

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT7018655

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	NOTES SECURITY AGREEMENT

CONVEYING PARTY DATA

Name	Execution Date
INNOVATIVE WATER CARE, LLC	11/09/2021
SOLENIS TECHNOLOGIES, L.P.	11/09/2021

RECEIVING PARTY DATA

Name:	THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.
Street Address:	2 N. LASALLE STREET
Internal Address:	7TH FLOOR
City:	CHICAGO
State/Country:	ILLINOIS
Postal Code:	60602

PROPERTY NUMBERS Total: 255

Property Type	Number
Patent Number:	7204937
Patent Number:	7857989
Patent Number:	6858180
Patent Number:	6557348
Patent Number:	6669853
Patent Number:	6797177
Patent Number:	6613249
Patent Number:	7244365
Patent Number:	7261821
Patent Number:	6982062
Patent Number:	7048863
Patent Number:	7514009
Patent Number:	9102553
Patent Number:	7448859
Patent Number:	7581874
Patent Number:	7594430
Patent Number:	7323510
Patent Number:	7309590

PATENT

Property Type	Number
Patent Number:	7553423
Patent Number:	7811458
Patent Number:	8476391
Patent Number:	8822586
Patent Number:	8633278
Patent Number:	8871701
Patent Number:	8609757
Patent Number:	8758562
Patent Number:	9290642
Patent Number:	9388533
Patent Number:	9587935
Patent Number:	9772312
Patent Number:	10113949
Patent Number:	10233102
Patent Number:	7270727
Patent Number:	6906133
Patent Number:	7166192
Patent Number:	7008545
Patent Number:	7507781
Patent Number:	7250448
Patent Number:	6723204
Patent Number:	6667384
Patent Number:	7306702
Patent Number:	7578904
Patent Number:	6951962
Patent Number:	7396874
Patent Number:	6908983
Patent Number:	7081512
Patent Number:	7271308
Patent Number:	7429625
Patent Number:	7615135
Patent Number:	7828934
Patent Number:	8771469
Patent Number:	8308902
Patent Number:	8932433
Patent Number:	7820060
Patent Number:	8613859
Patent Number:	7311878

Property Type	Number
Patent Number:	7932349
Patent Number:	8101710
Patent Number:	8206553
Patent Number:	7534324
Patent Number:	7943705
Patent Number:	8388806
Patent Number:	7902312
Patent Number:	7854800
Patent Number:	8147968
Patent Number:	8604134
Patent Number:	8444818
Patent Number:	8691052
Patent Number:	8506757
Patent Number:	8160305
Patent Number:	8052840
Patent Number:	7998311
Patent Number:	8518216
Patent Number:	9034146
Patent Number:	8163134
Patent Number:	8518215
Patent Number:	8758567
Patent Number:	9580866
Patent Number:	9587354
Patent Number:	10851498
Patent Number:	8696869
Patent Number:	8420012
Patent Number:	7345136
Patent Number:	8465581
Patent Number:	9005398
Patent Number:	9580868
Patent Number:	8632659
Patent Number:	9028650
Patent Number:	8614279
Patent Number:	8399544
Patent Number:	9267239
Patent Number:	8636875
Patent Number:	8894816
Patent Number:	8865263

Property Type	Number
Patent Number:	8524042
Patent Number:	8871055
Patent Number:	8900412
Patent Number:	8845851
Patent Number:	8841469
Patent Number:	9181398
Patent Number:	9011643
Patent Number:	10281383
Patent Number:	10143202
Patent Number:	9555018
Patent Number:	8778646
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Patent Number:	9879380
Patent Number:	9371613
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Patent Number:	9598819
Patent Number:	10035928
Patent Number:	9719212
Patent Number:	9873982
Patent Number:	10253214
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Patent Number:	9663899
Patent Number:	7744722
Patent Number:	8147649
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Patent Number:	10372051
Patent Number:	10857486
Patent Number:	10865525
Patent Number:	10865526

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Patent Number:	10300638
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Patent Number:	10449469
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Patent Number:	10618992
Patent Number:	10844544
Patent Number:	10647823
Patent Number:	10908525
Patent Number:	10876254
Patent Number:	10899639
Patent Number:	10876258
Patent Number:	10759662
Patent Number:	10613449
Patent Number:	10941524
Patent Number:	10315986
Patent Number:	10597824
Patent Number:	7632413
Patent Number:	8703847
Patent Number:	8222343
Patent Number:	8425726
Patent Number:	8425725
Patent Number:	8299180
Patent Number:	10590010
Patent Number:	8486227
Patent Number:	8685207
Patent Number:	8647470
Patent Number:	9206551
Patent Number:	8916026
Patent Number:	8753479
Patent Number:	9103071
Patent Number:	9404223
Patent Number:	9879381
Patent Number:	9315943
Patent Number:	9631319
Patent Number:	9051687
Patent Number:	9765483
Patent Number:	10113270
Patent Number:	9765482

Property Type	Number
Patent Number:	9982392
Patent Number:	10648130
Patent Number:	9708771
Patent Number:	9644320
Patent Number:	10975177
Patent Number:	10697071
Patent Number:	10047480
Patent Number:	10655152
Patent Number:	10227621
Patent Number:	10850238
Patent Number:	10626558
Patent Number:	10975525
Patent Number:	10399087
Patent Number:	8833681
Patent Number:	8752776
Patent Number:	8747740
Patent Number:	7726592
Patent Number:	7879917
Patent Number:	7893115
Patent Number:	7981247
Patent Number:	11028538
Patent Number:	11105046
Patent Number:	11041037
Patent Number:	11104593
Patent Number:	10975524
Patent Number:	11066785
Patent Number:	11096391
Patent Number:	10961134
Patent Number:	10793586
Patent Number:	10472264
Patent Number:	10293310
Patent Number:	10241072
Patent Number:	10231457
Patent Number:	10118849
Patent Number:	9988197
Patent Number:	9927389
Patent Number:	8933244
Patent Number:	8808500

Property Type	Number
Patent Number:	8517228
Patent Number:	8459284
Patent Number:	8440212
Patent Number:	8372348
Patent Number:	8372291
Patent Number:	7927510
Patent Number:	7820198
Patent Number:	7704467
Patent Number:	7658844
Patent Number:	7143778
Patent Number:	6984398
Patent Number:	6969527
Patent Number:	6915811
Patent Number:	6638446
Patent Number:	D857156
Application Number:	13382177
Application Number:	16123066
Application Number:	63133449
Application Number:	17248568
Application Number:	16161364
Application Number:	17084895
Application Number:	16266891
Application Number:	16916127
Application Number:	16747604
Application Number:	16666616
Application Number:	16904624
Application Number:	16940498
Application Number:	17004023
Application Number:	63022602
Application Number:	63042655
Application Number:	63017205
Application Number:	17076955
Application Number:	63043803
Application Number:	63081958
Application Number:	63138882
Application Number:	63154685
Application Number:	16524819
Application Number:	16697429

Property Type	Number
Application Number:	16340988
Application Number:	16583686
Application Number:	63248084
Application Number:	63092210
Application Number:	17062745
Application Number:	16970756
Application Number:	16864372
Application Number:	16855165
Application Number:	16015401

CORRESPONDENCE DATA

Fax Number: (800)914-4240

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 8007130755

Email: Ted.mulligan@wolterskluwer.com

Correspondent Name: CT CORPORATION

Address Line 1: 4400 EASTON COMMONS WAY

Address Line 2: SUITE 125

Address Line 4: COLUMBUS, OHIO 43219

NAME OF SUBMITTER:	ELAINE CARRERA
SIGNATURE:	/Elaine Carrera/
DATE SIGNED:	11/10/2021

Total Attachments: 25
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**RECORDATION FORM COVER SHEET
PATENTS ONLY**

To the Director of the U.S. Patent and Trademark Office: Please record the attached documents or the new address(es) below.

1. Name of conveying party(ies)
INNOVATIVE WATER CARE, LLC
SOLENIS TECHNOLOGIES, L.P.

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

2. Name and address of receiving party(ies)
Name: The Bank of New York Mellon Trust Company, N.A.
Internal Address: _____

3. Nature of conveyance/Execution Date(s):
Execution Date(s) November 9, 2021
 Assignment Merger
 Security Agreement Change of Name
 Joint Research Agreement
 Government Interest Assignment
 Executive Order 9424, Confirmatory License
 Other Notes Security Agreement

Street Address: 2 N. LaSalle Street, 7th Floor

City: Chicago
State: IL
Country: USA Zip: 60602

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

4. Application or patent number(s): This document serves as an Oath/Declaration (37 CFR 1.63).
A. Patent Application No.(s)
See Schedule I

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: Elaine Carrera, Senior Paralegal
Internal Address: _____

Street Address: c/o Cahill Gordon & Reindel LLP,
32 Old Slip
City: New York
State: NY Zip: 10005
Phone Number: (212) 701-3365
Docket Number: _____
Email Address: ecarrera@cahill.com

6. Total number of applications and patents involved: 260

7. Total fee (37 CFR 1.21(h) & 3.41) \$ _____
 Authorized to be charged to deposit account
 Enclosed
 None required (government interest not affecting title)

8. Payment information

Deposit Account Number _____
Authorized User Name _____

9. Signature: Elaine Carrera November 9, 2021
Signature Date

Elaine Carrera Total number of pages including cover sheet, attachments, and documents: 25
Name of Person Signing

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

NOTES PATENT SECURITY AGREEMENT

NOTES PATENT SECURITY AGREEMENT, dated as of November 9, 2021, made by each of the undersigned grantors (individually, a “Grantor”, and, collectively, the “Grantors”), in favor of THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A., in its capacity as Notes Collateral Agent.

W I T N E S S E T H:

WHEREAS, the Grantors are party to that certain Notes Security Agreement, dated as of November 9, 2021 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Security Agreement”), in favor of the Notes Collateral Agent pursuant to which the Grantors are required to execute and deliver this Notes Patent Security Agreement (this “Patent Security Agreement”); and

WHEREAS, Olympus Water US Holding Corporation, a Delaware corporation (the “Issuer”), the other Grantors, the Notes Collateral Agent and The Bank of New York Mellon Trust Company, N.A., as trustee, are party to that certain indenture, dated as of October 1, 2021 (as amended, amended and restated, supplemented or otherwise modified from time to time, the “Indenture”), pursuant to which the Issuer has issued \$815,000,000 aggregate principal amount of 4.250% Senior Secured Notes due 2028 and €500,000,000 aggregate principal amount of its 3.875% Senior Secured Notes due 2028;

NOW, THEREFORE, in consideration of the premises, the Grantors hereby agree with the Notes Collateral Agent as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, terms defined in the Security Agreement and used herein have the meaning given to them in the Security Agreement.

SECTION 2. Grant of Security Interest in Patent Collateral. Each Grantor hereby pledges and grants to the Notes Collateral Agent for the benefit of the Secured Parties a lien on and security interest in and to all of its right, title and interest in, to and under all the following Collateral of such Grantor (but, for the avoidance of doubt, excluding any Excluded Collateral (as defined in the Security Agreement)) (collectively, “Patent Collateral”):

(a) Patents of such Grantor, including those listed on Schedule I attached hereto (other than Excluded Collateral); and

(b) all Proceeds of any and all of the foregoing.

SECTION 3. Security Agreement. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Notes Collateral Agent pursuant to the Security Agreement and Grantors hereby acknowledge and affirm that the rights and remedies of the Notes Collateral Agent with respect to the security interest in the Patents made and 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 the event that any provision of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall control.

SECTION 4. Termination. Upon the occurrence of the Termination Date, in accordance with the terms of the Security Agreement the Notes Collateral Agent, at the sole cost and expense of the Grantors, shall execute, acknowledge, and deliver to the Grantors an instrument in writing in recordable

form releasing the collateral pledge, grant, assignment, lien and security interest in the Patents under this Patent Security Agreement.

SECTION 5. Counterparts. This Patent Security Agreement may be executed in any number of counterparts, all of which shall constitute one and the same instrument, and any party hereto may execute this Patent Security Agreement by signing and delivering one or more counterparts. The provisions relating to electronic signatures in Section 13.11 of the Indenture are incorporated herein mutatis mutandis.

SECTION 6. Governing Law. This Patent Security Agreement and the transactions contemplated hereby, and all disputes between the parties under or relating to this Patent Security Agreement or the facts or circumstances leading to its execution, whether in contract, tort or otherwise, shall be construed in accordance with and governed by the laws (including statutes of limitation) of the State of New York, without regard to conflicts of law principles that would require the application of the laws of another jurisdiction.

SECTION 7. Intercreditor Agreements. This Patent Security Agreement is subject to the terms and conditions set forth in the Intercreditor Agreements in all respects and, in the event of any conflict between the terms of any Intercreditor Agreement and this Patent Security Agreement, the terms of such Intercreditor Agreement shall govern.


SECTION 8. Concerning the Notes Collateral Agent. The Bank of New York Mellon Trust Company, N.A. is entering into this Patent Security Agreement solely in its capacity as Notes Collateral Agent under the Indenture and shall be entitled to all of the rights, privileges and immunities granted to the Notes Collateral Agent under the Indenture as if such rights, privileges and immunities were set forth herein. The recitals contained herein shall be taken as the statements of the Grantors hereto and the Notes Collateral Agent assumes no responsibility for their correctness. The Notes Collateral Agent makes no representation as to the validity or sufficiency of this Patent Security Agreement.

[Signature Pages Follow]

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

INNOVATIVE WATER CARE, LLC

By: 
Name: Mary Ann Sigler
Title: Vice President and Treasurer LPS

SOLENIS HOLDINGS II COÖPERATIEF U.A.,
as General Partner of SOLENIS TECHNOLOGIES, L.P.

By: _____
Name: Cornelis Floor Saarloos
Title: Director A

By: _____
Name: Intertrust (Netherlands) B.V.
Title: Director B

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

Very truly yours,

INNOVATIVE WATER CARE, LLC

By: _____
Name: Mary Ann Sigler
Title: Vice President and Treasurer

SOLENIS HOLDINGS II COÖPERATIEF U.A.,
as General Partner of SOLENIS TECHNOLOGIES, L.P.

By:  _____
Name: Cornelis Floor Saarloos
Title: Director A

By: _____
Name: Intertrust (Netherlands) B.V.
Title: Director B

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

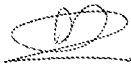
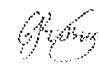
Very truly yours,

INNOVATIVE WATER CARE, LLC

By: _____
Name: Mary Ann Sigler
Title: Vice President and Treasurer

SOLENIS HOLDINGS II COÖPERATIEF U.A.,
as General Partner of SOLENIS TECHNOLOGIES, L.P.

By: _____
Name: Cornelis Floor Saarloos
Title: Director A

By:   _____
Name: Intertrust (Netherlands) B.V.
Title: Director B
By: L.A. Bakker - Zonneveld & G.J. Rietberg
Title: Proxyholders

Accepted and Agreed to:

THE BANK OF NEW YORK MELLON TRUST COMPANY, N.A.,
as Notes Collateral Agent

By: Lawrence M. Kusch
Name: Lawrence M. Kusch
Title: Vice President

SCHEDULE I
to
NOTES PATENT SECURITY AGREEMENT
PATENT REGISTRATIONS AND PATENT APPLICATIONS

Patent Registrations:

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METAL OXIDES DISPERSANT COMPOSITION	7,204,937	4/17/2007	10/340,318	1/10/2003	Solenis Technologies, L.P.
METAL OXIDES DISPERSANT COMPOSITION	7,857,989	12/28/2010	11/685,408	3/13/2007	Solenis Technologies, L.P.
PROCESS FOR INHIBITING SCALE	6,858,180	2/22/2005	10/147,660	5/16/2002	Solenis Technologies, L.P.
ON-LINE REMOVAL OF COPPER DEPOSITS ON STEAM TURBINE BLADES	6,557,348	5/6/2003	10/067,090	2/4/2002	Solenis Technologies, L.P.
COMPOSITION FOR REMOVING DISSOLVED OXYGEN FROM A FLUID	6,669,853	12/30/2003	09/927,844	8/9/2001	Solenis Technologies, L.P.
PROCESS FOR INHIBITING SCALE AND FOULING ON THE METAL SURFACES EXPOSED TO AN AQUEOUS SYSTEM	6,797,177	9/28/2004	10/198,781	7/18/2002	Solenis Technologies, L.P.
CORROSION INHIBITING COMPOSITION	6,613,249	9/2/2003	10/215,218	8/8/2002	Solenis Technologies, L.P.
PROCESS FOR SAFELY DECONTAMINATING THE CHILL WATER USED IN MEAT PROCESSING	7,244,365	7/17/2007	10/693,812	10/24/2003	Solenis Technologies, L.P.
PROCESS FOR TREATING AN AQUEOUS SYSTEM WITH CHLORINE DIOXIDE	7,261,821	8/28/2007	11/269,156	11/8/2005	Solenis Technologies, L.P.
CORROSION INHIBITING COMPOSITION	6,982,062	1/3/2006	10/624,444	7/22/2003	Solenis Technologies, L.P.
DEVICE AND PROCESS FOR TREATING CUTTING FLUIDS USING ULTRASOUND	7,048,863	5/23/2006	10/734,103	12/10/2003	Solenis Technologies, L.P.
DEVICES AND PROCESSES FOR USE IN ULTRASOUND TREATMENT	7,514,009	4/7/2009	11/327,193	1/6/2006	Solenis Technologies, L.P.
DEVICES AND METHODS FOR TREATING FLUIDS UTILIZED IN ELECTROCOATING PROCESSES WITH ULTRASOUND	9,102,553	8/11/2015	11/629,758	8/8/2007	Solenis Technologies, L.P.
DEVICES AND METHODS FOR TREATING COOLING FLUIDS UTILIZED IN TIRE MANUFACTURING	7,448,859	11/11/2008	11/747,079	5/10/2007	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
APPARATUSES AND SYSTEMS FOR MONITORING FOULING OF AQUEOUS SYSTEMS INCLUDING ENHANCED HEAT EXCHANGER TUBES	7,581,874	9/1/2009	11/393,943	3/31/2006	Solenis Technologies, L.P.
METHODS FOR MONITORING FOULING OF AQUEOUS SYSTEMS INCLUDING ENHANCED HEAT EXCHANGER TUBES	7,594,430	9/29/2009	11/393,823	3/31/2006	Solenis Technologies, L.P.
METHOD FOR THE PRODUCTION OF WATER-IN-WATER POLYMER DISPERSIONS	7,323,510	1/29/2008	10/432,624	12/1/2001	Solenis Technologies, L.P.
METHOD FOR PRODUCING AN AQUEOUS ACRYLAMIDE SOLUTION WITH A BIOCATALYST	7,309,590	12/18/2007	10/475,100	3/31/2004	Solenis Technologies, L.P.
METHOD FOR TREATING AQUEOUS SLUDGE, MATERIAL SO PRODUCED AND THE USE THEREOF	7,553,423	6/30/2009	10/565,236	7/26/2006	Solenis Technologies, L.P.
METHOD FOR TREATING AQUEOUS SLUDGE, MATERIAL SO PRODUCED AND THE USE THEREOF	7,811,458	10/12/2010	12/477,957	6/4/2009	Solenis Technologies, L.P.
ANIONIC WATER-IN-WATER POLYMER DISPERSION, METHOD FOR THE PRODUCTION THEREOF AND ITS USE	8,476,391	7/2/2013	10/593,293	5/15/2007	Solenis Technologies, L.P.
CATIONIC POLYMER DISPERSIONS, METHOD FOR PRODUCING SAID DISPERSIONS AND USE THEREOF	8,822,586	9/2/2014	11/813,136	2/12/2008	Solenis Technologies, L.P.
BIOMOLECULAR INVERSE EMULSION POLYMER	8,633,278	1/21/2014	13/264,842	1/12/2012	Solenis Technologies, L.P.
EMULSIONS FOR REMOVAL AND PREVENTION OF DEPOSITS	8,871,701	10/28/2014	13/771,860	5/10/2013	Solenis Technologies, L.P.
CATIONIC CROSS-LINKED POLYMERS IN WATER-IN-WATER POLYMER DISPERSIONS	8,609,757	12/17/2013	13/399,300	2/17/2012	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD FOR INCREASING THE ADVANTAGES OF STARCH IN PULPED CELLULOSIC MATERIAL IN THE PRODUCTION OF PAPER AND PAPERBOARD	8,758,562	6/24/2014	13/818,763	3/19/2013	Hercules Incorporated ¹
PROCESS FOR IMPROVING THE FLOW RATE OF AN AQUEOUS DISPERSION	9,290,642	3/22/2016	14/003,599	12/4/2013	Ashland Licensing and Intellectual Property LLC ²
METHOD FOR INCREASING THE ADVANTAGES OF STRENGTH AIDS IN THE PRODUCTION OF PAPER AND PAPERBOARD	9,388,533	7/12/2016	14/240,854	6/12/2014	Hercules Incorporated ³
METHOD AND DEVICE FOR DETECTING AND ANALYZING DEPOSITS	9,587,935	3/7/2017	14/367,262	6/20/2014	Hercules Incorporated ⁴
DEVICE AND METHOD FOR DETECTING DEPOSITS	9,772,312	9/26/2017	14/367,268	6/20/2014	Hercules Incorporated ⁵
DEVICE AND METHOD FOR DETECTING AND ANALYZING DEPOSITS	10,113,949	10/30/2018	14/784,096	10/13/2015	Solenis Technologies, L.P.
DEVICE AND METHOD FOR CONTROLLING DEPOSIT FORMATION	10,233,102	3/19/2019	15/105,352	6/16/2016	Solenis Technologies, L.P.
PAPER SIZED WITH A SIZING AGENT AND A SELECTED SIZING PROMOTER	7,270,727	9/18/2007	10/424,502	4/28/2003	Solenis Technologies, L.P.
POLYALKYLDIALLYLAMINE-EPIHALOHYDRIN RESINS AS WET STRENGTH ADDITIVES FOR PAPERMAKING AND PROCESS FOR MAKING THE SAME	6,906,133	6/14/2005	10/336,468	1/3/2003	Solenis Technologies, L.P.
METHOD FOR CONTROLLING PITCH AND STICKIES DEPOSITION	7,166,192	1/23/2007	10/444,522	5/23/2003	Solenis Technologies, L.P.
METHOD FOR CONTROLLING PITCH AND STICKIES DEPOSITION	7,008,545	3/7/2006	10/266,509	10/8/2002	Solenis Technologies, L.P.
SYNERGISTIC BIOCIDAL MIXTURES	7,507,781	3/24/2009	11/880,544	7/23/2007	Solenis Technologies, L.P.

¹ Company to file assignment from Hercules Incorporated to Solenis Technologies, L.P. with the USPTO.

² Company to file assignment from Ashland Licensing and Intellectual Property LLC to Solenis Technologies, L.P. with the USPTO.

³ Company to file assignment from Hercules Incorporated to Solenis Technologies, L.P. with the USPTO.

⁴ Company to file assignment from Hercules Incorporated to Solenis Technologies, L.P. with the USPTO.

⁵ Company to file assignment from Hercules Incorporated to Solenis Technologies, L.P. with the USPTO.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
ANIONIC COPOLYMERS PREPARED IN AN INVERSE EMULSION MATRIX	7,250,448	7/31/2007	10/313,632	12/6/2002	Solenis Technologies, L.P.
ANIONIC COPOLYMERS PREPARED IN AN INVERSE EMULSION MATRIX AND THEIR USE IN PREPARING CELLULOSIC FIBER COMPOSITIONS	6,723,204	4/20/2004	10/118,384	4/8/2002	Solenis Technologies, L.P.
PROCESS FOR INCREASING THE DRY STRENGTH OF PAPER	6,667,384	12/23/2003	10/032,651	12/27/2001	Solenis Technologies, L.P.
METHYL ACRYLATE-DIAMINE BASED POLYAMIDE RESINS AND PROCESSES FOR PRODUCING THE SAME	7,306,702	12/11/2007	10/412,512	4/11/2003	Solenis Technologies, L.P.
ENZYMATIC PRESS FELT TREATMENT	7,578,904	8/25/2009	12/001,103	12/10/2007	Solenis Technologies, L.P.
ENZYMATIC PRESS FELT TREATMENT	6,951,962	10/4/2005	10/121,880	4/12/2002	Solenis Technologies, L.P.
OIL/GREASE- AND WATER-SIZING AGENT FOR TREATMENT OF CELLULOSICS	7,166,192	1/23/2007	10/444,522	5/23/2003	Solenis Technologies, L.P.
CATIONIC OR AMPHOTERIC COPOLYMERS PREPARED IN AN INVERSE EMULSION MATRIX AND THEIR USE IN PREPARING CELLULOSIC FIBER COMPOSITIONS	7,396,874	7/8/2008	10/728,145	12/4/2003	Solenis Technologies, L.P.
SYNTHESIS OF HIGH SOLIDS RESINS FROM AMINE TERMINATED POLYAMIDES	6,908,983	6/21/2005	10/404,940	4/1/2003	Solenis Technologies, L.P.
TREATMENT OF RESINS TO LOWER LEVELS OF CPD-PRODUCING SPECIES AND IMPROVE GELATION STABILITY	7,081,512	7/25/2006	10/838,636	5/4/2004	Solenis Technologies, L.P.
PROCESS FOR ISOMERIZATION OF ALPHA OLEFINS TO INTERNAL OLEFINS	7,271,308	9/18/2007	10/968,608	10/19/2004	Solenis Technologies, L.P.
INVERSION OF INVERSE EMULSION POLYMERS	7,429,625	9/30/2008	11/011,985	12/14/2004	Solenis Technologies, L.P.
RETENTION AND DRAINAGE AIDS	7,615,135	11/10/2009	11/301,804	12/13/2005	Solenis Technologies, L.P.
REACTIVE CATIONIC RESINS FOR USE AS DRY AND WET STRENGTH AGENTS IN SULFITE ION-CONTAINING PAPERMAKING SYSTEMS	7,828,934	11/9/2010	11/304,345	12/15/2005	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
REACTIVE CATIONIC RESINS FOR USE AS DRY AND WET STRENGTH AGENTS IN SULFITE ION-CONTAINING PAPERMAKING SYSTEMS	8,771,469	7/8/2014	12/941,620	11/8/2010	Solenis Technologies, L.P.
RETENTION AND DRAINAGE IN THE MANUFACTURE OF PAPER	8,308,902	11/13/2012	12/437,887	5/8/2009	Solenis Technologies, L.P.
RETENTION AND DRAINAGE IN THE MANUFACTURE OF PAPER	8,932,433	1/13/2015	13/551,202	7/17/2012	Solenis Technologies, L.P.
SYNERGISTIC BIOCIDES AND PROCESS FOR CONTROLLING GROWTH OF MICROORGANISMS	7,820,060	10/26/2010	11/509,158	8/24/2006	Solenis Technologies, L.P.
SYNERGISTIC BIOCIDES AND PROCESS FOR CONTROLLING GROWTH OF MICROORGANISMS	8,613,859	12/24/2013	12/911,463	10/25/2010	Solenis Technologies, L.P.
METHOD AND APPARATUS FOR PRODUCING SYNERGISTIC BIOCIDES	7,311,878	12/25/2007	11/509,141	8/24/2006	Solenis Technologies, L.P.
MEMBRANE SEPARATION PROCESS FOR REMOVING RESIDUALS FROM POLYAMINE-EPIHALOHYDRIN RESINS	7,932,349	4/26/2011	11/856,224	9/17/2007	Solenis Technologies, L.P.
MEMBRANE SEPARATION PROCESS FOR REMOVING RESIDUALS FROM POLYAMINE-EPIHALOHYDRIN RESINS	8,101,710	1/24/2012	13/093,527	4/25/2011	Solenis Technologies, L.P.
RETENTION AND DRAINAGE IN THE MANUFACTURE OF PAPER	8,206,553	6/26/2012	11/313,505	12/21/2005	Solenis Technologies, L.P.
FELT AND EQUIPMENT SURFACE CONDITIONER	7,534,324	5/19/2009	11/472,754	6/22/2006	Solenis Technologies, L.P.
CREPING ADHESIVES MADE FROM AMINE-TERMINATED POLYAMIDOAMINES	7,943,705	5/17/2011	12/016,494	1/18/2008	Solenis Technologies, L.P.
HYDROPHOBICALLY MODIFIED POLY[ETHYLENE GLYCOL] FOR USE IN PITCH AND STICKIES CONTROL IN PULP AND PAPERMAKING PROCESSES	8,388,806	3/5/2013	11/881,128	7/25/2007	Solenis Technologies, L.P.
MICHAEL ADDITION ADDUCTS AS ADDITIVES FOR PAPER AND PAPERMAKING	7,902,312	3/8/2011	11/804,360	5/18/2007	Solenis Technologies, L.P.
ALKANOLAMINE-STABILIZED DISPERSED ROSIN SIZING AGENTS AND THEIR PREPARATION	7,854,800	12/21/2010	12/069,377	2/8/2008	Solenis Technologies, L.P.
DILUENTS FOR CROSSLINKER-CONTAINING ADHESIVE COMPOSITIONS	8,147,968	4/3/2012	12/287,394	10/9/2008	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
MODIFIED VINYLAMINE-CONTAINING POLYMERS AS ADDITIVES IN PAPERMAKING	8,604,134	12/10/2013	12/221,220	7/31/2008	Solenis Technologies, L.P.
STABLE AND AQUEOUS COMPOSITIONS OF POLYVINYLAMINES WITH CATIONIC STARCH, AND UTILITY FOR PAPERMAKING	8,444,818	5/21/2013	13/081,763	4/7/2011	Solenis Technologies, L.P.
CLAY SLURRIES AND USE THEREOF IN PULP AND PAPERMAKING APPLICATIONS	8,691,052	4/8/2014	12/381,549	3/13/2009	Solenis Technologies, L.P.
HYDROPHOBICALLY MODIFIED POLY(AMINOAMIDES)	8,506,757	8/13/2013	12/620,962	11/18/2009	Solenis Technologies, L.P.
METHOD AND APPARATUS FOR MEASURING DEPOSITION OF PARTICULATE CONTAMINANTS IN PULP AND PAPER SLURRIES	8,160,305	4/17/2012	12/276,655	11/24/2008	Solenis Technologies, L.P.
PULPING ADDITIVES FOR A REDUCTION OF RESIN FROM KRAFT PULP	8,052,840	11/8/2011	12/535,983	8/5/2009	Solenis Technologies, L.P.
ENHANCED SURFACE SIZING OF PAPER	7,998,311	8/16/2011	12/178,904	7/24/2008	Solenis Technologies, L.P.
COPOLYMER BLEND COMPOSITIONS FOR USE TO INCREASE PAPER FILLER CONTENT	8,518,216	8/27/2013	13/293,170	11/10/2011	Solenis Technologies, L.P.
COPOLYMER BLEND COMPOSITIONS FOR USE TO INCREASE PAPER FILLER CONTENT	9,034,146	5/19/2015	13/873,827	4/30/2013	Solenis Technologies, L.P.
COPOLYMER BLEND COMPOSITIONS FOR USE TO INCREASE PAPER FILLER CONTENT	8,163,134	4/24/2012	12/562,446	9/18/2009	Solenis Technologies, L.P. /Specialty Minerals (Michigan) Inc.
QUATERNARY VINYLAMINE-CONTAINING POLYMERS AS ADDITIVES IN PAPERMAKING	8,518,215	8/27/2013	12/696,237	1/29/2010	Solenis Technologies, L.P.
CATIONIC WET STRENGTH RESIN MODIFIED PIGMENTS IN BARRIER COATING APPLICATIONS	8,758,567	6/24/2014	12/477,432	6/3/2009	Solenis Technologies, L.P.
CATIONIC WET STRENGTH RESIN MODIFIED PIGMENTS IN WATER-BASED LATEX COATING APPLICATIONS	9,580,866	2/28/2017	12/789,918	5/28/2010	Solenis Technologies, L.P.
CATIONIC WET STRENGTH RESIN MODIFIED PIGMENTS IN WATER-BASED LATEX COATING APPLICATIONS	9,587,354	3/7/2017	14/461,793	8/18/2014	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
INCREASED DRAINAGE PERFORMANCE IN PAPERMAKING SYSTEMS USING MICROFIBRILLATED CELLULOSE	10,851,498	12/1/2020	15/704,583	9/14/2017	Solenis Technologies, L.P.
SURFACE APPLICATION OF POLYMERS AND POLYMER MIXTURES TO IMPROVE PAPER STRENGTH	8,696,869	4/15/2014	12/940,197	11/5/2010	Solenis Technologies, L.P.
USE OF MONOCHLOROUREA TO TREAT INDUSTRIAL WATERS	8,420,012	4/16/2013	12/823,253	6/25/2010	Solenis Technologies, L.P.
WATER-RESISTANT VEGETABLE PROTEIN ADHESIVE DISPERSION COMPOSITIONS	7,345,136	3/18/2008	11/099,175	4/4/2005	Solenis Technologies, L.P. / Department of Agriculture ⁶
STABLE ACID DENATURED SOY/UREA ADHESIVES AND METHODS OF MAKING SAME	8,465,581	6/18/2013	12/869,848	8/27/2010	Solenis Technologies, L.P.
COMPOSITION AND USE OF HYDROGENATED ALKYL KETENE DIMERS	9,005,398	4/14/2015	14/060,921	10/23/2013	Solenis Technologies, L.P.
METHOD OF MAKING A PAPER AND PAPERBOARD AND THE PAPER AND PAPERBOARD THEREOF	9,580,868	2/28/2017	14/641,479	3/9/2015	Solenis Technologies, L.P.
PAPER SIZING COMPOSITION	8,632,659	1/21/2014	12/971,172	12/17/2010	Solenis Technologies, L.P.
METHOD OF SIZING PAPER	9,028,650	5/12/2015	14/097,711	12/5/2013	Solenis Technologies, L.P.
PROCESS TO PRODUCE AN ACYLATED VINYLAMINE-CONTAINING POLYMER AND ITS APPLICATION AS A PAPERMAKING ADDITIVE	8,614,279	12/24/2013	13/446,486	4/13/2012	Solenis Technologies, L.P.
ADHESIVE COMPOSITIONS	8,399,544	3/19/2013	13/020,069	2/3/2011	Solenis Technologies, L.P.
CREPING RELEASE AGENTS	9,267,239	2/23/2016	14/640,654	3/6/2015	Solenis Technologies, L.P.
ENHANCED DRY STRENGTH AND DRAINAGE PERFORMANCE BY COMBINING GLYOXALATED ACRYLAMIDE-CONTAINING POLYMERS WITH CATIONIC AQUEOUS DISPERSION POLYMERS	8,636,875	1/28/2014	13/354,893	1/20/2012	Solenis Technologies, L.P.

⁶ This patent has been instructed for abandonment by the Company.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
VINYLAMINE CONTAINING COPOLYMER MICROPARTICLES AS ADDITIVES IN PAPERMAKING	8,894,816	11/25/2014	13/666,443	11/1/2012	Solenis Technologies, L.P.
PAPERMAKING ADDITIVES FOR ROLL RELEASE IMPROVEMENT	8,865,263	10/21/2014	13/214,472	8/22/2011	Solenis Technologies, L.P.
METHOD OF TREATING PAPER FORMING WIRE SURFACE	8,524,042	9/3/2013	13/214,708	8/22/2011	Solenis Technologies, L.P.
SIZING COMPOSITIONS	8,871,055	10/28/2014	13/435,107	3/30/2012	Solenis Technologies, L.P.
SURFACE APPLICATION OF POLYMERS TO IMPROVE PAPER STRENGTH	8,900,412	12/2/2014	13/285,382	10/31/2011	Solenis Technologies, L.P.
PROTEIN ADHESIVE FORMULATIONS WITH AMINE-EPOCHLOROHYDRIN AND ISOCYANATE ADDITIVES	8,845,851	9/30/2014	13/116,359	5/26/2011	Solenis Technologies, L.P.
CHEMICAL ADDITIVES AND USE THEREOF IN STILLAGE PROCESSING OPERATIONS	8,841,469	9/23/2014	13/370,456	2/10/2012	Solenis Technologies, L.P.
ORGANOPOLYSILICONE POLYETHER DRAINAGE AID	9,181,398	11/10/2015	13/455,768	4/25/2012	Solenis Technologies, L.P.
CELLULASE COMPOSITION CONTAINING CELLULASE AND PAPERMAKING POLYMERS FOR PAPER DRY STRENGTH APPLICATION	9,011,643	4/21/2015	14/048,404	10/8/2013	Solenis Technologies, L.P.
SYSTEM AND METHODS OF DETERMINING LIQUID PHASE TURBIDITY OF MULTIPHASE WASTEWATER	10,281,383	5/7/2019	14/075,613	11/8/2013	Solenis Technologies, L.P.
SYNERGISTIC BLENDS OF ANTIMICROBIALS USEFUL FOR CONTROLLING MICROORGANISMS IN INDUSTRIAL PROCESSES	10,143,202	12/4/2018	15/706,993	9/18/2017	Solenis Technologies, L.P.
SYNERGISTIC COMBINATIONS OF ORGANIC ACID USEFUL FOR CONTROLLING MICROORGANISMS IN INDUSTRIAL PROCESSES	9,555,018	1/31/2017	13/834,259	3/15/2013	Solenis Technologies, L.P.
METHOD FOR TREATMENT OF MICROORGANISMS DURING PROPAGATION, CONDITIONING AND FERMENTATION USING HOPS ACID EXTRACTS AND ORGANIC ACID	8,778,646	7/15/2014	13/833,522	3/15/2013	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD FOR TREATMENT OF MICROORGANISMS DURING PROPAGATION, CONDITIONING AND FERMENTATION USING HOPS ACID EXTRACTS AND ORGANIC ACID	8,772,002	7/8/2014	14/212,251	3/14/2014	Solenis Technologies, L.P.
PROCESS FOR IMPROVING THE RHEOLOGICAL PROPERTIES OF AN AQUEOUS DISPERSION	10,066,107	9/4/2018	14/030,529	9/18/2013	Solenis Technologies, L.P.
METHOD AND APPARATUS FOR ESTIMATING FOULING FACTOR AND/OR INVERSE SOLUBLE SCALE THICKNESS IN HEAT TRANSFER EQUIPMENT	9,568,375	2/14/2017	14/105,323	12/13/2013	Solenis Technologies, L.P.
HYDROLYZED STARCHES AS GRINDING AIDS FOR MINERAL ORE PROCESSING	10,774,399	9/15/2020	14/299,508	6/9/2014	Solenis Technologies, L.P.
GYPHUM SCALE INHIBITORS FOR ORE SLURRY SYSTEMS IN HYDRO-METALLURGICAL APPLICATIONS	9,719,008	8/1/2017	14/510,616	10/9/2014	Solenis Technologies, L.P.
MODIFIED VINYLAMINE-CONTAINING POLYMERS AND THEIR USE IN PAPERMAKING	9,885,155	2/6/2018	14/683,906	4/10/2015	Solenis Technologies, L.P.
MODIFIED VINYLAMINE CONTAINING POLYMERS AND THEIR USE IN PAPERMAKING	9,783,933	10/10/2017	15/154,238	5/13/2016	Solenis Technologies, L.P.
MODIFIED OF IMPROVING DRY STRENGTH AND/OR DRAINAGE OF A PAPER OR PAPERBOARD	9,879,380	1/30/2018	15/447,726	3/2/2017	Solenis Technologies, L.P.
ON-SITE EMULSIFICATION OF DEFOAMER FOR BROWNSTOCK WASHING OF PULP	9,371,613	6/21/2016	14/601,368	1/21/2015	Solenis Technologies, L.P.
OIL EXTRACTION AIDS IN GRAIN PROCESSING	9,353,332	5/31/2016	14/121,391	8/29/2014	Solenis Technologies, L.P.
SURFACTANT BASED BROWN STOCK WASH AID TREATMENT FOR PAPER MACHINE DRAINAGE AND DRY STRENGTH AGENTS	9,598,819	3/21/2017	14/535,692	11/7/2014	Solenis Technologies, L.P.
LIGNIN NANOPARTICLE DISPERSION AND METHODS FOR PRODUCING AND USING THE SAME	10,035,928	7/31/2018	14/569,429	12/12/2014	Solenis Technologies, L.P.
PROCESS TO IMPROVE PERFORMANCE OF WET-STRENGTH RESINS THROUGH BASE ACTIVATION	9,719,212	8/1/2017	14/825,605	8/13/2015	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD OF INCREASED DRAINAGE PERFORMANCE OF A PULP SLURRY DURING MANUFACTURE OF PAPER PRODUCTS, AND PRODUCTS THEREFROM	9,873,982	1/23/2018	14/880,873	10/12/2015	Solenis Technologies, L.P.
METHODS FOR INHIBITING THE DEPOSITION OF ORGANIC CONTAMINANTS IN PULP AND PAPERMAKING SYSTEMS	10,253,214	4/9/2019	15/192,188	6/24/2016	Solenis Technologies, L.P.
POWDERY WATER-SOLUBLE CATIONIC POLYMER COMPOSITION	10,443,192	10/15/2019	15/503,283	2/10/2017	Solenis Technologies, L.P.
METHOD OF PRODUCING A CREPING PAPER AND THE CREPING PAPER THEREOF	9,945,076	4/17/2018	14/965,932	12/11/2015	Solenis Technologies, L.P.
METHOD OF MAKING LIGNOCELLULOSIC PAPER AND PAPER PRODUCT	9,663,899	5/30/2017	14/835,931	8/26/2015	Solenis Technologies, L.P.
METHODS FOR CREPING PAPER	7,744,722	6/29/2010	11/454,360	6/15/2006	Solenis Technologies, L.P.
CREPING ADHESIVE MODIFIER AND METHODS FOR PRODUCING PAPER PRODUCTS	8,147,649	4/3/2012	12/825,079	6/28/2010	Solenis Technologies, L.P.
CREPING ADHESIVE MODIFIER AND METHODS FOR PRODUCING PAPER PRODUCTS	8,608,904	12/17/2013	13/437,724	4/2/2012	Solenis Technologies, L.P.
BIO-BASED OIL COMPOSITION AND METHOD FOR PRODUCING THE SAME	8,962,059	2/24/2015	13/117,301	5/27/2011	Solenis Technologies, L.P.
BIO-BASED OIL COMPOSITION AND METHOD FOR PRODUCING THE SAME	10,980,263	4/20/2021	15/969,133	5/2/2018	Solenis Technologies, L.P.
METHOD OF ENHANCING ADHESION OF LIQUID TONER PRINTED ON A SUBSTRATE, AND PRODUCTS THEREFROM	10,372,051	8/6/2019	15/598,145	5/17/2017	Solenis Technologies, L.P.
SIDE-STREAM FOAM MONITOR AND CONTROL SYSTEM	10,857,486	12/8/2020	15/592,868	5/11/2017	Solenis Technologies, L.P.
BIOPOLYMER SIZING AGENTS	10,865,525	12/15/2020	15/493,773	4/21/2017	Solenis Technologies, L.P.
METHOD FOR IMPROVING THE RESISTANCE OF PAPER AND PAPERBOARD TO AQUEOUS PENETRANTS	10,865,526	12/15/2020	16/508,404	7/11/2019	Solenis Technologies, L.P.
PROCESS FOR IMPROVED COMPOSITE BOARD MANUFACTURE	10,300,638	5/28/2019	15/441,303	2/24/2017	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD OF TREATING CELLULOSE CONTAINING WASTE WATER SLUDGE FOR THE MANUFACTURE OF LINERBOARD AND CELLULOSIC ETHANOL PRODUCTION	9,896,358	2/20/2018	15/186,608	6/20/2016	Solenis Technologies, L.P.
OIL EXTRACTION AIDS IN BIOPRODUCT PRODUCTION	10,449,469	10/22/2019	15/848,560	12/20/2017	Solenis Technologies, L.P.
SHEET CHARACTERIZATION OF CREPE PAPER	11,015,293	5/25/2021	16/100,719	8/10/2018	Solenis Technologies, L.P.
HYDROPHOBIC VINYLAMINE-CONTAINING POLYMER COMPOSITIONS AND THEIR USE IN PAPERMAKING APPLICATIONS	10,618,992	4/14/2020	16/032,775	7/11/2018	Solenis Technologies, L.P.
METHOD OF MEASURING HYDROPHOBIC CONTAMINANTS IN A PULP SLURRY OR A PAPERMAKING SYSTEM	10,844,544	11/24/2020	16/196,540	11/20/2018	Solenis Technologies, L.P.
ADIABATIC GEL POLYMERIZATION PROCESS FOR THE PRODUCTION OF WATER-SOLUBLE POLYELECTROLYTES	10,647,823	5/12/2020	15/981,840	5/16/2018	Solenis Technologies, L.P.
TREATMENT OF PRINTING SUBSTRATE	10,908,522	2/2/2021	15/979,084	5/14/2018	Solenis Technologies, L.P.
CHEMICAL EFFICIENCY INCREASE IN PAPERMAKING PROCESS	10,876,254	12/29/2020	16/149,635	10/2/2018	Solenis Technologies, L.P.
COMPOSITION AND METHOD FOR INHIBITING MICROBIAL ADHESION ON SURFACES	10,899,639	1/26/2021	16/150,950	10/3/2018	Solenis Technologies, L.P.
METHOD FOR IMPROVING FILLER AND FIBER RETENTION IN PAPER MAKING PROCESSES	10,876,258	12/29/2020	16/200,954	11/27/2018	Solenis Technologies, L.P.
SYSTEMS AND METHODS FOR REDUCING FORMATION OF SCALE IN PHOSPHORIC ACID PRODUCTION	10,759,662	9/1/2020	15/918,079	3/12/2018	Solenis Technologies, L.P.
COMPOSITIONS AND METHODS FOR TREATING A SUBSTRATE AND FOR IMPROVING ADHESION OF AN IMAGE TO A TREATED SUBSTRATE	10,613,449	4/7/2020	15/940,659	3/29/2018	Solenis Technologies, L.P.
PULP MIXTURE	10,941,524	3/9/2021	16/205,798	11/30/2018	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
SYSTEMS AND METHODS FOR FORMING A SOLUTION OF AMMONIUM CARBAMATE	10,315,986	6/11/2019	15/947,182	4/6/2018	Solenis Technologies, L.P.
COMPOSITIONS AND METHODS FOR IMPROVING PROPERTIES OF LIGNOCELLULOSIC MATERIALS	10,597,824	3/24/2020	16/018,936	6/26/2018	Solenis Technologies, L.P.
PROCESS FOR TREATING A LIQUID MEDIUM USING ULTRASOUND	7,632,413	12/15/2009	10/533,679	4/2/2007	Solenis Technologies, L.P.
GLYOXALATION OF VINYLAMIDE POLYMER	8,703,847	4/22/2014	13/524,741	6/15/2012	Solenis Technologies, L.P.
GLYOXALATION OF VINYLAMIDE POLYMER	8,222,343	7/17/2012	12/969,783	12/16/2010	Solenis Technologies, L.P.
PROCESS FOR IMPROVING PAPER STRENGTH	8,425,726	4/23/2013	13/302,597	11/22/2011	Solenis Technologies, L.P.
PROCESS FOR IMPROVING PAPER STRENGTH	8,425,725	4/23/2013	13/302,530	11/22/2011	Solenis Technologies, L.P.
GLYOXALATED N-VINYLAMINE	8,299,180	10/30/2012	13/113,385	10/31/2008	Solenis Technologies, L.P.
NEW PROCESSES FOR THE SEPARATION OF WATER FROM AQUEOUS SYSTEMS	10,590,010	3/17/2020	15/770,230	4/23/2018	Solenis Technologies, L.P.
METHOD FOR PRODUCING PAPER, PAPERBOARD AND CARDBOARD	8,486,227	7/16/2013	13/609,356	9/11/2012	Solenis Technologies, L.P.
FINELY DIVIDED STARCH-CONTAINING POLYMER DISPERSIONS, METHOD FOR THE PRODUCTION THEREOF AND USE THEREOF AS SIZING AGENT IN PAPER MANUFACTURING	8,685,207	4/1/2014	13/498,734	3/28/2012	Solenis Technologies, L.P.
METHOD FOR PRODUCING PAPER, PAPERBOARD AND CARDBOARD HAVING HIGH DRY STRENGTH	8,647,470	2/11/2014	13/502,885	4/19/2012	Solenis Technologies, L.P.
METHOD FOR PRODUCING PAPER, PAPERBOARD AND CARDBOARD HAVING HIGH DRY STRENGTH	9,206,551	12/8/2015	14/105,259	12/13/2013	Solenis Technologies, L.P.
MANUFACTURE OF CELLULOSIC PULP SHEETS	8,916,026	12/23/2014	13/885,760	8/1/2013	Solenis Technologies, L.P.
PRODUCTION OF PAPER, CARD AND BOARD	8,753,479	6/17/2014	13/526,710	6/19/2012	Solenis Technologies, L.P.
MANUFACTURE OF PAPER AND PAPERBOARD	9,103,071	8/11/2015	14/125,401	12/11/2013	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
PROCESS FOR THE MANUFACTURE OF PAPER AND PAPERBOARD	9,404,223	8/2/2016	14/373,174	7/18/2014	Solenis Technologies, L.P.
PREPARATION OF POLYVINYLAMIDE CELLULOSE REACTIVE ADDUCTS	9,879,381	1/30/2018	14/546,068	11/18/2014	Solenis Technologies, L.P.
FINELY DIVIDED, STARCH-CONTAINING POLYMER DISPERSIONS, PROCESSES FOR THEIR PREPARATION AND USE AS SIZES IN PAPERMAKING	9,315,943	4/19/2016	14/350,467	4/8/2014	Solenis Technologies, L.P.
PROCESS FOR THE MANUFACTURE OF PAPER AND PAPERBOARD	9,631,319	4/25/2017	14/378,059	8/11/2014	Solenis Technologies, L.P.
PRODUCTION OF PAPER, CARD AND BOARD	9,051,687	6/9/2015	13/969,774	8/19/2013	Solenis Technologies, L.P.
PRODUCTION OF PAPER, CARD AND BOARD	9,765,483	9/19/2017	14/662,806	3/19/2015	Solenis Technologies, L.P.
PROCESS FOR THE MANUFACTURE OF PAPER AND PAPERBOARD	10,113,270	10/30/2018	14/760,381	7/10/2015	Solenis Technologies, L.P.
MANUFACTURE OF PAPER AND PAPERBOARD CONTAINING WOOD FREE PULP	9,765,482	9/19/2017	15/026,872	4/1/2016	Solenis Technologies, L.P.
ANTIFOAMING AGENTS FOR THE PAPER INDUSTRY, BASED ON OIL IN WATER EMULSIONS	9,982,392	5/29/2018	15/035,959	5/11/2016	Solenis Technologies, L.P.
PROCESS FOR THE PRODUCTION OF A MICROFIBRILLATED CELLULOSE COMPOSITION	10,648,130	5/12/2020	14/899,820	12/18/2015	Solenis Technologies, L.P.
AQUEOUS EMULSION OF A SIZING AGENT	9,708,771	7/18/2017	14/771,868	9/1/2015	Solenis Technologies, L.P.
HIGH MOLECULAR WEIGHT AND HIGH CATIONIC CHARGE GLYOXALATED POLYACRYLAMIDE COPOLYMERS AND THEIR METHODS OF MANUFACTURE AND USE	9,644,320	5/9/2017	14/913,750	2/23/2016	Solenis Technologies, L.P.
PROCESS FOR PRODUCING A POLYACRYLAMIDE SOLUTION WITH INCREASED VISCOSITY	10,975,177	4/13/2021	16/087,472	9/21/2018	Solenis Technologies, L.P./ BASF Construction Solutions GmbH
PROCESS FOR INHIBITING THE CORROSION OF METAL SURFACES	10,697,071	6/30/2020	15/565,182	10/9/2017	Solenis Technologies, L.P.
METHOD FOR PRODUCING CORRUGATED CARDBOARD	10,047,480	8/14/2018	15/129,986	9/28/2016	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD FOR PRODUCING AN AMIDE	10,655,152	5/19/2020	15/513,670	3/23/2017	Solenis Technologies, L.P.
METHOD FOR PREPARING AN AQUEOUS ACRYLAMIDE SOLUTION HAVING A LOW ACRYLIC ACID CONCENTRATION	10,227,621	3/12/2019	15/514,321	3/24/2017	Solenis Technologies, L.P.
PROCESSES FOR REDUCING THE FOULING OF SURFACES	10,850,238	12/1/2020	15/565,938	10/12/2017	Solenis Technologies, L.P.
METHOD FOR PRODUCING PAPER	10,626,558	4/21/2020	15/747,263	1/24/2018	Solenis Technologies, L.P.
FINELY DIVIDED, CATIONIC, AQUEOUS POLYMER DISPERSIONS, METHOD FOR THE PRODUCTION THEREOF, AND THE USE THEREOF	10,975,525	4/13/2021	15/780,279	5/31/2018	Solenis Technologies, L.P./BASF Advanced Chemicals Co., Ltd.
WET MINERAL ORE PROCESSING IN MINING APPLICATIONS	10,399,087	9/3/2019	14/843,411	9/2/2015	Solenis Technologies, L.P.
METHOD AND APPARATUS FOR DEFIBRILLATING CELLULOSE FIBERS	8,833,681	9/16/2014	13/379,778	4/6/2012	Solenis Technologies, L.P.
APPARATUS AND METHOD FOR THE PROCESSING OF CELLULOSE FIBRES	8,752,776	6/17/2014	13/508,321	12/14/2012	Solenis Technologies, L.P.
PROCESS AND APPARATUS FOR GENERATING HALOAMINE BIOCIDES	8,747,740	6/10/2014	11/698,475	1/25/2007	Solenis Technologies, L.P.
PROCESS FOR INCREASING THE REFINER PRODUCTION RATE AND/OR DECREASING THE SPECIFIC ENERGY OF PULPING WOOD	7,726,592	6/1/2010	11/002,594	12/2/2004	Solenis Technologies, L.P.
DEFOAMERS FOR PULP AND PAPERMAKING APPLICATIONS	7,879,917	2/1/2011	11/297,024	12/8/2005	Solenis Technologies, L.P.
DEFOAMER EMULSION COMPOSITIONS FOR PULP MILL APPLICATIONS	7,893,115	2/22/2011	11/297,025	12/8/2005	Solenis Technologies, L.P.
PROCESS FOR INCREASING THE REFINER PRODUCTION RATE AND/OR DECREASING THE SPECIFIC ENERGY OF PULPING WOOD	7,981,247	7/19/2011	12/752,241	4/1/2010	Solenis Technologies, L.P.
COMPOSITION AND METHOD FOR INCREASING WET AND DRY PAPER STRENGTH	11,028,538	6/8/2021	16/288,477	2/28/2019	Solenis Technologies, L.P.
A COMPOSITION AND METHOD OF PRODUCING A CREPING PAPER AND THE CREPING PAPER THEREOF	11,105,046	8/31/2021	15/926,947	3/20/2018	Solenis Technologies, L.P.

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
ULTRA VIOLET ASSISTED PHOTO INITIATED FREE RADICAL POLYMERIZATION	11,041,037	6/22/2021	16/148,010	10/1/2018	Solenis Technologies, L.P.
COMPOSITIONS EXHIBITING SYNERGY IN BIOFILM CONTROL	11,104,593	8/31/2021	16/161,355	10/16/2018	Solenis Technologies, L.P.
PROCESS FOR MAKING PAPER WITH IMPROVED FILLER RETENTION AND OPACITY WHILE MAINTAINING WET TENSILE STRENGTH	10,975,524	4/31/2021	16/244,834	1/10/2019	Solenis Technologies, L.P.
METHOD FOR IMPROVING FABRIC RELEASE IN STRUCTURED SHEET MAKING APPLICATIONS	11,066,785	7/20/2021	16/381,033	4/11/2019	Solenis Technologies, L.P.
POLYBIGUANIDE SALTS IN SOLID FORM FOR WATER TREATMENT APPLICATIONS AND KIT	11,096,391	8/24/2021	15/399,279	1/05/2017	Innovative Water Care, LLC
METHOD OF REMOVING PESTICIDES FROM WASTEWATER	10,961,134	3/30/2021	16/354,489	3/15/2019	Innovative Water Care, LLC
QUATERNARY AMMONIUM ETIDRONATES	10,793,586	10/06/2020	16/151,958	10/04/2018	Innovative Water Care, LLC
FLOATING POOL SANITIZER WITH LOCKING DEVICE	10,472,264	11/12/2019	15/975,831	05/10/2018	Innovative Water Care, LLC
APPARATUS AND METHOD OF FORMING A CHEMICAL SOLUTION	10,293,310	05/21/2019	15/812,194	11/14/2017	Innovative Water Care, LLC
ELECTROCHEMICAL SENSORS FOR TESTING WATER	10,241,072	03/26/2019	14/033,795	09/23/2013	Innovative Water Care, LLC
CALCIUM HYPOCHLORITE COMPOSITIONS WITH TRANSIENT COLOR INDICATORS AND METHOD OF USING THE SAME	10,231,457	03/19/2019	15/003,248	01/21/2016	Innovative Water Care, LLC
METHOD AND KIT FOR TREATING RECREATIONAL WATER	10,118,849	11/06/2018	14/261,679	04/25/2014	Innovative Water Care, LLC
PACKAGE SYSTEM FOR PACKAGING AND ADMINISTERING CONTROLLED DOSAGES OF CHEMICAL AGENTS	9,988,197	06/05/2018	15/319,922	12/19/2016	Innovative Water Care, LLC
ELECTROCHEMICAL SENSORS FOR TESTING WATER	9,927,389	03/27/2018	14/032,891	09/20/2013	Innovative Water Care, LLC
STABILIZED ACTIVE HALOGEN SOLUTIONS	8,933,244	01/13/2015	13/384,923	01/19/2012	Innovative Water Care, LLC

Title	Patent Number	Issue Date	Application Number	Application Date	Owner
METHOD FOR THE USE OF OXIDANTS FOR MICROBIAL CONTROL UNDER REDUCING CONDITIONS	8,808,500	08/19/2014	13/981,211	07/23/2013	Innovative Water Care, LLC
DISPENSING CAP FOR A CONTAINER	8,517,228	08/27/2013	13/390,256	07/23/2012	Innovative Water Care, LLC
METHOD AND MEANS FOR THE PREPARATION OF SOLUTIONS FROM DRY CHEMICALS	8,459,284	06/11/2013	12/884,785	09/17/2010	Innovative Water Care, LLC
COMPOSITIONS FOR TREATING WATER SYSTEMS	8,440,212	05/14/2013	12/806,074	08/05/2010	Innovative Water Care, LLC
APPARATUS AND METHOD FOR MIXING A CONCENTRATED WATER TREATMENT SOLUTION	8,372,348	02/12/2013	12/490,044	06/23/2009	Innovative Water Care, LLC
CALCIUM HYPOCHLORITE COMPOSITIONS COMPRISING ZINC SALTS AND LIME	8,372,291	02/12/2013	13/065,869	03/31/2011	Innovative Water Care, LLC
CALCIUM HYPOCHLORITE COMPOSITIONS COMPRISING ZINC SALTS AND LIME	7,927,510	04/19/2011	11/788,640	04/20/2007	Innovative Water Care, LLC
POOL CHEMICAL TABLET	7,820,198	10/26/2010	10/967,985	10/19/2004	Innovative Water Care, LLC
WEEKLY FLOATER POOL SANITIZER	7,704,467	04/27/2010	11/314,693	12/20/2005	Innovative Water Care, LLC
APPARATUS FOR SUPPORTING CHEMICAL TABLETS	7,658,844	02/09/2010	12/128,241	05/28/2008	Innovative Water Care, LLC
CHEMICAL FEEDER	7,143,778	12/05/2006	11/040,511	01/21/2005	Innovative Water Care, LLC
CALCIUM HYPOCHLORITE BLENDED TABLETS	6,984,398	01/10/2006	10/405,388	04/02/2003	Innovative Water Care, LLC
CALCIUM HYPOCHLORITE BLENDED TABLETS	6,969,527	11/29/2005	10/783,210	02/20/2004	Innovative Water Care, LLC
CHEMICAL FEEDER	6,915,811	07/12/2005	10/307,671	12/02/2002	Innovative Water Care, LLC
LOWER REACTIVITY BLENDS OF CALCIUM HYPOCHLORITE AND MAGNESIUM SULFATE	6,638,446	10/28/2003	10/271,375	10/15/2002	Innovative Water Care, LLC
CHEMICAL TABLET FOR AQUATIC SYSTEMS	D857156	08/20/2019	29/583,068	11/02/2016	Innovative Water Care, LLC

Patent Applications:

Title	Application Number	Application Date	Owner
APPARATUS, SYSTEM AND METHOD FOR EMULSIFYING OIL AND WATER	13/382,177	1/4/2012	Solenis Technologies, L.P.
METHOD FOR ENHANCED OXYGEN DELIGNIFICATION OF CHEMICAL WOOD PULPS	16/123,066	9/6/2018	Solenis Technologies, L.P.

Title	Application Number	Application Date	Owner
AQUEOUS GLYOXALATED POLYACRYLAMIDE COMPOSITION TECHNICAL FIELD	63/133,449	1/4/2021	Solenis Technologies, L.P.
TREATMENT OF PRINTING SUBSTRATE	17/248,568	1/29/2021	Solenis Technologies, L.P.
COMPOSITIONS EXHIBITING SYNERGY IN BIOFILM CONTROL	16/161,364	10/16/2018	Solenis Technologies, L.P.
METHOD OF INCREASING EFFICIENCY OF CHEMICAL ADDITIVES IN A PAPERMAKING SYSTEMS	17/084,895	10/30/2020	Solenis Technologies, L.P.
FOAM ASSISTED APPLICATION OF STRENGTH ADDITIVES TO PAPER PRODUCTS	16/226,891	12/20/2018	Solenis Technologies, L.P.
KRAFT PULP MILL SCALE CONTROL WITH END GROUP MODIFIED POLYCARBOXYLATES	16/916,127	6/30/2020	Solenis Technologies, L.P.
GEOHERMAL WELL STIMULATION AND SILICA BASED DEPOSIT REMOVAL	16/747,604	1/21/2020	Solenis Technologies, L.P.
METHOD FOR REDUCING FORMATION OF CaSO ₄ AND Fe ₂ O ₃ CONTAINING DEPOSITS IN A PRESSURE OXIDATION AUTOCLAVE AND/OR ADJACENT CIRCUITS DURING PRESSURE OXIDATION OF GOLD-CONTAINING ORE	16/666,616	10/29/2019	Solenis Technologies, L.P.
SOLUTIONS FORMED FROM AMMONIUM CARBONATE/BICARBONATE AND AMMONIUM HYDROXIDE	16/904,624	6/18/2020	Solenis Technologies, L.P.
SILICA SCALE INHIBITORS	16/940,498	7/28/2020	Solenis Technologies, L.P.
HEAT SENSITIVE RECORDING MATERIAL WITH NON-PHENOLIC COLOR DEVELOPERS	17/004,023	8/27/2020	Solenis Technologies, L.P./BASF SE
COMPOSITION AND METHOD FOR THE DEWATERING OF AQUEOUS SUSPENSIONS	63/022,602	5/11/2020	Solenis Technologies, L.P.
REVERSIBLE CROSS-LINKING SYSTEM FOR POLYVINYLAMINES	63/042,655	6/23/2020	Solenis Technologies, L.P.
METHOD AND APPARATUS FOR CONTROLLING THE PRODUCTION OF A HALOAMINE BIOCIDES	63/017,205	4/29/2020	Solenis Technologies, L.P.
LOW CRITICAL SOLUTION TEMPERATURE PURIFICATION OF OXAZOLINE POLYMER SOLUTIONS	17/076,955	10/22/2020	Solenis Technologies, L.P.
COMPOSITIONS AND METHODS FOR IMPROVING ADHESION OF AN IMAGE TO A TREATED SUBSTRATE	63/043,803	6/25/2020	Solenis Technologies, L.P.
FUNCTIONALIZED AMPHIPHILIC POLYMERS AS SUGARS EXTRACTION AID FOR SUGARCANE MILLING PROCESS	63/081,958	9/23/2020	Solenis Technologies, L.P.
TREATED SUBSTRATES AND METHODS OF PRODUCING THE SAME	63/138,882	1/19/2021	Solenis Technologies, L.P.
COMPOSITIONS AND METHODS FOR SENSITIZING HEAT MEDIA	63/154,685	2/27/2021	Solenis Technologies, L.P.
SYSTEMS AND METHODS FOR ALUMINA PRODUCTION	16/524,819	7/29/2019	Solenis Technologies, L.P.
SORBENT FOR AT LEAST ONE METAL	16/697,429	11/27/2019	Solenis Technologies, L.P.

Title	Application Number	Application Date	Owner
NEW ANTIFOAM FORMULATIONS FOR THE THERMAL DESALINATION PROCESS OF WATER	16/340,988	4/10/2019	Solenis Technologies, L.P.
METHOD OF SUSPENDING ELEMENTAL SULFUR IN WATER	16/583,686	9/26/2019	Solenis Technologies, L.P.
CHEMICAL DISPENSER	63/248,084	9/24/2021	Innovative Water Care, LLC
CHLORINATED SKIMMER BASKET	63/092,210	10/15/2020	Innovative Water Care, LLC
LOW REACTIVITY CALCIUM HYPOCHLORITE SHAPED ARTICLE	17/062,745	10/05/2020	Innovative Water Care, LLC
WASTEWATER TREATMENT METHOD	16/970,756	8/27/2020	Innovative Water Care, LLC
DEVICES AND SYSTEMS FOR WATER TREATMENT	16/864,372	05/01/2020	Innovative Water Care, LLC
SLOW DISSOLVING HYPOCHLORITE SHAPED ARTICLE	16/855,165	04/22/2020	Innovative Water Care, LLC
SYSTEMS AND METHODS FOR PREVENTING AND REMOVING SCALE IN SANITIZING SYSTEMS	16/015,401	06/22/2018	Innovative Water Care, LLC
LOW REACTIVITY CALCIUM HYPOCHLORITE SHAPED ARTICLE	17/062,745	10/05/2020	Innovative Water Care, LLC
WASTEWATER TREATMENT METHOD	16/970,756	08/27/2020	Innovative Water Care, LLC
DEVICES AND SYSTEMS FOR WATER TREATMENT	16/864,372	05/01/2020	Innovative Water Care, LLC
SLOW DISSOLVING HYPOCHLORITE SHAPED ARTICLE	16/855,165	04/22/2020	Innovative Water Care, LLC