assets Lenders, the Swing Line Lender and the Issuer to make Current Assets Loans and Swing Line Loans and issue Letters of Credit to the Borrowers pursuant to the Credit Agreement and (ii) the Current Assets Secured Parties to enter into Rate Protection Agreements, each Grantor agrees, for the benefit of each Current Assets Secured Party, as follows:

SECTION 1. Definitions. Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided (or incorporated by reference) in the Security Agreement.

SECTION 2. Grant of Security Interest. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, to secure all of the Current Assets Obligations, each Grantor does hereby pledge and hypothecate to the Administrative Agent, and grant to the Administrative Agent a security interest in, for its benefit and the benefit of each Current Assets Secured Party, all of the following property (the "Patent Collateral"), whether now owned or hereafter acquired or existing by it:

(a) all letters patent and applications for letters patent in the United States, including all patent applications in preparation for filing in the United States and including each patent and patent application referred to in Item A of Schedule I attached hereto;

(b) all reissues, divisions, continuations, continuations-in-part, extensions, renewals and reexaminations of any of the items described in clause (a);

(c) all patent licenses in the United States, including each patent license referred to in Item B of Schedule I attached hereto; and

(d) all proceeds of, and rights associated with, the foregoing (including license royalties and proceeds of infringement suits), the right to sue third parties for past, present or future infringements of any patent or patent application, referred to in clauses (a) or (b) above, and for breach or enforcement of any patent license referred to in clause (c) above.

SECTION 3. Security Agreement. This Agreement has been executed and delivered by the Grantors for the purpose of registering the security interest of the Administrative Agent in the Patent Collateral with the United States Patent and Trademark Office. The security interest granted hereby has been granted as a supplement to, and not in limitation of, the security interest granted to the Administrative Agent for its benefit and the benefit of each Current Assets Secured Party under the Security Agreement. The Security Agreement (and all rights and remedies of the Administrative Agent and each Current Assets Secured Party thereunder) shall remain in full force and effect in accordance with its terms.

SECTION 4. Release of Security Interest. Upon (i) the sale, transfer or other disposition of any Patent Collateral in accordance with the Credit Agreement or (ii) the Current Assets Termination Date, the Administrative Agent shall, at the Grantors' expense, execute and deliver to the Grantors all instruments and other documents as may be necessary or proper to release the lien on and security interest in the Patent Collateral which has been granted hereunder.

SECTION 5. Acknowledgment. Each Grantor does hereby further acknowledge and affirm that the rights and remedies of the Administrative Agent 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 (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein.

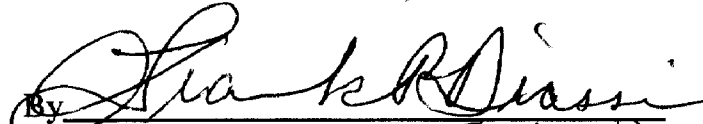
SECTION 6. Loan Document, etc. This Agreement is a Loan Document executed pursuant to the Credit Agreement and shall (unless otherwise expressly indicated herein) be construed, administered and applied in accordance with the terms and provisions of the Credit Agreement.

SECTION 7. Counterparts. This Agreement may be executed by the parties hereto in several counterparts, each of which shall be deemed to be an original (whether such counterpart is originally executed or an electronic copy of an original) and all of which shall constitute together but one and the same agreement. This Agreement shall become effective and binding as of the date first above written when a counterpart hereof executed on behalf of each Grantor shall have been received by the Administrative Agent.

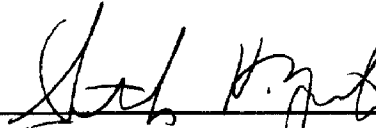
SECTION 8. Agreement Subject to Revolver Intercreditor Agreement. Notwithstanding anything to the contrary contained herein, it is expressly understood and agreed by the parties hereto that this Agreement shall be subject to the terms of the Revolver Intercreditor Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed and delivered by their respective officers thereunto duly authorized as of the day and year first above written.

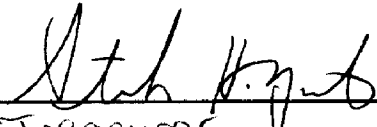
STERLING CHEMICALS, INC.

By   
Title: Chairman of the Board

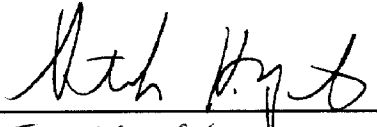
STERLING CANADA, INC.

By   
Title: Treasurer

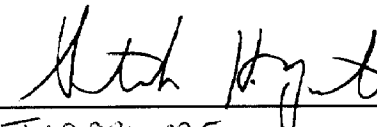
STERLING PULP CHEMICALS US, INC.

By   
Title: Treasurer

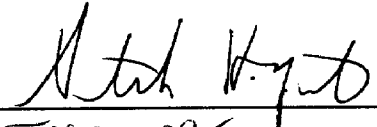
STERLING PULP CHEMICALS, INC.

By   
Title: Treasurer

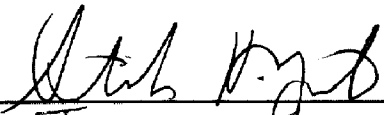
STERLING FIBERS, INC.

By   
Title: Treasurer

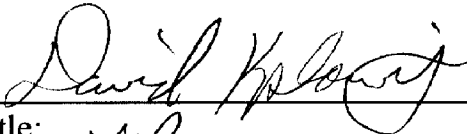
STERLING CHEMICALS ENERGY, INC.

By   
Title: Treasurer

STERLING CHEMICALS  
INTERNATIONAL, INC.

By   
Title: Treasurer

THE CIT GROUP/BUSINESS CREDIT,  
INC. as Administrative Agent, on behalf of  
the Current Assets Secured Parties

By   
Title: VP

PENDING PATENT APPLICATIONS

OWNER	COUNTRY	PATENT APPL. NO.	TITLE	INVENTOR(S)	FILING DATE
Sterling Chemicals International, Inc.	United States	08/869,081	Antistatic Fibers and Methods for Making the Same	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	09/338,022	Method for Making Antistatic Fibers	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	N/A	Antistatic Fibers and Methods for Making the Same	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	08/287,736	Friction Materials Containing Blends of Organic Fibrous and Particulate Components	Kaminski S Evans R	8/9/94
Sterling Canada, Inc.	United States	09/327529	High Purity Alkali Metal Chlorite and Method of Manufacture	Dick P Cowley G	6/8/99
Sterling Canada, Inc.	United States	08/736682	Improved process for metathesis	Bigauskas TD	10/25/96

PENDING PATENT APPLICATIONS

OWNER	COUNTRY	PATENT APPL. NO.	TITLE	INVENTOR(S)	FILING DATE
Sterling Canada, Inc.	United States	60/035488	Process for production of chlorine dioxide	Costa ML Fredette MC	1/13/97
Sterling Canada, Inc.	United States	08/912171	Determination of Chlorate Ion Concentration Using Microelectrodes	Lipsztajn M	8/15/97
Sterling Canada, Inc.	United States	09/113163	Nitric Acid Based Chlorine Dioxide Generating Process	Bechberger EJ	7/10/98
Sterling Canada, Inc.	United States	60/138580	Method of Chlorine Dioxide Production	Costa ML	6/11/99

**PATENT APPLICATIONS IN PREPARATION**

**None**

Riders A, B & C  
Attached.

## PATENT LICENSES

COUNTRY	LICENSOR	LICENSEE	EFFECTIVE DATE	SUBJECT MATTER	Patent Number
United States	Sterling Canada, Inc.	Boise Cascade Corp.	8/3/88	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Mead Paper	1/8/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Bowater, Inc.	11/10/88	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Bowater, Inc.	12/12/88	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Buckeye Florida, LP	1/25/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Champion International Corp.	3/15/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Champion International Corp.	12/1/92	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Champion International Corp.	11/2/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Champion International Corp.	8/11/93	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	St. Laurent Paper Products Corp.	12/2/92	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	7/12/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	6/19/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	12/10/91	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	10/2/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	11/15/88	ERCO R8 Process	Rider A

PATENT

REEL: 010340 FRAME: 0308



Riders A, B & C  
Attached

**PATENT LICENSES**

COUNTRY	LICENSOR	LICENSEE	EFFECTIVE DATE	SUBJECT MATTER	Patent Number
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	7/1/93	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	7/1/93	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Gulf States Paper Corp.	4/3/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	4/16/91	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	1/27/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	7/13/88	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Ft. James Corp.	10/4/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Ft. James Corp.	9/17/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Mead Paper	2/28/92	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Mead Paper	8/29/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	PH Glatfelter Co.	7/31/92	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	9/22/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	3/9/93	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	8/8/95	ERCO R10 Process	Rider A
United States	Sterling Canada, Inc.	Weyerhaeuser	1/19/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Weyerhaeuser	1/15/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Weyerhaeuser	1/8/93	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Finch Pruyn & Co., Inc.	7/19/95	ERCO R8 Process	Rider A

Riders A, B & C  
Attached

PATENT LICENSES

COUNTRY	LICENSOR	LICENSEE	EFFECTIVE DATE	SUBJECT MATTER	Patent Number
United States	Sterling Canada, Inc.	International Paper Co.	4/4/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	SD Warren Co.	11/30/95	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Willamette Industries, Inc.	7/14/96	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	International Paper Co.	10/23/97	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Willamette Industries, Inc.	7/14/96	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	2/16/98	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	Bowater, Inc.		ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	3/18/99	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Stone Container Corp.	3/24/99	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Jefferson Smurfit Corp.	3/26/99	ERCO R8 Process	Riders A & C

China	American Cyanamid Co.	China Petrochemical International Co	11/14/84	Acrylic Fiber Production Technology
China	American Cyanamid Co.	China Petrochemical International Co	10/28/91	Acrylic Fiber Production Technology
China	Cytec Industries, Inc.	Daqing Oilfield Petrochemical Corporation	8/22/96	Acrylic Fiber Production Technology
China	Cytec Industries, Inc.	Daqing Oilfield Petrochemical Corporation	8/28/96	Vinyl Acetate Conversion for Acrylic Fibers Manufacture

PATENT

REEL: 010340 FRAME: 0310 / 3

RIDER A

Patent No.

4081520

4203961

4251224-

4251503-

4276262

4465658·

4473540·

4627969·

4931268·

5066477·

RIDER B

Patent No.

4325934·

5116595·

5205995·

5399332·

5593653·

RIDER C

Patent No.

4978517

5770171

4770368

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Chemicals International, Inc.	United States	4,421,707	12/20/83	Kourtz & Daftary	Acrylic Wet Spinning Process
Sterling Chemicals International, Inc.	United States	4,459,332	7/10/84	Giglia	Flocked Fabric Laminate for Protection Against Chemical Agents
Sterling Chemicals International, Inc.	United States	4,495,030	1/22/85	Giglia	Filter Paper
Sterling Chemicals International, Inc.	United States	4,565,727	1/21/86	Giglia & Battistelli	Non-woven Activated Carbon Fabric
Sterling Chemicals International, Inc.	United States	4,597,843	7/1/86	Goupil & Musolino	Enhanced Bulk Porosity of Polymer Structures Via Plasma Technology
Sterling Chemicals International, Inc.	United States	4,866,107	9/12/89	Doxsee, Evans, O'Toole	Acrylic Containing Friction Materials
Sterling Chemicals International, Inc.	United States	4,904,343	2/27/90	Giglia & Battistelli	Non-woven Activated Carbon Fabric
Sterling Chemicals International, Inc.	United States	4,929,502	5/29/90	Giglia	Fibrillated Fibers and Articles Made Therefrom

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Chemicals International, Inc.	United States	5,192,604	3/9/93	Giglia	Fibrillated Fibers and Articles Made Therefrom
Sterling Chemicals International, Inc.	United States	5,270,384	12/14/93	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,272,198	12/21/93	Kaminski & Evans	Asbestos-Free Microdenier Acrylic Fiber Reinforced Material for Gaskets and the Like
Sterling Chemicals International, Inc.	United States	5,284,910	2/8/94	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,306,782	4/26/94	Chang, Anderson & Ley	Surface-Modified Polyacrylonitrile Fibrous Substrates
Sterling Chemicals International, Inc.	United States	5,362,562	11/8/94	Evans, Maranci & Kaminski	Crimped Acrylic Fibers Having Improved Thixotropic Performance
Sterling Chemicals International, Inc.	United States	5,372,632	12/13/94	Avotins & Evans	Process for Producing Fiber Bonded Agglomerated Ore Materials
Sterling Chemicals International, Inc.	United States	5,385,978	1/31/95	Evans, Maranci & Kaminski	Crimped Acrylic Fibers Having Improved Thixotropic Performance
Sterling Chemicals International, Inc.	United States	5,464,465	11/7/95	Avotins & Evans	Fiber Bonded Agglomerated Ore Materials

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**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Chemicals International, Inc.	United States	5,472,995	12/5/95	Kaminski & Evans	Asbestos-Free Gaskets and the Like Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,520,866	5/28/96	Kaminski & Evans	Process for the Preparation of Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,889,080	3/30/99	Kaminski & Evans	Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Chemicals International, Inc.	United States	5,889,082	3/30/99	Kaminski & Evans	Method for Manufacturing Friction Materials Containing Blends of Organic Fibrous and Particulate Components
Sterling Canada, Inc.	United States	4325934	4/20/82	Swindells R Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4251503	4/12/81	Cowley G Swindells R	Control system for chlorine dioxide plants
Sterling Canada, Inc.	United States	4251224	2/17/81	Cowley G Swindells R	Control system for chlorine dioxide plants
Sterling Canada, Inc.	United States	4250159	2/10/81	Cowley G	Small scale chlorine dioxide plant
Sterling Canada, Inc.	United States	4336120	12/28/82	Cowley G	Small scale chlorine dioxide plant



**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	4393035	7/12/83	Fredette MC	Method of producing hydrochloric and sulfuric acid from chlorine, sulfur dioxide and water
Sterling Canada, Inc.	United States	4393036	7/12/83	Fredette MC	Method of making mixed acid for R7 process
Sterling Canada, Inc.	United States	4729817	3/8/88	Reeve D Francis RC	Hydrogen peroxide delignification
Sterling Canada, Inc.	United States	4465658	8/14/84	Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4473540	9/25/84	Fredette MC	Chlorine dioxide process
Sterling Canada, Inc.	United States	4678655	7/7/87	Twardowski Z	Effluent acid recovery from Mathieson plants
Sterling Canada, Inc.	United States	4627969	12/9/86	Fredette MC Yang CS	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4931268	6/5/90	Fredette MC Yang CS	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4683039	7/28/87	Twardowski Z McGilvery JD	Preparation of chlorine dioxide
Sterling Canada, Inc.	United States	4780304	10/25/88	Bechberger EJ McGregor CR	Acid injection nozzle
Sterling Canada, Inc.	United States	5066477	11/19/91	Zell MS Fredette MC	Production of chlorine dioxide
Sterling Canada, Inc.	United States	4731169	3/15/88	Lipsztajn M	Selective removal of chlorine from solutions of chlorine dioxide and chlorine

**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	4853096	8/1/89	Lipzajtajn M McGilvery JD Twardowski Z	Production of chlorine dioxide in an electrolytic cell
Sterling Canada, Inc.	United States	4767510	8/30/88	Lipzajtajn M	Electrolytic production of chlorine dioxide
Sterling Canada, Inc.	United States	4802959	2/7/89	Lipzajtajn M	Electrosynthesis of persulfate
Sterling Canada, Inc.	United States	4806215	2/21/89	Twardowski Z	Combined process for the production of chlorine dioxide and sodium hydroxide
Sterling Canada, Inc.	United States	5174868	12/29/92	Lipzajtajn M Twardowski Z Fredette MC	Chlorine dioxide generation from chloric acid
Sterling Canada, Inc.	United States	5284553	2/8/94	Lipzajtajn M Twardowski Z Fredette MC	Chlorine dioxide generation from chloric acid
Sterling Canada, Inc.	United States	5116595	5/26/92	Scribner HC Fredette MC Bechberger EJ	Metathesis of acidic by-product of chlorine dioxide generating apparatus
Sterling Canada, Inc.	United States	5593653	1/14/97	Scribner HC Fredette MC Bechberger EJ Pu C	Metathesis of acidic by-product of chlorine dioxide generating apparatus
Sterling Canada, Inc.	United States	5205995	4/27/93	Scribner HC Fredette MC Bechberger EJ	Metathesis of acidic by-product of chlorine dioxide generating apparatus

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**ISSUED PATENTS**

<b>OWNER</b>	<b>COUNTRY</b>	<b>PATENT NO.</b>	<b>ISSUE DATE</b>	<b>INVENTOR(S)</b>	<b>TITLE</b>
Sterling Canada, Inc.	United States	5399332	3/21/95	Pu C	Dynamic leaching procedure for metathesis
Sterling Canada, Inc.	United States	5676920	10/14/97	Lipsztajn M	Low acidity chlorine dioxide generation process
Sterling Canada, Inc.	United States	5277768	1/11/94	Twardowski Z	Membrane cell washing
Sterling Canada, Inc.	United States	5256261	10/26/93	Lipsztajn M Rizzi J	Membrane cell operation
Sterling Canada, Inc.	United States	5851374	12/22/98	Cowley G Lipsztajn M	Process for Production of Chlorine Dioxide
Sterling Canada, Inc.	United States	5366714	11/22/94	Bigauskas TD	Hydrogen peroxide based chlorine dioxide process
Sterling Canada, Inc.	United States	4915927	4/10/90	Lipsztajn M Twardowski Z Cowley G	Electrosynthesis of chloric acid

PENDING PATENT APPLICATIONS

OWNER	COUNTRY	PATENT APPL. NO.	TITLE	INVENTOR(S)	FILING DATE
Sterling Chemicals International, Inc.	United States	08/869,081	Antistatic Fibers and Methods for Making the Same	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	<del>09/338,022</del>	Method for Making Antistatic Fibers	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	N/A	Antistatic Fibers and Methods for Making the Same	Rodriguez E Lindsay J Streetman W	6/4/97
Sterling Chemicals International, Inc.	United States	08/287,736	Friction Materials Containing Blends of Organic Fibrous and Particulate Components	Kaminski S Evans R	8/9/94
Sterling Canada, Inc.	United States	09/327529	High Purity Alkali Metal Chlorite and Method of Manufacture	Dick P Cowley G	6/8/99
Sterling Canada, Inc.	United States	08/736682	Improved process for metathesis	Bigauskas TD	10/25/96

PENDING PATENT APPLICATIONS

OWNER	COUNTRY	PATENT APPL. NO.	TITLE	INVENTOR(S)	FILING DATE
Sterling Canada, Inc.	United States	60/035488	Process for production of chlorine dioxide	Costa ML Fredette MC	1/13/97
Sterling Canada, Inc.	United States	08/912171	Determination of Chlorate Ion Concentration Using Microelectrodes	Lipsztajn M	8/15/97
Sterling Canada, Inc.	United States	09/113163	Nitric Acid Based Chlorine Dioxide Generating Process	Bechberger EJ	7/10/98
Sterling Canada, Inc.	United States	60/138580	Method of Chlorine Dioxide Production	Costa ML	6/11/99

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**PATENT APPLICATIONS IN PREPARATION**

**None**

Riders A, B & C  
Attached.

**PATENT LICENSES**

<b>COUNTRY</b>	<b>LICENSOR</b>	<b>LICENSEE</b>	<b>EFFECTIVE DATE</b>	<b>SUBJECT MATTER</b>	<i>Patent Number</i>
United States	Sterling Canada, Inc.	Boise Cascade Corp.	8/3/88	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Mead Paper	1/8/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Boise Cascade Corp.	1/8/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Bowater, Inc.	11/10/88	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Bowater, Inc.	12/12/88	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Buckeye Florida, LP	1/25/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Champion International Corp.	3/15/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Champion International Corp.	12/1/92	ERCO R8/R10 Process	<i>Riders A &amp; B</i>
United States	Sterling Canada, Inc.	Champion International Corp.	11/2/89	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Champion International Corp.	8/11/93	ERCO R8/R10 Process	<i>Riders A &amp; B</i>
United States	Sterling Canada, Inc.	St. Laurent Paper Products Corp.	12/2/92	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	International Paper Co.	7/12/89	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	6/19/89	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	12/10/91	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	10/2/90	ERCO R8 Process	<i>Rider A</i>
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	11/15/88	ERCO R8 Process	<i>Rider A</i>

Riders A, B & C  
Attached

**PATENT LICENSES**

COUNTRY	LICENSOR	LICENSEE	EFFECTIVE DATE	SUBJECT MATTER	Patent Numbers
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	7/1/93	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	7/1/93	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Gulf States Paper Corp.	4/3/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	4/16/91	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	1/27/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	International Paper Co.	7/13/88	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Ft. James Corp.	10/4/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Ft. James Corp.	9/17/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Mead Paper	2/28/92	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Mead Paper	8/29/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	PH Glatfelter Co.	7/31/92	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	9/22/89	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	3/9/93	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Potlatch Corp.	8/8/95	ERCO R10 Process	Rider B
United States	Sterling Canada, Inc.	Weyerhaeuser	1/19/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Weyerhaeuser	1/15/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	Weyerhaeuser	1/8/93	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Finch Pruyn & Co., Inc.	7/19/95	ERCO R8 Process	Rider A



Riders A, B & C  
Attached

**PATENT LICENSES**

COUNTRY	LICENSOR	LICENSEE	EFFECTIVE DATE	SUBJECT MATTER	Patent Numbers
United States	Sterling Canada, Inc.	International Paper Co.	4/4/90	ERCO R8 Process	Rider A
United States	Sterling Canada, Inc.	SD Warren Co.	11/30/95	ERCO R8/R10 Process	Riders A & B
United States	Sterling Canada, Inc.	Willamette Industries, Inc.	7/14/96	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	International Paper Co.	10/23/97	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Willamette Industries, Inc.	7/14/96	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	2/16/98	ERCO R8/R10 Process	Riders A, B & C
United States	Sterling Canada, Inc.	Bowater, Inc.		ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Georgia Pacific Corp.	3/18/99	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Stone Container Corp.	3/24/99	ERCO R8 Process	Riders A & C
United States	Sterling Canada, Inc.	Jefferson Smurfit Corp.	3/26/99	ERCO R8 Process	Riders A & C

China	American Cyanamid Co.	China Petrochemical International Co	11/14/84	Acrylic Fiber Production Technology
China	American Cyanamid Co.	China Petrochemical International Co	10/28/91	Acrylic Fiber Production Technology
China	Cytec Industries, Inc.	Daqing Oilfield Petrochemical Corporation	8/22/96	Acrylic Fiber Production Technology
China	Cytec Industries, Inc.	Daqing Oilfield Petrochemical Corporation	8/28/96	Vinyl Acetate Conversion for Acrylic Fibers Manufacture

RIDER A

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RIDER B

Patent No.

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