

Señor Director
DIRECCION DE NUEVAS CREACIONES
Superintendencia de Industria y Comercio
E. S. D.

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 13-285754- -00001-0000

Fecha: 2014-02-13 17:00:25 Dep. 2020 DIR.NUEVASCR
Tra. 11 PATENTEIYII Eve: 378 FASENACIONALI
Act. 444 RESPUESTAREQUE Folios: 15

Trámite : 011
Evento : 378
Actuación : 444

Referencia : Expediente No. 13.285.754
Asunto : Solicitud de patente para: **PROCESO PARA LA PRODUCCIÓN DE PROPENOS CLORADOS Y/O FLUORADOS**
Solicitante : **DOW AGROSCIENCES LLC**
Clase : C07C 017/020, C07C 017/026
Fecha de solicitud : 05 de diciembre de 2013

1. Yo, Luz Clemencia de PÁEZ, obrando como apoderada del solicitante en el asunto de la referencia, doy respuesta al comunicado del 13 de diciembre de 2013.

2. Mediante el comunicado del 13 de diciembre de 2013 se puso en conocimiento del solicitante que, teniendo en cuenta que el capítulo reivindicatorio presentado excede de diez reivindicaciones, es necesario cancelar la tasa establecida por cada reivindicación adicional presentada, de conformidad con lo dispuesto en la resolución de tasas vigente para la fecha de presentación de la solicitud.

Para dar respuesta al anterior requerimiento, informo a ese Despacho que mi representada ha modificado el capítulo reivindicatorio originalmente presentado y por tanto, acompaño con este escrito el nuevo capítulo reivindicatorio conformado por **10 reivindicaciones**, el correspondiente Formulario Único de Modificaciones y Correcciones y los comprobantes de pago por valor de \$128.000 por concepto de modificación de solicitud en trámite.

En consecuencia, solicito a ese Despacho tener en cuenta este nuevo capítulo reivindicatorio al momento de efectuar el correspondiente examen de patentabilidad.

"EXCELENCIA LEGAL EN UN MUNDO SIN FRONTERAS"

BOGOTÁ - Edificio Siski - Carrera 4 No. 72 - 35 - Tel. (57-1) 347 3611 - Fax (57-1) 211 8650 - Fax in U.S.A: (1-305) 675 7743 - COLOMBIA
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A B O G A D O S

3. Adicionalmente, presento junto con este memorial copia del Informe Preliminar Internacional sobre patentabilidad expedido en el trámite de la solicitud internacional PCT/US2012/039906, correspondiente a la presente fase nacional

4. Puesto que se han atendido a cabalidad las observaciones hechas por ese Despacho sobre la presente solicitud de patente, atentamente solicito que se continúe su tramitación.

Señor Director,


LUZ CLEMENCIA DE PÁEZ

C.C. No. 35.456.344 de Usaquén

T.P.A. 23.555


COLO-10975-0841-199-4
NCA\SCT\ID-260145\WPC10975
No. M-2014-260145\NCA

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DIRECCIÓN DE NUEVAS CREACIONES
MODIFICACIONES Y/O CORRECCIONES

1. Identificación del Trámite	
☐ Error material	☒ Modificación a una Solicitud en trámite
☒ Patente de Invención	
☐ Patente de Modelo de Utilidad	
☐ Registro de Diseño Industrial	
☐ Esquema de Trazado de Circuitos Integrados	

2. Datos del solicitante		
Persona Natural	☐	Persona Jurídica ☒
DOW AGROSCIENCES LLC		
Nombre o denominación / Nombre o razón social completa		
Nombre representante legal		
Tipo de empresa	Micro ☐	Pequeña ☐ Mediana ☐ Otra ☐
Documento de identificación:	☐ C.C.	☐ C.E. ☐ NIT ☐ Otro Número _____
Nacionalidad/País de constitución	Dirección y domicilio del titular	Ciudad
Estados Unidos de América	9330 Zionsville Road, Indianápolis, Indiana 46268, Estados Unidos de América	Indianápolis
Dirección electrónica		No. Fax
clientes@cavelier.com		2 11 86 50
		Número telefónico
		3 47 36 11

☐ Autorizo expresamente a la Superintendencia de Industria y Comercio para que todas las comunicaciones sean enviadas a través de la dirección de correo electrónico

3. Datos del apoderado:		
Apellidos y Nombre	Documento de identificación	Tarjeta profesional
De Páez Luz Clemencia	C.C. 35.456.344	T.P.A. 23.555
Dirección y domicilio		Ciudad
Carrera 4ª No. 72 –35		Bogotá
Dirección electrónica	No. Fax	Número telefónico
cavelier@cavelier.com	2 11 86 50	3 47 36 11
En caso de haber presentado poder general para asuntos que se adelanten ante la Delegatura de Propiedad Industrial, sírvase indicar el número de su radicación o protocolo de poder general		

4. Datos del trámite

Corrección:

Expediente No 13.285.754

Aparece

Debe ser

Modificación:

- ☒ **Modificación al capítulo reivindicatorio.**
Presento nuevo capítulo reivindicatorio compuesto por 10 reivindicaciones y pido respetuosamente que el examen de patentabilidad sea realizado sobre estas nuevas reivindicaciones presentadas. Respetuosamente manifiesto que a pesar de eliminar materia del pliego reivindicatorio originalmente presentado, mi representada no renuncia a la protección que pueda obtener sobre dicha materia y además se reserva el derecho de presentar una solicitud divisional que la contenga durante el trámite de la presente solicitud, beneficiándose de la fecha de prioridad inicialmente reivindicada.
- ☐ **Modificación al capítulo descriptivo.**
- ☐ **Modificación al resumen.**
- ☐ **Modificación a los dibujos.**

5. Anexos

- ☒ Comprobante de pago de la tasa para la presentación de la corrección y/o modificación por \$128.000.
- ☐ Poder, si fuere el caso.
- ☒ Documento que contiene las modificaciones o correcciones.

6. Firma

Nombre y apellidos

LUZ CLEMENCIA DE PAEZ

C.C. 35.456.344 DE Usaquén

Firma

LUZ CLEMENCIA DE PAEZ

Tarjeta Profesional 23.555

REIVINDICACIONES:

1. Un proceso de un solo paso para la producción de propenos clorados y/o fluorados que comprende: la reacción de i) un dicloroetileno o un clorofluoroetileno que tiene la fórmula $\text{CHCl}=\text{CHX}$ en donde X es Cl o F; y ii) un metano, clorometano, fluorometano o clorofluorometano que tiene la fórmula $\text{CH}_{(4-a)}\text{X}_a$, en donde a es 0-3, para proporcionar al menos un propeno clorado y/o fluorado.
2. El proceso de la reivindicación 1, en el que el propeno clorado y/o fluorado tiene la fórmula $\text{CHX}=\text{CH}-\text{CH}_{(3-a)}\text{X}_a$ en donde a es 0-3.
3. El proceso de la reivindicación 1, en el que el proceso se lleva a cabo a una temperatura menor a 600°C .
4. El proceso de la reivindicación 1, en el que el proceso se lleva a cabo a una presión ambiente o mayor.
5. El proceso de la reivindicación 1, en el que la reacción se lleva a cabo en la presencia de uno o más catalizador(es) y/o iniciador(es), y en donde el iniciador comprende tetracloruro de carbono, cloro, hexacloroetano, benzotricloruro, hexacloroacetona, o combinaciones de los mismos.
6. El proceso de la reivindicación 1, en el que el metano, clorometano, fluorometano o clorofluorometano y el cloroetileno o clorofluoroetileno se proporcionan en una relación de $\text{CH}_{(4-a)}\text{X}_a / \text{CHCl}=\text{CHX}$ mayor que o igual a 1.0.
7. El proceso de la reivindicación 6, en el que el reactor hace un mayor uso de un diluyente para reducir la temperatura dentro del reactor, en donde el diluyente comprende un diluyente inerte, $\text{CH}_{(4-a)}\text{X}_a$, HCl, o combinaciones de los mismos.

8. El proceso de la reivindicación 1, en el que el propeno clorado y/o fluorado comprende *cis/trans* 1,3-dicloropropeno.
9. El proceso de la reivindicación 8, en el que el cloruro de metilo y/o 1,2-dicloroetileno se genera para su uso en el proceso.
10. El proceso de la reivindicación 3, en el que la presión es mayor a 15 psia y el proceso se lleva a cabo en la presencia de un catalizador/iniciador, y la relación molar de $\text{CH}_{(4-a)}\text{X}_a$ / $\text{CHCl}=\text{CHX}$ es mayor a 1.0.

NCA\NCA\ID-260134\WPC10975

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800.176.089-2

- / -



RECIBO DE CAJA

No. 14 - 0014792

Bogotá D.C., Febrero 07 de 2014 - 12:42:08

RECIBIDO DE : CAVELIER ABOGADOS

NI 860.041.367

*** Soporte del Pago ***

TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	VR. PAGO
CONSIGNACION	BANCO DE BOGOTA	062754387	651470820	07/02/2014	3.761.000.00

*** Conceptos Pagados ***

CANT.	RENTISTICO	CONCEPTO	Vr. UNIDITARIO	Vr. CONCEPTO
1	50005-01-03 CAMBIO DE MODALIDAD Y MODIFICACIONES EN CREACION CORRECCION A SOLICITUD EN TRAMITE / MODIFICA		128.000.00	128.000.00
				\$128.000.00

SON: **CIENTO VEINTIOCHO MIL PESOS MONEDA CORRIENTE**

Responsable: _____

Recibo de Caja Aplicado al Expediente No. _____

CÓDIGO: 20975-844-199-4

Sede Centro: Carrera 13 No. 27 - 00 Pisos 3,4,5 y 10 Bogotá, D.C.- Colombia

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, Febrero 7 de 2014 - 12:42:11

PCT/US2012/039906 06.12.2013

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:
KIMBERLY S. JORDAHL
P.O. BOX 517
Willernie, MN 55090
USA

PCT

NOTIFICATION OF TRANSMITTAL OF
INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Rule 71.1)

Date of mailing
(day/month/year)

06 DEC 2013

Applicant's or agent's file reference

70255-WO-PCT

IMPORTANT NOTIFICATION

International application No.

PCT/US12/39906

International filing date (day/month/year)

30 May 2012 (30.05.2012)

Priority date (day/month/year)

08 June 2011 (08.06.2011)

Applicant

DOW AGROSCIENCES, LLC

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the *PCT Applicant's Guide*.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed invention is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the IPEA/ US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Medhanit Bahta

Telephone No. (571)272-1600

Form PCT/IPEA/416 (January 2004)

PCT/US2012/039906 06.12.2013

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 70255-WO-PCT	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US12/39906	International filing date (day/month/year) 30 May 2012 (30.05.2012)	Priority date (day/month/year) 08 June 2011 (08.06.2011)	
International Patent Classification (IPC) or national classification and IPC IPC: C07C 17/26(2006.01);C07C 17/20(2006.01) USPC: 570/159;570/160;570/237			
Applicant DOW AGROSCIENCES, LLC			
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☐ (sent to the applicant and to the International Bureau) a total of <u>0</u> sheets, as follows: ☐ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____ containing a sequence listing, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3bis of Annex C of the Administrative Instructions).			
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☐ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application			
Date of submission of the demand 02 April 2013 (02.04.2013)		Date of completion of this report 25 November 2013 (25.11.2013)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Medhanit Bahta Telephone No. (571)272-1600	

Form PCT/IPEA/409 (cover sheet) (July 2011)

PCT/US2012/039906 06.12.2013

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US12/39906

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b)).
 - ☐ publication of the international application (Rule 12.4(a)).
 - ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a) and (b)).

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☒ the description:
- pages 1-19 as originally filed/furnished
- pages* none received by this Authority on _____
- pages* none received by this Authority on _____
- ☒ the claims:
- pages 20-22 as originally filed/furnished
- pages* none as amended (together with any statement) under Article 19
- pages* none received by this Authority on _____
- pages* none received by this Authority on _____
- ☒ the drawings:
- pages 1/1 as originally filed/furnished
- pages* none received by this Authority on _____
- pages* none received by this Authority on _____

☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____

5. ☐ This report has been established:

- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
- ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.4bis) and 70.2(e)).

6. ☐ Supplementary international search report(s) from Authority(ies) _____ has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US12/39906

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☐ claims Nos. _____

because:

- ☐ the said international application, or the said claim Nos. _____ relate to the following subject matter which does not require an international preliminary examination (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. _____ are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. _____ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

- ☐ no international search report has been established for said claims Nos. _____

- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

- ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.
- ☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b) and 13ter.2.

- ☐ See Supplemental Box for further details

PCT/US2012/039906 06.12.2013

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US12/39906

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement			
Novelty (N)	Claims <u>11-13,15,16 and 22</u>		YES
	Claims <u>1-10,14 and 17-21</u>		NO
Inventive Step (IS)	Claims <u>none</u>		YES
	Claims <u>1-22</u>		NO
Industrial Applicability (IA)	Claims <u>1-22</u>		YES
	Claims <u>NONE</u>		NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US12/39906

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

V. 2. Citations and Explanations:

Claims 1-10, 14, and 17-21 lack novelty under PCT Article 33(2) as being obvious over US 2011/0083955 A1 to Tirtowidjojo, et al. (hereinafter 'Tirtowidjojo').

Regarding Claim 1, Tirtowidjojo discloses a one-step process for the production of chlorinated and/or fluorinated propenes (para (0051)), comprising:

reacting i) a dichloroethylene or a chlorofluoroethylene (para (0009)) having the formula $\text{CHCl}=\text{CHX}$ wherein X is Cl or F (para [0008]: see $\text{CHCl}=\text{CX}$.sub.2, wherein X is Cl or F.); and

ii) a methane (para (0008)), chloromethane (para (0008)), fluoromethane (para (0008)) or chlorofluoromethane (para (0008)) having the formula $\text{CH}(4-a)\text{X}_a$, wherein a is 0-3 (para [0008]: see CCl .sub.4-a-bCl.sub.aF.sub.b, wherein a is 0-3 and b is 0-3 and 4-a-b is greater than 0, wherein a is 0-3 and b is 0.), to provide at least one chlorinated and/or fluorinated propene (para [0008]: see the chlorinated or fluorinated propene may have the formula CCl .sub.cF.sub.2-c =CH-CH .sub.3-e-fCl.sub.eF.sub.f wherein c is 0-2, e is 0-3, and f is 0-3, and 3-c-f is greater than or equal to 0.). Although this reference does not teach the same compounds as claimed, the X substituent (Cl or F) in Tirtowidjojo and the instant claim is being displaced in the reaction with methane, chloromethane, fluoromethane or chlorofluoromethane, therefore, one of ordinary skill in the art would have been motivated to use the methods taught in Tirtowidjojo with a reasonable expectation of obtaining chlorinated and/or fluorinated propenes by reacting dichloroethylene or chlorofluoroethylene as claimed with methane, chloromethane, fluoromethane or chlorofluoromethane.

Regarding Claim 2, Tirtowidjojo further discloses that the chlorinated and/or fluorinated propene has the formula $\text{CHX}=\text{CH-CH}_2(3-a)\text{X}_a$ wherein a is 0-3 (para [0024]: see 1,1,3-trichloropropene, such that a is X is Cl and a is 2.).

Regarding Claim 3, Tirtowidjojo further discloses that the process carried out at a temperature of less than 600 degrees Centigrade (para (0011)).

PCT/US2012/039906 06.12.2013

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US12/39906

Supplemental Box

Regarding Claim 4, Tirtowidjojo further discloses that the process is carried out at a temperature of less than 500 degrees Centigrade (para (0011)).

Regarding Claim 5, Tirtowidjojo further discloses that the process is carried out at ambient pressure or greater (para (0029)).

Regarding Claim 6, Tirtowidjojo further discloses that the process is carried out at a pressure of greater than 200 psig (para (0029)).

Regarding Claim 7, Tirtowidjojo further discloses that the reaction is carried out in the presence of one or more catalyst(s) and/or initiator(s) (para (0032)).

Regarding Claim 8, Tirtowidjojo further discloses that the initiator comprises carbon tetrachloride (para (0035)), chlorine (para (0035)), hexachloroethane (para (0035)), benzotrichloride (para (0055)), hexachloroacetone (para (0035)) or combinations of these.

Regarding Claim 9, Tirtowidjojo further discloses that the methane (para (0008)), chloromethane (para (0008)), fluoromethane (para (0008)) or chlorofluoromethane (para (0008)) and the chloroethylene (para (0008)) or chlorofluoroethylene (para (0008)) are provided in a ratio of $\text{CH}(4\text{-a})\text{Xa} : \text{CHCl}=\text{CHX}$ of greater than or equal to 1.0 (para (0011)).

Regarding Claim 10, Tirtowidjojo further discloses that the reactor further makes use of a diluent to reduce the temperature within the reactor (para [0049]: see the adiabatic reactor. ... with the addition of a suitable diluents, such as inert diluents ... may be used to limit the adiabatic temperature rise ...), wherein the diluent comprises an inert diluent (para (0049)), $\text{CH}(4\text{-a})\text{Xa}$, HCl , or combinations of these.

Regarding Claim 14, Tirtowidjojo further discloses that the pressure is greater than 15 psia (para [0054]; Claim 13) and the process is carried out in the presence of a catalyst/initiator (para (0033)), and the molar ratio of $\text{CH}(4\text{-a})\text{Xa} : \text{CHCl}=\text{CHX}$ is greater than 1.0 (para (0046)).

Regarding Claim 17, Tirtowidjojo discloses a one-step process for the production of chlorinated propenes (para (0007)), comprising: reacting i) a dichloroethylene having the formula $\text{CHCl}=\text{CHCl}$ (para [0009]: see the chloroethylene comprising trans-1,2-dichloro.); and ii) a methane (para (0008)) or chloromethane (para (0008)) having the formula $\text{CH}(4\text{-a})\text{Cla}$, wherein a is 0-3 (para [0009]: see the chloromethanes ... which include trichloromethane, such that a is 3.), to provide at least one chlorinated propene (para (0010)).

Regarding Claim 18, Tirtowidjojo further discloses that the chlorinated propene has the formula $\text{CHCl}=\text{CHCH}(3\text{-a})\text{Cla}$ wherein a is 0-3 (para [0024]: see 1,1,3-trichloropropene, such that a is X is Cl and a is 2.).

Regarding Claim 19, Tirtowidjojo further discloses that the process carried out at a temperature of less than 600 degrees Centigrade (para (0011)).

Regarding Claim 20, Tirtowidjojo further discloses that the process is carried out at a pressure of greater than 200 psig (para (0029)).

Regarding Claim 21, Tirtowidjojo further discloses that the reaction is carried out in the presence of one or more catalyst(s) and/or initiator(s) (para (0032)).

Claims 15 and 16 lack an inventive step under PCT Article 33(3) as being obvious over Tirtowidjojo, in view of US 5,986,151 A (Van Der Puy).

Regarding Claim 15, Tirtowidjojo discloses the process of claim 1; but does not specifically disclose that the $\text{CHCl}=\text{CHX}$ and/or $\text{CH}(4\text{-a})\text{Xa}$ are recycled within the process. However, Van Der Puy discloses a process for the production of fluorinated propenes (col 2, ln 26-62), wherein a reactant is recycled in the reaction (col 2, ln 66 to col 3, ln 16; col 3, ln 5-16; col 4, ln 61-63; and col 5, ln 51-59: see, for example, the recycled $\text{CF}_3\text{CH}_2\text{CH}_2\text{F}$). To a person of ordinary skill in the art, it would have been obvious to recycle a reactant as taught by Van Der Puy with the reactants in the process for the production of chlorinated and/or fluorinated propenes as in Van Der Puy in order to reclaim valuable intermediaries and produce little waste (col 5, ln 57-67), because Tirtowidjojo and Van Der Puy are directed towards processes for the production of chlorinated and/or fluorinated propenes.

Regarding Claim 16, Tirtowidjojo further discloses that byproducts with boiling points in between $\text{CH}(4\text{-a})\text{Xa}$ and $\text{CHCl}=\text{CHX}$ are removed from the process by purging or distillation prior to recycling of $\text{CH}(4\text{-a})\text{Xa}$ and $\text{CHCl}=\text{CHX}$ (col 4, ln 61-63).

Claim 11 lacks an inventive step under PCT Article 33(3) as being obvious over Tirtowidjojo, in view of US 3,914,167 A to Ivy, et al. (hereinafter 'Ivy').

Regarding Claim 11, Tirtowidjojo further discloses that the chlorinated and/or fluorinated propene comprises cis/trans 1,3-dichloro, 1,3-fluoropropene and 1,3-dichloro, 1,3-difluoropropene (para (0027)); but does not specifically disclose cis/trans 1,3-dichloropropene. However, Ivy discloses a process for the production of cis/trans 1,3-dichloropropene (col 1, ln 46-61). To a person of

PCT/US2012/039906 06.12.2013

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US12/39906

Supplemental Box

ordinary skill in the art, it would have been obvious to produce the cis-trans 1,3-dichloropropene as taught by Ivy with the one-step process for the production of chlorinated and/or fluorinated propenes as in Tirtowidjojo in order to produce an intermediary in the purification of cis-1,3-dichloropropene (col 1, In 63 to col 2, In 21), because Tirtowidjojo and Ivy are directed towards process for the production of chlorinated and/or fluorinated propenes.

Claim 12, 13, and 22 lack an inventive step under PCT Article 33(3) as being obvious over Tirtowidjojo, in view of Ivy, and in further view of US 2008/0021229 A1 to Maughon, et al. (hereinafter 'Maughon').

Regarding Claim 12, Tirtowidjojo further discloses that the dichloroethylene or chlorofluoroethylene comprises cis-1,2-dichloro,2-fluoroethylene or that the chloroethylene comprises trans 1,2-dichloro (para (0009)) and the methane (para (0008)), chloromethane (para (0008)), fluoromethane (para (0008)) or chlorofluoromethane (para (0008)) comprises methyl chloride (para (0009)); but does not specifically disclose that the dichloroethylene or chlorofluoroethylene comprises cis/trans 1,2-dichloroethylene. However, Maughon discloses a process for reacting cis/trans 1,2-dichloroethylene (para (0004)-(0007), (0019), and (0037)) in the presence of methylene chloride (para (0035)).

To a person of ordinary skill in the art, it would have been obvious to substitute the 1,2-dichloroethylene intermediate reactant as taught by Maughon for the dichloroethylene or chlorofluoroethylene intermediate as in Tirtowidjojo in order to improve the cost of producing the desired chlorinated and/or fluorinated propenes, because Tirtowidjojo, Ivy, and Maughon are directed towards processes for reacting dichloroethylenes.

Regarding Claim 13, Maughon further teaches that the methyl chloride and/or 1,2-dichloroethylene are generated for use in the process (para (0005)).

Regarding Claim 22, Tirtowidjojo a one-step process for the production of 1,3-dichloropropenes comprising reacting a dichloroethylene or chlorofluoroethylene and methyl chloride (para (0023)) at a ratio of at least 1:1 (para (0033)), a temperature of less than 600 degrees Centigrade (para (0030)), and ambient pressure or higher (para (0046)); but does not specifically disclose that: - the dichloroethylene or chlorofluoroethylene is 1,2-dichloroethylene; or - the process provide a mixture of 1,3-dichloropropenes. However, regarding the mixture of 1,3-dichloropropenes, Ivy discloses a process for the production of cis/trans 1,3-dichloropropene (col 1, In 46-61). To a person of ordinary skill in the art, it would have been obvious to produce the cis-trans 1,3-dichloropropene as taught by Ivy with the one-step process for the production of chlorinated and/or fluorinated propenes as in Tirtowidjojo in order to produce an intermediary in the purification of cis-1,3-dichloropropene (col 1, In 63 to col 2, In 21), because Tirtowidjojo and Ivy are directed towards process for the production of chlorinated and/or fluorinated propenes. Further, regarding the 1,2-dichloroethylene, Maughon discloses a process for reacting cis/trans 1,2-dichloroethylene (para (0004)-(0007), (0019), and (0037)) in the presence of methylene chloride (para (0035)). To a person of ordinary skill in the art, it would have been obvious to substitute the 1,2-dichloroethylene intermediate reactant as taught by Maughon for the dichloroethylene or chlorofluoroethylene intermediate as in Tirtowidjojo in order to improve the cost of producing the desired chlorinated and/or fluorinated propenes, because Tirtowidjojo, Ivy, and Maughon are directed towards processes for reacting dichloroethylenes.

Claims 1-22 have industrial applicability as defined by PCT Article 33(4) because the subject matter could be made or used in industry.

Response to Arguments

Applicants present the following argument with respect to Tirtowidjojo. Applicants argue that the formula in Tirtowidjojo is $\text{CHCl}=\text{CX}$, sub.2 wherein each X can independently be Cl or F and in contrast the present application requires that one reactant have the formula $\text{CHCl}=\text{CHX}$, wherein each X can independently be Cl or F. Therefore, the applicants argue that the present specification requires the presence of a hydrogen on the second carbon atom of the instant claim whereas Tirtowidjojo requires either Cl or F at this position.

This argument has been considered but was not found persuasive for the following reasons:

The Examiner notes that Tirtowidjojo does not teach the same compounds as claimed, however, the same X substituent (Cl or F) in Tirtowidjojo and the instant claim is being displaced in the reaction with methane, chloromethane, fluoromethane or chlorofluoromethane, therefore, one of ordinary skill in the art would have been motivated to use the methods taught in Tirtowidjojo with a reasonable expectation of obtaining chlorinated and/or fluorinated propenes by reacting dichloroethylene or chlorofluoroethylene as claimed with methane, chloromethane, fluoromethane or chlorofluoromethane.