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166728

THE UNITED STATES OF AMERICA

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UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

May 20, 2009

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APPLICATION NUMBER: 61/052,285

FILING DATE: *May 12, 2008*

RELATED PCT APPLICATION NUMBER: *PCT/US09/43538*

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS *US61/052,285*



Certified by

A handwritten signature in black ink, appearing to read "Jon W. Dudas".

Under Secretary of Commerce
for Intellectual Property
and Director of the United States
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Doc Code:

PROVISIONAL APPLICATION FOR PATENT COVER SHEET - Page 1 of 2

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. _____

INVENTOR(S)				
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)		
Benjamin Bin	CHEN	Wayne, PA		
Philippe	BONNET	Lower Merion, PA		
Maher Y.	ELSHEIKH	Wayne, PA		
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto				
TITLE OF THE INVENTION (500 characters max)				
COMPOSITIONS OF HYDROCHLOROFUOROOLEFINS				
Direct all correspondence to: CORRESPONDENCE ADDRESS				
<input checked="" type="checkbox"/> The address corresponding to Customer Number:		31684		
OR				
<input type="checkbox"/> Firm or Individual Name				
Address				
City		State	ZIP	
Country		Telephone	Email	
ENCLOSED APPLICATION PARTS (check all that apply)				
<input checked="" type="checkbox"/> Application Data Sheet. See 37 CFR 1.76	<input type="checkbox"/> CD(s), Number of CDs _____			
<input checked="" type="checkbox"/> Specification <i>Number of Pages</i> <u>5</u>	<input checked="" type="checkbox"/> Other (specify) <u>1 page-Claims; 1 page-Abstract</u>			
<input type="checkbox"/> Drawing(s) <i>Number of Sheets</i> _____				
Total # of sheets <u>7</u>	=	Application Size Fee	<u>\$0.00</u>	
Fees Due: Filing Fee of \$210. If the specification and drawings exceed 100 sheets of paper, an application size fee is also due, which is \$260 for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
METHOD OF PAYMENT OF THE FILING FEE AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT				
<input type="checkbox"/> A check or money order is enclosed to cover the filing fee and application size fee (if applicable).			<u>\$210.00</u>	
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.			TOTAL FEE AMOUNT (\$)	
<input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fee and application size fee (if applicable) or credit any overpayment to Account Number: <u>01-2717</u> . A duplicative copy of this form is enclosed for fee processing.				

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Doc Code:

PROVISIONAL APPLICATION COVER SHEET

Page 2 of 2

The invention was made by an agency of the United States Government or under a contract with an agency of the United States

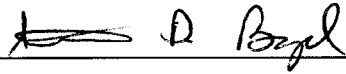
No.

Yes, the name of the U.S. Government agency and the Government contract number are: _____

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SIGNATURE



Date

May 12, 2008

TYPED or PRINTED NAME

Steven D. Boyd

REGISTRATION NO.
(if appropriate)

31,000

TELEPHONE

215-419-5270

Docket Number:

IR3949PSP

Compositions of Hydrochlorofluoroolefins

Summary of Invention

The present invention relates the use of at least one hydrochlorofluoroolefin (HCFO) as a solvent/cleaning composition or as heat transfer fluids. Solvent/cleaning applications can be, for example, to clean electronic circuit boards such as in vapor degreasing operations. The HCFO of the present invention is HCFO-1233 including but are not limited to, 1-chloro-3,3,3-trifluoropropene (HCFO-1233zd), preferably the trans- isomer of HCFO-1233zd alone or in a combination. The HCFO of the present invention can be used in combination with co-agents including, hydrofluorocarbons (HFCs), hydrofluoroolefins (HFOs), hydrocarbons, ethers including hydrofluoroethers (HFEs), esters, ketones, alcohols and mixtures thereof.

Background of Invention

The Montreal Protocol for the protection of the ozone layer, signed in October 1987, mandated the phase out of the use of chlorofluorocarbons (CFCs). Materials more “friendly” to the ozone layer, such as hydrofluorocarbons (HFCs) eg HFC-134a replaced chlorofluorocarbons. The latter compounds have proven to be green house gases, causing global warming and were regulated by the Kyoto Protocol on Climate Change, signed in 1998. With the continued concern over global climate change there is an increasing need to develop technologies to replace those with high ozone depletion potential (ODP) and high global warming potential (GWP). Though hydrofluorocarbons (HFCs), being non-ozone depleting compounds, have been identified as alternative solvents/cleaners agents and heat transfer fluids to chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), they still tend to have significant GWP.

Summary of Invention

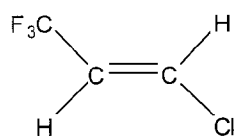
It was discovered that a solvent/cleaning and heat transfer composition comprising the hydrochlorofluoroolefin HCFO-1233, preferably 1-chloro-3,3,3-trifluoropropene (HCFO-1233zd) and more preferably the trans isomer of HCFO-1233zd alone or in a combination provides effective solvent/cleaning and heat transfer activity while being of negligible ozone depletion potential (ODP), low global warming potential (GWP) and exhibits low toxicity.

Detailed Description of Invention

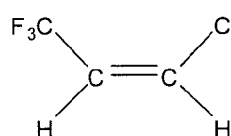
The present invention relates to solvent/cleaning and heat transfer fluid agents with negligible ozone-depletion and low GWP comprising a hydrochlorofluoroolefin (HCFO) used alone or with with additional co-agents. In a preferred embodiment of this invention the HCFO is 1-chloro-3,3,3-trifluoropropene (IICFO-1233zd), preferably the trans isomer, alone or with one or more co-agents. Preferred co-agents to be used with the HCFO include (a) hydrofluorocarbons including but not limited to difluoromethane (HFC32); 1,1,1,2,2-pentafluoroethane (HFC125); 1,1,1-trifluoroethane (HFC143a); 1,1,2,2-tetrafluoroethane (HFC134); 1,1,1,2-tetrafluoroethane (HFC134a); 1,1-difluoroethane (HFC152a); 1,1,1,2,3,3,3-heptafluoropropane (HFC227ea); 1,1,1,3,3-pentafluoropropane (HFC245fa); 1,1,1,3,3-pentafluorobutane (HFC365mfc) and 1,1,1,2,2,3,4,5,5,5-decafluoropentane (HFC4310mee), 1,1,1,2-tetrafluoroethane; (b) hydrofluoroolefins including but not limited to tetrafluoropropenes (HFO1234), trifluoropropenes (HFO1243), all tetrafluorobutene isomers (HFO1354), all pentafluorobutene isomers (HFO1345), all hexafluorobutene isomers (HFO1336), all heptafluorobutene isomers (HFO1327), all heptafluoropentene isomers (HFO1447), all octafluoropentene isomers (HFO1438), all nonafluoropentene isomers (HFO1429), (cis and/or trans)-1,2,3,3,3-pentafluoropropene (HFO-1225ye), (c) hydrocarbons including but not limited to, pentane isomers, butane isomers, (d) C1 to C5 alcohols, C1 to C4 aldehydes, C1 to C4 ketones, C1 to C4 ethers and diethers and carbon dioxide, (e) HCFOs such as 2-chloro-3,3,3-trifluoropropene (HCFO-1233xf) and dichlorotrifluoropropene (HCFO1223); and mixtures thereof.

The HCFO-1233zd of the present invention is preferably, predominantly the trans isomer of HCFO-1233zd.

Trans (E) and cis (Z) isomers are illustrated:



trans or E



cis or Z

A major portion of the HCFO-1233zd of the present invention is the trans isomer. It was discovered that the trans isomer exhibits a significantly lower genotoxicity in AMES testing than the cis isomer. A preferred ratio of trans and cis isomers of HCFO-1233zd is less than about 30 % weight of the combination of the cis isomer, and preferably less than about 10 % of the cis isomer. The most preferred ratio is less than about 3% of the cis isomer.

The composition of the present invention can be used as a heat transfer fluid in systems such as air conditioning, heat pump and refrigeration applications. The vapor compression cycle is one of the most commonly used type methods to accomplish cooling or heating in a refrigeration system. The vapor compression cycle usually involves the phase change of the refrigerant from the liquid to the vapor phase through heat absorption at a relatively low pressure and then from the vapor to the liquid phase through heat removal at a relatively low pressure and temperature, compressing the vapor to a relatively elevated pressure, condensing the vapor to the liquid phase through heat removal at this relatively elevated pressure and temperature, and then reducing the pressure to start the cycle over again.

While the primary purpose of refrigeration is to remove heat from an object or other fluid at a relatively low temperature, the primary purpose of a heat pump is to add heat at a higher temperature relative to the environment.

The composition of the present invention also provides methods of removing containments from a product, part, component, substrate, or any other article or portion thereof by applying to the article a composition of the present invention i.e.

solvent/cleaning applications. For the purposes of convenience, the term "article" is used herein to refer to all such products, parts, components, substrates, and the like and is further intended to refer to any surface or portion thereof. Furthermore, the term "contaminant" is intended to refer to any unwanted material or substance present on the article, even if such substance is placed on the article intentionally. For example, in the manufacture of semiconductor devices it is common to deposit a photoresist material onto a substrate to form a mask for the etching operation and to subsequently remove the photoresist material from the substrate. The term "contaminant" as used herein is intended to cover and encompass such a photo resist material.

Preferred methods of the present invention comprise applying the present composition to the article, with vapor degreasing and solvent cleaning methods being particularly preferred for certain applications, especially those intricate parts and difficult to remove soils. Preferred vapor degreasing and solvent cleaning methods consist of exposing an article, preferably at room-temperature, to the vapors of a boiling solvent. Vapors condensing on the object have the advantage of providing a relatively clean, distilled solvent to wash away grease or other contamination. Such processes thus have an additional advantage in that final evaporation of the present solvent composition from the object leaves behind relatively little residue as compared to the case where the object is simply washed in liquid solvent.

For applications in which the article includes contaminants that are difficult to remove, it is preferred that the present methods involve raising the temperature of the solvent/cleaner composition of the present invention above ambient or to any other temperature that is effective in such application to substantially improve the cleaning action of the solvent/cleaner. Such processes are also generally preferred for large volume assembly line operations where the cleaning of the article, particularly metal parts and assemblies, must be done efficiently and quickly.

In preferred embodiments, the cleaning methods of the present invention comprise immersing the article to be cleaned in liquid solvent/cleaner at an elevated temperature, and even more preferably at about the boiling point of the solvent. In such operations, this step preferably removes a substantial amount, and even more

preferably a major portion, of the target contaminant from the article. This step is then preferably followed by immersing the article in solvent/cleaner, preferably freshly distilled solvent, which is at a temperature below the temperature of the liquid solvent in the preceding immersion step, preferably at about ambient or room temperature. The preferred methods also include the step of then contacting the article with relatively hot vapor of the present solvent/cleaner composition, preferably by exposing the article to solvent/cleaner vapors rising from the hot/boiling solvent/cleaner associated with the first mentioned immersion step. This preferably results in condensation of the solvent/cleaner vapor on the article. In certain preferred embodiments, the article may be sprayed with distilled solvent/cleaner before final rinsing.

It is contemplated that numerous varieties and types of vapor degreasing equipment are adaptable for use in connection with the present methods. The present solvent/cleaning methods may also comprise cold cleaning in which the contaminated article is either immersed in the fluid composition of the present invention under ambient or room temperature conditions or wiped under such conditions with rags or similar objects soaked in solvents/cleaners.

Although the invention is illustrated and described herein with reference to specific embodiments, it is not intended that the appended claims be limited to the details shown. Rather, it is expected that various modifications may be made in these details by those skilled in the art, which modifications may still be within the spirit and scope of the claimed subject matter and it is intended that these claims be construed accordingly.

Claims

1. A solvent/cleaner composition comprising about 70 wt% or more trans stereoisomer of hydrochlorofluoroolefin 1233zd.
2. The solvent/cleaner composition of claim 1 wherein said hydrochlorofluoroolefin 1233zd comprises about 90 wt% or more trans stereoisomer.
3. The solvent/cleaner composition of claim 1 wherein said hydrochlorofluoroolefin 1233zd comprises about 97 wt% or more trans stereoisomer.
4. The solvent/cleaner composition of claim 1, further comprising a hydrofluorocarbon.
5. A heat transfer fluid composition comprising about 70 wt% or more trans stereoisomer of hydrochlorofluoroolefin 1233zd.
6. The heat transfer fluid composition of claim 1 wherein said hydrochlorofluoroolefin 1233zd comprises about 90 wt% or more trans stereoisomer.
7. The heat transfer fluid composition of claim 1 wherein said hydrochlorofluoroolefin 1233zd comprises about 97 wt% or more trans stereoisomer.
8. The heat transfer fluid composition of claim 1, further comprising a hydrofluorocarbon.

Abstract

The present invention relates to solvent/cleaner and heat transfer fluid compositions comprising at least one hydrochlorofluoroolefin (HCFO), 1-chloro-3, 3,3-trifluoropropene (HCFO-1233zd), particularly the trans- isomer. The HCFO of the present invention can be used in combination with co-agents including, hydrofluorocarbons (HFCs), hydrofluoroolefins (HFOs), hydrocarbons, ethers including hydrofluoroethers (HFEs), esters, ketones, alcohols and mixtures thereof.

Electronic Acknowledgement Receipt

EFS ID:	3286142
Application Number:	61052285
International Application Number:	
Confirmation Number:	1792
Title of Invention:	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS
First Named Inventor/Applicant Name:	Benjamin Bin CHEN
Customer Number:	31684
Filer:	Steven Don Boyd/Rose Rafter
Filer Authorized By:	Steven Don Boyd
Attorney Docket Number:	IR3949PSP
Receipt Date:	12-MAY-2008
Filing Date:	
Time Stamp:	10:57:45
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$210
RAM confirmation Number	7322
Deposit Account	012717
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes) /Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ADS.pdf	493835 eb94733eeccce14a5ca190d4adc8c42b370c691e7	no	4
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Authorization to access Appl. by Trilateral Office	AuthorizationtoPermitAccess.pdf	130176 43ebcbe00f82ab63c6b09db5de467d2ea883247c	no	1
Warnings:					
Information:					
3	Provisional Cover Sheet (SB16)	ProvisionalCoverSheet.pdf	179296 c607c8a103682160321517d90f01daf1ae2829de	no	2
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4	Specification	Specification.pdf	442366 c292bd2fa707f6dbaa978a3548aec3767da105cf	no	5
Warnings:					
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5	Claims	Claims.pdf	47177 ee478c2210f0d546797eb9e85712ca478f639bb1	no	1
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Information:					
6	Abstract	Abstract.pdf	25021 8525e196474d40915005f154886232bc2a04987	no	1
Warnings:					
Information:					
7	Fee Worksheet (PTO-06)	fee-info.pdf	8127 146a597add1b799fb0e6cb4c7de2eb78de52c1aa	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1325998		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	IR3949PSP
		Application Number	
Title of Invention	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Benjamin	Bin	CHEN		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Wayne	State/Province	PA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		US			
Mailing Address of Applicant:					
Address 1		3 Berkshire Terrace			
Address 2					
City	Wayne	State/Province	PA		
Postal Code	19087	Country	US		
Applicant 2					
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Philippe		BONNET		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Lower Merion	State/Province	PA	Country of Residence	US
Citizenship under 37 CFR 1.41(b)		FR			
Mailing Address of Applicant:					
Address 1		600 Cedar Lane			
Address 2					
City	Lower Merion	State/Province	PA		
Postal Code	19085	Country	US		
Applicant 3					
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Maher	Y.	ELSHEIKH		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Wayne	State/Province	PA	Country of Residence	US

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	IR3949PSP
	Application Number	
Title of Invention	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS	

Citizenship under 37 CFR 1.41(b)	US		
Mailing Address of Applicant:			
Address 1	784 N. Wayne Avenue		
Address 2			
City	Wayne	State/Province	PA
Postal Code	19087	Country	US
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.			
Customer Number	31684		
Email Address	steven.boyd@arkema.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>
Email Address	carol.hill@arkema.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS		
Attorney Docket Number	IR3949PSP	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Publication Information:

<input type="checkbox"/> Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/> Request Not to Publish. I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	IR3949PSP
		Application Number	
Title of Invention	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS		
Please Select One: <input checked="" type="radio"/> Customer Number <input type="radio"/> US Patent Practitioner <input type="radio"/> Limited Recognition (37 CFR 11.9)			
Customer Number	31684		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			<input type="button" value="Remove"/>
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

			<input type="button" value="Remove"/>
Application Number	Country ¹	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1

If the Assignee is an Organization check here.

Organization Name	Arkema Inc.		
-------------------	-------------	--	--

Mailing Address Information:

Address 1	2000 Market Street		
Address 2			
City	Philadelphia	State/Province	PA
Country	US	Postal Code	19103
Phone Number	215-419-5270	Fax Number	215-419-7075
Email Address	steven.boyd@arkema.com		

Additional Assignee Data may be generated within this form by selecting the **Add** button.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	IR3949PSP	
		Application Number		
Title of Invention	COMPOSITIONS OF HYDROCHLOROFLUOROOLEFINS			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Steven D. Boyd/			Date (YYYY-MM-DD)	2008-05-12
First Name	Steven D.	Last Name	Boyd	Registration Number	31000

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**