

PATENT ASSIGNMENT

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>PAUL JOSEPH FAGAN</td> <td>02/29/2012</td> </tr> <tr> <td>THOMAS G. CALVARESE</td> <td>02/29/2012</td> </tr> <tr> <td>RONALD JAMES DAVIS</td> <td>02/29/2012</td> </tr> <tr> <td>RONNIE OZER</td> <td>02/29/2012</td> </tr> </tbody> </table>		Name	Execution Date	PAUL JOSEPH FAGAN	02/29/2012	THOMAS G. CALVARESE	02/29/2012	RONALD JAMES DAVIS	02/29/2012	RONNIE OZER	02/29/2012		
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<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>PCT Number:</td> <td>US1048369</td> </tr> </tbody> </table>		Property Type	Number	PCT Number:	US1048369								
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PCT Number:	US1048369												
CORRESPONDENCE DATA													
<p>Fax Number: (302)355-3982</p> <p>Phone: 302-992-2973</p> <p>Email: CAROL.A.REEDER@USA.DUPONT.COM</p> <p><i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i></p> <p>Correspondent Name: KEVIN S. DOBSON</p> <p>Address Line 1: 4417 LANCASTER PIKE</p> <p>Address Line 2: BARLEY MILL PLAZA 25</p> <p>Address Line 4: WILMINGTON, DELAWARE 19809</p>													
ATTORNEY DOCKET NUMBER:	CL4605USPCT												
NAME OF SUBMITTER:	CAROL REEDER												
<p>Total Attachments: 1</p> <p>source=CL4605USPCT_SignedAssignment#page1.tif</p>													

CH \$40.00 US1048369

PATENT

ASSIGNMENT

We, the undersigned

PAUL JOSEPH FAGAN, THOMAS G. CALVARESE,
RONALD JAMES DAVIS, RONNIE OZER

Hereby declare that

We are the true and first inventors of an invention entitled

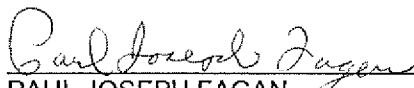
CONVERSION OF ETHANOL TO A REACTION PRODUCT COMPRISING 1-BUTANOL USING HYDROXYAPATITE CATALYSTS

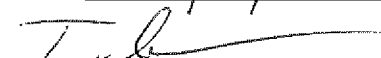
which is disclosed in the United States Patent Application No. PCT/US10/48369 filed on September 10, 2010 and which is identified as Case Number CL4605USPCT.

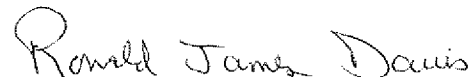
For valuable consideration, the receipt and adequacy of which is hereby acknowledged and in fulfillment of our pre-existing obligation of assignment, we hereby:


I. Sell, assign, and transfer unto E. I. DU PONT DE NEMOURS AND COMPANY, a corporation organized and existing under the laws of the State of Delaware in the United States of America and having its principal place of business at Wilmington, Delaware, hereinafter referred to as the assignee, (A) the sole and entire right, title, and interest in and to: (1) the aforesaid application for Letters Patent, (2) any priority rights derived from the aforesaid application for Letters Patent by virtue of the International Convention for the Protection of Industrial Property and any other treaty or understanding for intellectual property for any and all member countries of the aforesaid International Convention or other treaty or understanding, (3) any and all our inventions, whether joint or sole, disclosed in the aforesaid application for Letters Patent, (4) any and all applications for Letters Patent for any such inventions in any country whatsoever, (5) any and all patents for any such inventions in any country whatsoever; and (B) the sole right to (1) file such applications in its name or ours, (2) file such applications under the aforesaid International Convention or other treaty or understanding, (3) have said patents granted in its name or ours, and (4) enforce said patents and to sue for and recover profits and damages for any and all infringements thereof whether past or future; and

II. Agree, whenever requested, to communicate to said assignee, its successors, assigns, and legal representatives, any facts known to us respecting said rights, to testify in any legal proceeding respecting said rights, to execute all applications, papers or instruments necessary or required by said assignee, its successors, assigns and legal representatives, to carry into effect any of the provisions of this instrument, and generally to do everything possible to aid said assignee, its successors, assigns, and legal representatives to obtain and enforce proper patent protection for said inventions in any and all countries.

 (L.S.)
PAUL JOSEPH FAGAN
DATE: 02/29/2012

 (L.S.)
THOMAS G. CALVARESE
DATE: 2/29/2012

 (L.S.)
RONALD JAMES DAVIS
DATE: 2/29/2012

 (L.S.)
RONNIE OZER
DATE: 2/29/2012