

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT2947084

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
PHILLIP D. HUSTAD	02/14/2013
XINYU GU	02/14/2013
ERIN B. VOGEL	02/18/2013
VALERIY V. GINZBURG	02/21/2013
DANIEL J. MURRAY	02/14/2013
PETER TREFONAS	02/14/2013
SHIH-WEI CHANG	02/18/2013

RECEIVING PARTY DATA

Name:	Rohm and Haas Electronic Materials LLC
Street Address:	455 Forest Street
City:	Marlborough
State/Country:	MASSACHUSETTS
Postal Code:	01752
Name:	DOW GLOBAL TECHNOLOGIES LLC
Street Address:	2040 DOW CENTER
City:	MIDLAND
State/Country:	MICHIGAN
Postal Code:	48674

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13762749

CORRESPONDENCE DATA

Fax Number: (302)283-2144

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: 302-456-6622

Email: pconnell@dow.com

Correspondent Name: PATRICIA CONNELL

Address Line 1: 451 BELLEVUE ROAD

Address Line 4: NEWARK, DELAWARE 19713

PATENT

ATTORNEY DOCKET NUMBER:	74392
NAME OF SUBMITTER:	PATRICIA CONNELL
SIGNATURE:	/patricia connell/
DATE SIGNED:	07/21/2014

Total Attachments: 12

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This Assignment 110 is in the ENGLISH language and has the same meaning in other languages with the same 110 number and R/Date.

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FORM 110 (R 5/97)

INDIVIDUAL ASSIGNMENT AND INVENTOR'S DECLARATION

(with Priority Rights)

I/we verily believe I am/we are the original, first and sole/joint inventor(s) of the subject matter which is embraced by and for which a patent is sought on the invention entitled: **Block Copolymer Composition And Methods Relating Thereto**

which invention was made and invented by me/us out of and in the course of my/our employment with my/our respective employers as stated below my/our name(s). I/we acknowledge that I/we hold the invention and all patent and other rights and powers obtainable or exercisable in respect thereof in trust for our respective employers. As trustee(s), and for good and valuable consideration and/or the remuneration received for my/our work, I/we sell, assign and transfer unto:

DOW GLOBAL TECHNOLOGIES LLC
2040 Dow Center
Midland, Michigan 48674
United States of America

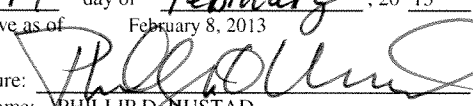
a limited liability company organized and existing under the laws of the State of DELAWARE, U.S.A. (hereinafter referred to as the "Assignee"); my/our entire right, title and interest throughout the world, in and to the invention and all rights and powers to make applications, including provisional applications when permitted by law, for Letters Patent in its own name, or in the name of its designee (or nominee(s)); and all rights and powers to file any corresponding or equivalent applications in any and all countries, including all rights to claim priority under all United States domestic laws, International Convention(s) and Treaties in the name of Assignee, and do hereby authorize Assignee or its designee to insert here the Priority Number, Filing Date, and Filing Country

Priority Number	Filing Date	Filing Country
13/762,749	February 8, 2013	United States of America

of the application, on which the claim for priority will be based; and in and to any Letters Patent that may be issued for the invention in any and all countries. I/we do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications derived from, corresponding to or equivalent to the above identified application as Assignee may request.

I/we authorize Assignee or its designee to translate this Assignment into all languages necessary; and we request that any such Letters Patent be issued to Assignee; and consent to the recordal of this Assignment, or a Notarial True Copy thereof, being under covenant not only that I/we have full power to make the same, but also that such assigned rights are not encumbered by any grant, license, or other right heretofore given.

Subscribed and Declared by me/us:

At: <u>Marathon, MA</u>
this <u>14</u> day of <u>February</u> , 20 <u>13</u>
Effective as of <u>February 8, 2013</u>
Signature: 
Full Name: <u>PHILLIP D. MUSTAD</u>
Residence: <u>3618 Rose Water Court</u> <u>Manvel, TX 77578</u>
Country: <u>United States of America</u>
Citizenship: <u>United States of America</u>
P.O. Address: <u>Same as residence</u>
Employed By: <u>The Dow Chemical Company</u>
Of Country: <u>United States of America</u>

At: _____
this _____ day of _____, 20 <u>13</u>
Effective as of <u>February 8, 2013</u>
Signature: _____
Full Name: <u>XINYU GU</u>
Residence: <u>127 Plantation Drive W 1602</u> <u>Lake Jackson, TX 77566</u>
Country: <u>United States of America</u>
Citizenship: <u>People's Republic of China</u>
P.O. Address: <u>Same as residence</u>
Employed By: <u>The Dow Chemical Company</u>
Of Country: <u>United States of America</u>

At: _____
this _____ day of _____, 20 <u>13</u>
Effective as of <u>February 8, 2013</u>
Signature: _____
Full Name: <u>ERIN B. VOGEL</u>
Residence: <u>617 Nakoma</u> <u>Midland, MI 48640</u>
Country: <u>United States of America</u>
Citizenship: <u>United States of America</u>
P.O. Address: <u>Same as residence</u>
Employed By: <u>The Dow Chemical Company</u>
Of Country: <u>United States of America</u>

At: _____
this _____ day of _____, 20 <u>13</u>
Effective as of <u>February 8, 2013</u>
Signature: _____
Full Name: <u>VALERIY V. GINZBURG</u>
Residence: <u>116 Revere Street</u> <u>Midland, MI 48640</u>
Country: <u>United States of America</u>
Citizenship: <u>United States of America</u>
P.O. Address: <u>Same as residence</u>
Employed By: <u>The Dow Chemical Company</u>
Of Country: <u>United States of America</u>

() Additional names and signatures are attached.

At: _____
this _____ day of _____, 20 13
Effective as of February 8, 2013

Signature: _____
Full Name: DANIEL J. MURRAY
Residence: 2902 Mt. Vernon Drive
Midland, MI 48642
Country: United States of America
Citizenship: United States of America
P.O. Address: Same as residence
Employed By: The Dow Chemical Company
Of Country: United States of America

At: _____
this _____ day of _____, 20 _____
Effective as of February 8, 2013

Signature: _____
Full Name: _____
Residence: _____
Country: _____
Citizenship: _____
P.O. Address: Same as residence
Employed By: _____
Of Country: _____

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FORM 110 (R 5/07)

INDIVIDUAL ASSIGNMENT AND INVENTOR'S DECLARATION (with Priority Rights)

I/we verify believe I am/we are the original, first and sole/joint inventor(s) of the subject matter which is embraced by and for which a patent is sought on the invention entitled: **Block Copolymer Composition And Methods Relating Thereto**

which invention was made and invented by me/us out of and in the course of my/our employment with my/our respective employers as stated below my/our name(s). I/we acknowledge that I/we hold the invention and all patent and other rights and powers obtainable or exercisable in respect thereof in trust for our respective employers. As trustee(s), and for good and valuable consideration and/or the remuneration received for my/our work, I/we sell, assign and transfer unto:

DOW GLOBAL TECHNOLOGIES LLC
2040 Dow Center
Midland, Michigan 48674
United States of America

a limited liability company organized and existing under the laws of the State of DELAWARE, U.S.A. (hereinafter referred to as the "Assignee"); my/our entire right, title and interest throughout the world, in and to the invention and all rights and powers to make applications, including provisional applications when permitted by law, for Letters Patent in its own name, or in the name of its designee (or nominee(s)); and all rights and powers to file any corresponding or equivalent applications in any and all countries, including all rights to claim priority under all United States domestic laws, International Convention(s) and Treaties in the name of Assignee, and do hereby authorize Assignee or its designee to insert here the Priority Number, Filing Date, and Filing Country

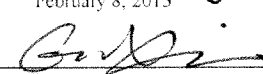
Priority Number	Filing Date	Filing Country
13/762,749	February 8, 2013	United States of America

of the application, on which the claim for priority will be based; and in and to any Letters Patent that may be issued for the invention in any and all countries. I/we do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications derived from, corresponding to or equivalent to the above identified application as Assignee may request.

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Subscribed and Declared by me/us:

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013
Signature: _____ Full Name: PHILLIP D. HUSTAD Residence: 3618 Rose Water Court Manvel, TX 77578 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: <u>Freeport, TX</u> this <u>14th</u> day of <u>February</u> , 20 13 Effective as of February 8, 2013
Signature:  Full Name: XINYU GU Residence: 127 Plantation Drive W 1602 Lake Jackson, TX 77566 Country: United States of America Citizenship: People's Republic of China P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013
Signature: _____ Full Name: ERIN B. VOGEL Residence: 617 Nakoma Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013
Signature: _____ Full Name: VALERIY V. GINZBURG Residence: 116 Revere Street Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

() Additional names and signatures are attached.

At: _____
this _____ day of _____, 20 13
Effective as of February 8, 2013

Signature: _____
Full Name: DANIEL J. MURRAY
Residence: 2902 Mt. Vernon Drive
Midland, MI 48642
Country: United States of America
Citizenship: United States of America
P.O. Address: Same as residence
Employed By: The Dow Chemical Company
Of Country: United States of America

At: _____
this _____ day of _____, 20 _____
Effective as of February 8, 2013

Signature: _____
Full Name: _____
Residence: _____
Country: _____
Citizenship: _____
P.O. Address: Same as residence
Employed By: _____
Of Country: _____

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FORM 110 (R 5/97)

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which invention was made and invented by me/us out of and in the course of my/our employment with my/our respective employers as stated below my/our name(s). I/we acknowledge that I/we hold the invention and all patent and other rights and powers obtainable or exercisable in respect thereof in trust for our respective employers. As trustee(s), and for good and valuable consideration and/or the remuneration received for my/our work, I/we sell, assign and transfer unto:

DOW GLOBAL TECHNOLOGIES LLC
2040 Dow Center
Midland, Michigan 48674
United States of America

a limited liability company organized and existing under the laws of the State of DELAWARE, U.S.A. (hereinafter referred to as the "Assignee"); my/our entire right, title and interest throughout the world, in and to the invention and all rights and powers to make applications, including provisional applications when permitted by law, for Letters Patent in its own name, or in the name of its designee (or nominee(s)); and all rights and powers to file any corresponding or equivalent applications in any and all countries, including all rights to claim priority under all United States domestic laws, International Convention(s) and Treaties in the name of Assignee, and do hereby authorize Assignee or its designee to insert here the Priority Number, Filing Date, and Filing Country

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13/762,749	February 8, 2013	United States of America


of the application, on which the claim for priority will be based; and in and to any Letters Patent that may be issued for the invention in any and all countries. I/we do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications derived from, corresponding to or equivalent to the above identified application as Assignee may request.

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Signature: _____ Full Name: XINYU GU Residence: 127 Plantation Drive W 1602 Lake Jackson, TX 77566 Country: United States of America Citizenship: People's Republic of China P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: <u>Midland, MI 48674</u> this <u>18</u> day of <u>February</u> , 20 13 Effective as of February 8, 2013
Signature:  Full Name: ERIN B. VOGEL Residence: 3112 Camberley Ln Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013
Signature: _____ Full Name: VALERIY V. GINZBURG Residence: 116 Revere Street Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

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At: _____
 this _____ day of _____, 20 13
 Effective as of February 8, 2013

Signature: _____
 Full Name: DANIEL J. MURRAY
 Residence: 2902 Mt. Vernon Drive
 Midland, MI 48642
 Country: United States of America
 Citizenship: United States of America
 P.O. Address: Same as residence
 Employed By: The Dow Chemical Company
 Of Country: United States of America

At: _____
 this _____ day of _____, 20 _____
 Effective as of February 8, 2013

Signature: _____
 Full Name: _____
 Residence: _____
 Country: _____
 Citizenship: _____
 P.O. Address: Same as residence
 Employed By: _____
 Of Country: _____

At: _____
this _____ day of _____, 20 13
Effective as of February 8, 2013

Signature: _____
Full Name: DANIEL J. MURRAY
Residence: 2902 Mt. Vernon Drive
Midland, MI 48642
Country: United States of America
Citizenship: United States of America
P.O. Address: Same as residence
Employed By: The Dow Chemical Company
Of Country: United States of America

At: _____
this _____ day of _____, 20 _____
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Signature: _____
Full Name: _____
Residence: _____
Country: _____
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P.O. Address: Same as residence
Employed By: _____
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 FORM 110 (R 5/97)

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(with Priority Rights)

I/we verily believe I am/we are the original, first and sole/joint inventor(s) of the subject matter which is embraced by and for which a patent is sought on the invention entitled: **Block Copolymer Composition And Methods Relating Thereto**

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DOW GLOBAL TECHNOLOGIES LLC
 2040 Dow Center
 Midland, Michigan 48674
 United States of America

a limited liability company organized and existing under the laws of the State of DELAWARE, U.S.A. (hereinafter referred to as the "Assignee"); my/our entire right, title and interest throughout the world, in and to the invention and all rights and powers to make applications, including provisional applications when permitted by law, for Letters Patent in its own name, or in the name of its designee (or nominee(s)); and all rights and powers to file any corresponding or equivalent applications in any and all countries, including all rights to claim priority under all United States domestic laws, International Convention(s) and Treaties in the name of Assignee, and do hereby authorize Assignee or its designee to insert here the Priority Number, Filing Date, and Filing Country

Priority Number	Filing Date	Filing Country
137762,749	February 8, 2013	United States of America

of the application, on which the claim for priority will be based; and in and to any Letters Patent that may be issued for the invention in any and all countries. I/we do hereby agree to assist Assignee in the prosecution of the application(s) and in any interference, conflict, opposition or litigation which may arise involving the invention or the patent or patents thereon, and to execute for any and all countries any document relating to applications derived from, corresponding to or equivalent to the above identified application as Assignee may request.

I/we authorize Assignee or its designee to translate this Assignment into all languages necessary; and we request that any such Letters Patent be issued to Assignee; and consent to the recording of this Assignment, or a Notarial True Copy thereof, being under covenant not only that I/we have full power to make the same, but also that such assigned rights are not encumbered by any grant, license, or other right heretofore given.

Subscribed and Declared by me/us:

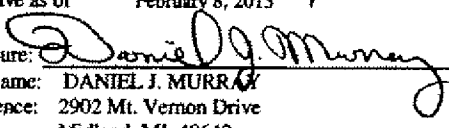
At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013 Signature: _____ Full Name: PHILLIP D. HUSTAD Residence: 3618 Rose Water Court Manvel, TX 77578 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013 Signature: _____ Full Name: XINYU GU Residence: 127 Plantation Drive W 1602 Lake Jackson, TX 77566 Country: United States of America Citizenship: People's Republic of China P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America
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At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013 Signature: _____ Full Name: ERIN B. VOGEL Residence: 617 Nakoma Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America

At: _____ this _____ day of _____, 20 13 Effective as of February 8, 2013 Signature: _____ Full Name: VALERIY V. GINZBURG Residence: 116 Revere Street Midland, MI 48640 Country: United States of America Citizenship: United States of America P.O. Address: Same as residence Employed By: The Dow Chemical Company Of Country: United States of America
--

() Additional names and signatures are attached.

At: Midland, MI 2/14/2013
 this 14 day of February, 20 13
 Effective as of February 8, 2013
 Signature: 
 Full Name: DANIEL J. MURRAY
 Residence: 2902 Mt. Vernon Drive
 Midland, MI 48642
 Country: United States of America
 Citizenship: United States of America
 P.O. Address: Same as residence
 Employed By: The Dow Chemical Company
 Of Country: United States of America

At: _____
 this _____ day of _____, 20 ____
 Effective as of February 8, 2013
 Signature: _____
 Full Name: _____
 Residence: _____
 Country: _____
 Citizenship: _____
 P.O. Address: Same as residence
 Employed By: _____
 Of Country: _____

ASSIGNMENT

WHEREAS, I, Peter Trefonas of Medway, Massachusetts; and I, Shih-Wei Chang of Natick, Massachusetts; (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "**Block Copolymer Composition And Methods Relating Thereto**", for which an application for United States Letters Patent with the same title was filed with the United States Patent and Trademark Office on February 8, 2013 and assigned United States Non-Provisional Patent Application Serial No. 13/762,749; and

WHEREAS, Rohm and Haas Electronic Materials LLC, located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefore, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

The Assignors also hereby grant the Patent Law Department of Rohm and Haas Electronic Materials LLC the power to insert on this Assignment any further identification that may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Effective from the date of:

	Signatures	Date
1.	<u>Peter Trefonas</u> Peter Trefonas	<u>14 February 2013</u>
2.	<u>Shih-Wei Chang</u> Shih-Wei Chang	<u>2/18/2013</u>