505679104 09/18/2019

# PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5725912

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
JOHN J. SENETAR	10/27/2016
JOSEPH G. DUFF	10/19/2016
JILLIAN M. HORN	10/21/2016
CLIFFORD A. MAAT	10/19/2016
MICHAEL O. NUTT	10/19/2016

#### **RECEIVING PARTY DATA**

Name:	UOP LLC
Street Address:	25 EAST ALGONQUIN ROAD
City:	DES PLAINES
State/Country:	ILLINOIS
Postal Code:	60017-5017
Name:	TPC GROUP LLC
Street Address:	ONE ALLEN CENTER
Internal Address:	500 DALLAS STREET
City:	HOUSTON
State/Country:	TEXAS
Postal Code:	77002

#### **PROPERTY NUMBERS Total: 2**

Property Type	Number
Application Number:	15968914
PCT Number:	US2016060647

#### CORRESPONDENCE DATA

**Fax Number:** (312)360-9315

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: 3123600080

Email: rlyons@gbc.law

Correspondent Name: PATRICIA L. PRIOR

Address Line 1: 300 SOUTH WACKER DRIVE

Address Line 2: SUITE 2500

505679104 REEL: 050420 FRAME: 0196

PATENT

Address Line 4: CHI	CAGO, ILLINOIS 60606
ATTORNEY DOCKET NUMBER:	H0047696-US-2,PCT(125063)
NAME OF SUBMITTER:	PATRICIA L. PRIOR
SIGNATURE:	/Patricia L. Prior/
DATE SIGNED:	09/18/2019
Total Attachments: 10	
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Honeywell Docket No. H0047696-01

**WHEREAS**, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") has invented new and useful improvements in:

# HEAT RECOVERY IN THE PROCESS OF PRODUCTION OF BUTADIENE

for which application for patent in the United States:
has been executed on even date herewith;
was executed on;
X was filed on 11/06/2015 and assigned U.S. Application No. 62/252,131 ; was filed on and assigned U.S. Application No;
AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;
<b>AND WHEREAS</b> , UOP LLC, a Delaware Limited Liability Company having a place of business at 25 East Algonquin Road, Des Plaines, IL 60017-5017, its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;
<b>NOW, THEREFORE,</b> for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;
<b>AND ASSIGNOR FURTHERMORE</b> authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;
AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned
This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.  If any provision of this assignment is held by any court to be unenforceable, such provision shall be
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This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.  If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.  This assignment shall be construed, governed, interpreted and applied in accordance with the laws of

Honeywell Docket No. H0047696-01

**EXECUTED o**n behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Maryann Maas

Assistant Secretary - Patent

**UOP LLC** 

**EXECUTED** as of the date(s) set forth below on behalf of the ASSIGNOR:

John J. Sénetar	Date:	10/27/16
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PCT Application No. \_\_\_\_\_ filed \_\_\_\_

(Rev.03/20/2012)

WHEREAS, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") has invented new and useful improvements in:

HEAT RECOVERY IN THE PROCESS OF PRODUCTION OF BUTADIENE
for which application for patent in the United States:
has been executed on even date herewith;
was executed on;
was filed on and assigned U.S. Appl. No;
AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;
AND WHEREAS, TPC Group LLC, a Texas Limited Liability Company having a place of business at One Allen Center, 500 Dallas Street, Suite 1000, Houston, Texas 77002 its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;
NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;
AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;
AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.
This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.
If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.
This assignment shall be construed, governed, interpreted and applied in accordance with the laws of the State of Texas, United States of America.
PCT Application No filed (Rev.03/20/2012)

# **ASSIGNMENT**

Page 2 of 2

sign

EXECUTED on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR ature(s) below:
Name: Peggy Macatangay
Title: Direction of Engineering and Technology
TPC Group LLC
EXECUTED as of the date(s) set forth below on behalf of the ASSIGNOR:  Date: 10/19/2016  Joseph J. Duff

(Rev.03/20/2012)

### **ASSIGNMENT**

Honeywell Docket No. H0047696 Honeywell Clocket No. H0047696-01 Page 1 of 2

WHEREAS, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") has invented new and useful improvements in:

### HEAT RECOVERY IN THE PROCESS OF PRODUCTION OF BUTADIENE

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for which application for patent in the United States:
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was executed on;
X was filed on 11/06/2015 and assigned U.S. Appl. No. 62/252,131;
was filed on and assigned U.S. Appl. No
AND WHEREAS, the "Assigned Property" shall mean (i) the above-identified United States application for patent (the "Application"), (ii) all inventions disclosed in the Application, (iii) any and all applications for patent throughout the world directed to the subject matter of the Application, (iv) the right of priority arising from the Application or from such other applications, under the Paris Convention for the Protection of Industrial Property or under relevant laws, treaties, conventions or bilateral and multilateral agreements, in any jurisdiction, (v) any and all patents throughout the world resulting from the Application or such other application(s) for patents, and (vi) any and all claims against third parties in connection with any of the rights assigned by this Agreement;
AND WHEREAS, TPC Group LLC, a Texas Limited Liability Company having a place of business at One Allen Center, 500 Dallas Street, Suite 1000, Houston, Texas 77002 its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;
NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment:
AND ASSIGNOR FURTHERMORE authorizes ASSIGNEE, or anyone it may properly designate, to insert on each page of this instrument (where indicated) the filing date and application number of said Application when known;
AND ASSIGNOR AGREES, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, but at no expense to ASSIGNOR, that ASSIGNOR or ASSIGNOR'S heirs, executors, or administrators will provide all reasonable assistance to obtain, maintain, and assert the fullest measure of legal protection that ASSIGNEE desires to obtain or assert for the Assigned Property, including executing any and all papers desired by ASSIGNEE for the filing and granting of patent rights in the Assigned Property, the perfecting of title in ASSIGNEE, and in enforcing any rights in the Assigned Property.  This instrument is executed by, and shall be binding upon ASSIGNOR, and ASSIGNOR's heirs, executors and administrators, for the uses and purposes above set forth and referred to and shall inure to the benefit of ASSIGNEE or anyone it may properly designate.
If any provision of this assignment is held by any court to be unenforceable, such provision shall be interpreted to accomplish the objectives of the original provision to the fullest extent allowed by law and the remainder of this assignment shall remain in full force and effect.
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PCT Application Nofiled
(Rev.03/20/2012)

## **ASSIGNMENT**

Page 2 of 2

**EXECUTED** on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Name: Peggy Macatangay		
Title: Direction of Engineering and Technology		
TPC Group LLC		
EXECUTED as of the date(s) set forth below on behalf of th	. ಆರಂಭಿಸಿಗಳು	
& .		
Milan M. Hom	Date: 2101+2016	
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PCT Application No. \_\_\_\_\_\_ filed \_\_\_\_\_

(Rev.03/20/2012)

WHEREAS, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") has invented new and useful improvements in:

### HEAT RECOVERY IN THE PROCESS OF PRODUCTION OF BUTADIENE

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was executed on;
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AND WHEREAS, TPC Group LLC, a Texas Limited Liability Company having a place of business a One Allen Center, 500 Dallas Street, Suite 1000, Houston, Texas 77002 its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;
NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;
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PCT Application No filed
(Rev.03/20/2012)

# **ASSIGNMENT**

Page 2 of 2

EXECUTED on behalf of ASSIGNEE and effective as of the signature(s) before:	latest date of the ASSIGNOR
Name: Peggy Macatangay	
Title: Direction of Engineering and Technology	
TPC Group LLC	
EXECUTED as of the date(s) set forth below on behalf of the	ASSIGNOR:
Clifford a. Maat	Date: 19 October 2016
Cillord A. Mizat	
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	*

PCT Application No. \_\_\_\_\_\_\_filed \_\_\_\_\_

(Rev.03/20/2012)

PATENT

REEL: 050420 FRAME: 0205

WHEREAS, the undersigned inventor(s) (hereinafter individually and collectively referred to as "ASSIGNOR") has invented new and useful improvements in:

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AND WHEREAS, TPC Group LLC, a Texas Limited Liability Company having a place of business at One Allen Center, 500 Dallas Street, Suite 1000, Houston, Texas 77002 its successors and assigns (hereinafter individually and collectively referred to as "ASSIGNEE"), is desirous of acquiring ASSIGNOR's entire right, title, and interest in and to and resulting from said Assigned Property and in general all property rights included therein;	
NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR does hereby irrevocably and unconditionally assign and transfer unto ASSIGNEE ASSIGNOR's entire right, title and interest in and to and resulting from the Assigned Property, and hereby authorizes and requests the Commissioner of Patents to issue said patent to ASSIGNEE for the sole use and benefit of ASSIGNEE; ASSIGNEE hereby accepts such transfer and assignment;	
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PCT Application Nofiled	
(Rev.03/20/2012)	

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Page 2 of 2

**EXECUTED** on behalf of ASSIGNEE and effective as of the latest date of the ASSIGNOR signature(s) below:

Name: Peggy Magatangay

Title: Direction of Engineering and Technology

TPC Group LLC

**EXECUTED** as of the date(s) set forth below on behalf of the ASSIGNOR:

Date: 10/19/16

PCT Application No. filed

(Rev.03/20/2012)

**PATENT** 

REEL: 050420 FRAME: 0207

**RECORDED: 09/18/2019**