

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
Michael A. Brammer	01/04/2010
RECEIVING PARTY DATA	
Name:	Union Carbide Chemicals & Plastics Technology LLC
Street Address:	2020 Dow Center
City:	Midland
State/Country:	MICHIGAN
Postal Code:	48674
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	13260572
CORRESPONDENCE DATA	
Fax Number:	9896363237
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
Phone:	9896360618
Email:	roedel@dow.com
Correspondent Name:	Matthew Roedel
Address Line 1:	2040 Dow Center
Address Line 4:	Midland, MICHIGAN 48674
ATTORNEY DOCKET NUMBER:	68179-US-PCT
NAME OF SUBMITTER:	Matthew Roedel
Signature:	/Matthew Roedel/
Date:	07/17/2013
Total Attachments: 3 source=68179-US-PCT 20130717 PDH Inventors to Union Carbide#page1.tif source=68179-US-PCT 20130717 PDH Inventors to Union Carbide#page2.tif source=68179-US-PCT 20130717 PDH Inventors to Union Carbide#page3.tif	

CH \$40.00 13260572

[illegible]

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

FORM 110 (R 5/97)

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: **HYDROFORMYLATION PROCESS WITH A DOUBLY OPEN-ENDED BISPHOSPHITE LIGAND**

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;

Union Carbide Chemicals & Plastics Technology LLC  
2020 Dow Center  
Midland, Michigan 48674  
United States of America

a limited liability company organized and existing under the laws of the State of Delaware (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
61/165,039	March 31, 2009	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; and I/we do hereby authorize Assignee or its designee (or nominee(s)) to *insert here any corresponding equivalent Application Number, Filing Date, and Filing Country*

Application Number	Filing Date	Filing Country

to the above Priority application of any country where that country's patent property must be identified and entered hereinabove for recordal of this Assignment. 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: Freeport, Texas 77541, USA  
 this 4th day of JANUARY, 20 10  
 Effective as of March 31, 2009

Signature: Michael A. Brammer  
 Full Name: Michael A. Brammer  
 Residence: 53 Southernwood Court  
 Lake Jackson, Texas 77566  
 Country: United States of America  
 Citizenship: United States of America  
 P.O. Address: Same as residence  
 Employed By: Union Carbide Corporation  
 Of Country: United States of America

At: \_\_\_\_\_  
this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

Signature: \_\_\_\_\_

Full Name: \_\_\_\_\_

Residence: \_\_\_\_\_

Country: \_\_\_\_\_

Citizenship: \_\_\_\_\_

P.O. Address: \_\_\_\_\_

Employed By: \_\_\_\_\_

Of Country: \_\_\_\_\_

At: \_\_\_\_\_  
 this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_  
 Signature: \_\_\_\_\_  
 Full Name: \_\_\_\_\_  
 Residence: \_\_\_\_\_  
 Country: \_\_\_\_\_  
 Citizenship: \_\_\_\_\_  
 P.O. Address: \_\_\_\_\_  
 Employed By: \_\_\_\_\_  
 Of Country: \_\_\_\_\_

At: \_\_\_\_\_  
this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_  
  
Signature: \_\_\_\_\_  
Full Name: \_\_\_\_\_  
Residence: \_\_\_\_\_  
  
Country: \_\_\_\_\_  
Citizenship: \_\_\_\_\_  
P.O. Address: \_\_\_\_\_  
Employed By: \_\_\_\_\_  
Of Country: \_\_\_\_\_

( ) Additional names and signatures are attached.

[illegible]

FORM 660

WE, the ASSIGNEE: **UNION CARBIDE CHEMICALS & PLASTICS TECHNOLOGY LLC**  
**2020 Dow Center**  
**Midland, Michigan 48674**  
**United States of America**

this 14 day of January, 2010

**CHARLES J. MAURER III**  
Secretary

*Jane M. Hertz*  
Notary Public

*Jane M. Neitzel*  
NOTARY PUBLIC, BAY COUNTY, MICHIGAN  
ACTING Kalamazoo County, Michigan  
MY COMMISSION EXPIRES SEPTEMBER 26, 2013

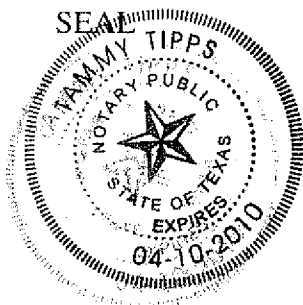
REEL: 030813 FRAME: 0744

## NOTARIAL CERTIFICATE (Individual)

UNITED STATES OF AMERICA     )  
STATE OF TEXAS                 ) SS  
County/Parish of Brazoria     )

On this 4 day of January, 2010, personally appeared before me,  
Michael A. Brammer

known or identified to me to be the individual described in and who executed the foregoing document and acknowledged the same as a free act and deed for uses and purposes therein expressed.



Tammy Jpps