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PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT	ASSIGNMENT	
CONVEYING PARTY I	ΟΑΤΑ			
		Name		Execution Date
XIAOLIANG GAO				07/10/2019
MARIE BARNES				07/11/2019
VASILY SIMANZHENK			07/10/2019	
ELENA SEBASTIAO				07/10/2019
DAVID SULLIVAN				07/10/2019
OONHEE KIM				07/10/2019
RECEIVING PARTY D	ΔΤΔ			
Name:		NOVA CHEMICALS (INTERNATIONAL) S.A.		
Street Address:	AVEN	AVENUE DE LA GARE 14		
City:	FRIBO	FRIBOURG		
State/Country:	SWITZ	SWITZERLAND		
Postal Code:	1700	a contraction of the second		
Property Type		Number		
Application Number:		16515105		
CORRESPONDENCE	DATA			
Fax Number:		(412)490-4359		
		o the e-mail address first; if that is		
using a fax number, h Phone:	r proviae	d; if that is unsuccessful, it will be 412-490-4323	sent via U	S Mall.
Email:		Karen.Lockhart@novachem.com		
Correspondent Name	:	NOVA CHEMICALS INC./KAREN S.	LOCKHAI	RT
		1555 CORAOPOLIS HEIGHTS ROAD		
•		MOON TOWNSHIP, PENNSYLVANIA 15108		
Address Line 1:		MOON TOWNSHIP, PENNSYLVAN	A 15108	
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Address Line 1: Address Line 4: ATTORNEY DOCKET N		· · · · · · · · · · · · · · · · · · ·	A 15108	
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Total Attachments: 5

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ASSIGNMENT

WHEREAS:

Xiaoliang Gao, a Canadian citizen residing at 811 Edgemont Road NW, Calgary, Alberta, Canada, T3A 2J1;

Marie Barnes, a Canadian citizen residing at 154 Rocky Ridge Point N.W., Calgary, Alberta, Canada, T3G 4R5;

Vasily Simanzhenkov, a Canadian citizen residing at 484 Rocky Ridge Drive NW, Calgary, Alberta, Canada, T3G 5C3;

Elena Sebastiao, a Canadian citizen residing at 204 Dalcastle Court NW, Calgary, Alberta, Canada, T3A2A7;

David Sullivan, a Canadian citizen residing at 534 – 28th Avenue NW, Calgary, Alberta, Canada, T2M 2K8; and

Yoonhee Kim, a Canadian citizen residing at #3207, 95 Burma Star Road S.W. Calgary, Alberta, Canada, T3E 8A9,

have invented subject matter described and claimed in an application for patent entitled:

"CATALYSTS FOR THE OXIDATIVE DEHYDROGENATION OF ALKANES"

filed in the ______Office on _____, and assigned application number ______, ("the Invention");

NOW THEREFORE, in consideration of one dollar (\$1.00), the receipt and sufficiency of which is hereby acknowledged, Xiaoliang Gao, Marie Barnes, Vasily Simanzhenkov, Elena Sebastiao, David Sullivan, and Yoonhee Kim, hereby:

- 1. Sell, assign and transfer, to NOVA Chemicals Corporation, a New Brunswick corporation having a head office at 1000 7th Avenue SW, Calgary, Alberta, Canada, T2P 5L5, its successors and assigns, all of their right, title and interest in and to the Invention in and for Canada, and in and to any and all Canadian patent applications that may be filed therefor, and all Canadian patents that may be issued therefor, including any and all divisionals, reissues and extensions thereof, together with the right to claim convention priority to the above-mentioned patent application, if applicable, which right, title and interest NOVA Chemicals Corporation accepts, and the right to enforce, pursue, collect, retain in NOVA Chemicals Corporation's name or otherwise, damages, an accounting of profits, an injunction and any other remedies arising from any past, present, or future infringement of the Invention, patent application or issued patent in Canada, and any other rights assigned by this assignment;
- 2. Sell, assign and transfer, to NOVA Chemicals (International) S.A., a corporation of Switzerland, having an office at Avenue de la Gare 14, 1700 Fribourg, Switzerland, its successors and assigns, all of their right, title and interest in and to the Invention in and for all countries of the world excluding Canada, and in and to any and all patent applications that may be filed therefor, and all patents that may be issued therefor, including any and all continuations, continuations-in-part, divisionals, reissues, and extensions thereof, in and for all countries of the world excluding Canada, together with the right to claim convention priority to the above-mentioned patent application for all patent applications and patents in and for all countries of the world excluding Canada, if applicable, which right, title and interest NOVA Chemicals (International) S.A. accepts, and the right to enforce, pursue, collect, retain in NOVA Chemicals (International) S.A.'s name or otherwise, damages, an accounting of profits, an injunction and any other remedies arising from any past, present, or future infringement of the Invention, patent application or issued patent in all countries of the world excluding canada application or issued patent in all countries of the world excluding patent application or issued patent in all countries of the world excluding canada, and any other remedies arising from any past, present, or future infringement of the Invention, patent application or issued patent in all countries of the world excluding canada, and any other remedies arising from any past, present, or future infringement of the Invention, patent application or issued patent in all countries of the world excluding canada, and any other rights assigned by this assignment;

3. Agree that they will, when requested, without charge, sign all papers, take all oaths, make all declarations and do all acts which may be necessary, desirable or convenient for securing and maintaining patents or other forms of protection for the Invention in any and all



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countries and for vesting title in NOVA Chemicals Corporation or NOVA Chemicals (International) S.A., as the case may be, or their respective successors and assigns;

- 4. Authorize NOVA Chemicals Corporation, or NOVA Chemicals (International) S.A., as the case may be, to insert into this assignment the filing date and application number of the above mentioned application, when known, together with any further or additional identification which may be necessary or desirable to effect recordation of this assignment in any country;
- 5. Confirm that this assignment shall be binding upon, and enure to the benefit of, the heirs, executors, administrators, successors and assigns of the parties hereto, respectively.
- 6. Agree that this assignment shall be governed by, construed in accordance with, and subject to, the laws of the province of Alberta, Canada.

SIGNED at the city of Calgary, Alberta, this 10 2019. dav WITNESS laolianα Gao

AFFIDAVIT OF EXECUTION

whose full post office address is c/o NOVA Chemicals Corporation, 2928 16 Street NE, Calgary, Alberta, Canada, T2E 7K7

MAKE OATH AND SAY:

That I was personally present and did see Xiaoliang Gao who is personally known to me to be the person named in this assignment duly sign and execute the same.

SWORN before me at the City of Calgary, in the Province of Alberta, this /1+/ day of 2019 2ta

im Pond.

A Notary Public in and for the Province of Alberta

Корең Нау, Lawyer

Robert Hay, Lawyer

SIGNED at the city of Calgary, Alberta, this	11 day of <u>July</u> , 2019.
Man	Hum Brol-
Marie Barnes	WITNESS

AFFIDAVIT OF EXECUTION

I, <u>*Y*(*W*)</u>, whose full post office address is c/o NOVA Chemicals Corporation, 2928 – 16 Street NE, Calgary, Alberta, Canada, T2E 7K7

MAKE OATH AND SAY:

That I was personally present and did see Marie Barnes who is personally known to me to be the person named in this assignment duly sign and execute the same.

SWORN before me at the City of Calgary, in the Province of Alberta, this <u>Ilt</u> day of kulu), 2019 A Notary Public in and for the Province of Alberta Robert Hay, Lawyer SIGNED at the city of Calgary, Alberta, this 10 2019. day of WITNESS Vasily Simanzhenkov AFFIDAVIT OF EXECUTION whose full post office address is c/o NOVA Chemicals Corporation, 2928 - 16 Street NE, Calgary, Alberta, Canada, T2E 7K7 MAKE OATH AND SAY: That I was personally present and did see Vasily Simanzhenkov who is personally known to me to be the person named in this assignment duly sign and execute the same. SWORN before me at the City

of Calgary, in the Province of Alberta, this $\underline{///L}$ day of

2019

A Notary Public in and for the Province of Alberta

Robert Hay, Lawyer

	10 mm Tulut 2010
SIGNED at the city of Calgary, Alberta, this	10 day of <u>July</u> , 2019.
E-Solat	Him And.
Elena Sebastiao	WITNESS

AFFIDAVIT OF EXECUTION

I, <u>find</u>, whose full post office address is c/o NOVA Chemicals Corporation, 2928 – 16 Street NE, Calgary, Alberta, Canada, T2E 7K7

MAKE OATH AND SAY:

That I was personally present and did see **Elena Sebastiao** who is personally known to me to be the person named in this assignment duly sign and execute the same.

SWORN before me at the City of Calgary, in the Province of Alberta, this <u>11</u> day of in Hono). 2019 i)alu A Notary Public in and for the Province of Alberta Robert Hay, Lawyer 10 _day of __ SIGNED at the city of Calgary, Alberta, this _ 2019. NESS David Şullivan AFFIDAVIT OF EXECUTION

whose full post office address is c/o NOVA Chemicals Corporation, 2928 - 16 Street NE, Calgary, Alberta, Canada, T2E 7K7

)

MAKE OATH AND SAY:

That I was personally present and did see **David Sullivan** who is personally known to me to be the person named in this assignment duly sign and execute the same.

SWORN before me at the City of Calgary, in the Province of Alberta, this //// day of hula , 2019

A Notary Public in and for the Province of Alberta

Robert Hay, Lawyer

in Pona

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SIGNED at the city of Calgary, Alberta, this $\frac{10}{10}$	day of July, 2019.
ULLA	1 in Prod
Yoonhee Kim	witness

AFFIDAVIT OF EXECUTION

I, <u>((M) K) (d</u>, whose full post office address is c/o NOVA Chemicals Corporation, 2928 – 16 Street NE, Calgary, Alberta, Canada, T2E 7K7

MAKE OATH AND SAY:

That I was personally present and did see **Yoonhee Kim** who is personally known to me to be the person named in this assignment duly sign and execute the same.

day of <u>July</u>

_, 2019.

SWORN before me at the City of Calgary, in the Province of Alberta, this $\underline{f_{++}}$ day of 2019 \mathcal{Q}

A Notary Public in and for the Province of Alberta Robert Hay, Lawyer

SIGNED at the city of Calgary, Alberta, this /

NOVA Chemical Corporation By: Umesh Karnik I have authority to bind the corporation

Kim Pond WITNESS

SIGNED at the city of Calgary, Alberta, this $\prod_{m=1}^{m} day$ of \underline{July} _, 2019.

NOVA Chemica(s (International) S.A. By: Carolyn Hoff I have authority to bind the corporation

Kim Pond WITNESS