06-21-2002



FORM PTO-1595	U.S. DEPARTMENT OF COMMERCE	
1-31-92 REC	T Patent and Trademark Office	
102130956		
To the Assistant Commissioner for Patents.	lease record the attached original documents or copy thereof.	
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):	
Robert Sam Zorich	Ala Dan Janata and Chanda I. I.	
James Richard Thurmond	Name: Air Products and Chemicals, Inc.	
David Allen Roberts 6-17-02	Internal Address: Patent Department Street Address: 7201 Hamilton Boulevard	
Additional name(s) of conveying party(ies) attached? □Yes ⊠No	Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501	
	Additional name(s) & address(es) attached? ☐ Yes ☒ No	
3. Nature of Conveyance:		
☑ Assignment □ Merger □ Security Agreement □ Change of Name		
Other		
Execution Date: 1) 3/6, 2) 3/11, 3) 3/14, 2002		
4. Application number(s) or patent number(s): 10/037,739 fi	ed 12/27/2001	
If this document is being filed together with a new application, the execution date of the application is: 1) 3/6, 2) 3/11, 3) 3/14, 2002		
A. Patent Application No.(s)	B. Patent No.(s)	
A 4.444	learnest and a 19 COV and COV	
Additional numbers attached? ☐ Yes ☒ No		
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved: 1	
concerning document should be mailed:		
D. 77.W		
Name: Dianne K. Moser	7. Total fee (37 CFR 3.41) \$_40.00	
Legal Assistant	☐ Enclosed ☐ Enclosed ☐ Authorized to be charged to deposit account	
Internal Address: Patent Department (06046 USA) Street Address: 7201 Hamilton Boulevard	1	
City Allentown State PA ZIP 18195-1501	8. Deposit account number:	
	01-0493	
DO NOT USE THIS SPACE		
9. Statement of signature.		
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true		
copy of the original document.		
Geoffrey L. Chase, 28,059	Trey - Cluse 6/12/02	
Name, Reg. No. of Person Signing	ature Date	
, , , , , , , , , , , , , , , , , , , ,	Total number of pages comprising cover sheet:1	
OMB No. 0651-0011		
Do not detach this portion		
Do not detach this portion		
Mail documents to be recorded with required cover sheet information to:		
Assistant Commissioner for Patents		
Box Assignments		

Washington, D.C. 20231

KLG / N:\KLG\RJWPATENT\PTAS6040.DOT

06/20/2002 LHUELLER 0000093 010493 10037739

1 FC:581

40.00 CH

PATENT REEL: 012998 FRAME: 0945

Department of Commerce Commer	04/09-	2002	
1-31-92 RE			
To the Assistant Commissioner for Petents. Please Secord the attached original documents or copy thereof.		U.S. DEPARTMENT OF COMMERCE	
To the Assistant Commissioner for Petents. Please Secord the attached original documents or copy thereof.	1-31-92 RF / 10204	Patent and Trademark Office	
Name of conveying party(ies): Robert Sam Zorich James Richard Thurmond David Allen Roberts			
James Richard Thurmond David Allen Roberts	Name of conveying party(ies):	2. Name and address of receiving party(ies):	
David Allen Roberts		A'm David A 101 1 1 T	
Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 Additional name(s) of conveying party(ies) attached? Yes Zin No		· ·	
Additional name(s) of conveying party(ies) attached? □Yes □No State PA	David Allen Roberts		
3. Nature of Conveyance: Assignment Merger Security Agreement Change of Name Other Donot date of the application between the secution Date: 1) 3/6, 2) 3/11, 3) 3/14, 2002 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: 1) 3/6, 2) 3/11, 3) 3/14, 2002 A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? Yes E No 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Dianne K. Moser Dianne K	Additional name(s) of conveying party(ies) attached? □Yes ⊠No		
3. Nature of Conveyance: Assignment Merger Security Agreement Change of Name Other Donot date of the application between the secution Date: 1) 3/6, 2) 3/11, 3) 3/14, 2002 4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: 1) 3/6, 2) 3/11, 3) 3/14, 2002 A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? Yes E No 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Dianne K. Moser Dianne K	13:25:02	Additional name(a) & address(as) attached?	
Security Agreement	3. Nature of Conveyance:	Additional name(s) & address(es) attached? Li ies Zi No	
Other Execution Date: 1) 3/6, 2) 3/11, 3) 3/14, 2002	⊠ Assignment □ Merger		
4. Application number(s) or patent number(s): If this document is being filed together with a new application, the execution date of the application is: 1) 3/6, 2) 3/11, 3) 3/14, 2002 A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? Pes No 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase. Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion	□ Other		
If this document is being filed together with a new application, the execution date of the application is: 1) 3/6, 2) 3/11, 3) 3/14, 2002 A. Patent Application No.(s) B. Patent No.(s)			
A. Patent Application No.(s) B. Patent No.(s) Additional numbers attached? Yes No 5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant T. Total fee (37 CFR 3.41) Enclosed Authorized to be charged to deposit account Street Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion	,		
Additional numbers attached? \[\text{Yes} \] \[\bar{\text{D}} \] No 5. Name and address of party to whom correspondence concerning document should be mailed: Name: \[\bar{\text{Dianne K. Moser}} \] \[\bar{\text{Legal Assistant}} \] \[\bar{\text{Dianne K. Moser}} \] \[\bar{\text{Legal Assistant}} \] \[\bar{\text{Denclosed}} \] \[\begin{array}{c} \begin{array}{c} \bar{\text{Denclosed}} \\ \begin{array}{c}			
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase. Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion	A. Patent Application No.(s)	B. Patent No.(s)	
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase. Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion			
5. Name and address of party to whom correspondence concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase. Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion			
Concerning document should be mailed: Name: Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion	Additional numbers attached? LI Yes El No		
Name: Dianne K. Moser Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 BO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion		6. Total number of applications and patents involved: 1	
Legal Assistant Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing Signature Do not detach this portion Do not detach this portion	concerning document should be maned:		
Internal Address: Patent Department (06046USA) Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing Do not detach this portion E Authorized to be charged to deposit account 8. Deposit account number: 01-0493 8. Deposit account number: 01-0493 March 18, 2002 Pate Total number of pages comprising cover street: 1	· · · · · · · · · · · · · · · · · · ·	,	
Internal Address: Patent Department (06046USA): Street Address: 7201 Hamilton Boulevard City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion 8. Deposit account number: 01-0493 8. Deposit account number: 01-0493 March 18, 2002 Pate Total number of pages comprising cover sheet: 1	Legal Assistant		
City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion O1-0493 March 18, 2002 Date Total number of pages comprising cover street: 1			
City Allentown State PA ZIP 18195-1501 DO NOT USE THIS SPACE 9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion O1-0493 March 18, 2002 Date Total number of pages comprising cover street: 1	7004 TF 114 TP 1	8. Deposit account number:	
9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion Do not detach this portion	Street Address: 7201 Hamilton Boulevard	1	
9. Statement of signature. To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion Do not detach this portion	City Allentown State PA ZIP 18195-1501		
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing OMB No. 0651-0011 Do not detach this portion Total number of pages comprising cover sheet: 1			
Copy of the original document. Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing Name, Reg. No. 0651-0011 Do not detach this portion March 18, 2002 March 18, 2002 Total number of pages comprising cover street: _1	9. Statement of signature.		
Geoffrey L. Chase, Reg. No. 28,059 Name, Reg. No. of Person Signing Signature Total number of pages comprising cover sheet: _1 OMB No. 0651-0011 Do not detach this portion Do not detach this portion			
Name, Reg. No. of Person Signing Signature Total number of pages comprising cover sheet: 1 OMB No. 0651-0011 Do not detach this portion	copy of the original document.		
Name, Reg. No. of Person Signing Signature Total number of pages comprising cover sheet: 1 OMB No. 0651-0011 Do not detach this portion	Geoffrey L. Chase, Reg. No. 28,059 Sept Sely Lutte March 18, 2002		
OMB No. 0651-0011 Do not detach this portion Do not detach this portion			
Do not detach this portion	OMR No. 0651,0011		
Mail documents to be recorded with required cover sheet information to: CA STATE Assistant Commissioner for Patents Assistant Commissioner for Patents PROPERTY CHASE Box Assignments Washington, D.C. 20231 KLG / N:/KLG/GICPATENT/PTAS6046.DOT	OMB No. 0631-0011		
Mail documents to be recorded with required cover sheet information to: Comparison	Do not detach this portion		
thent date: 06/20/2002 LIMELLER Assistant Commissioner for Patents /2002 STUMI 1 00000142 010493 GEOFFREY CHASE Box Assignments 1:581 40.00 CR Washington, D.C. 20231	Mail documents to be recorded with required cover sheet information to:		
V2002 STUMI 1 00000142 010493 SEOFFREY CHASE Box Assignments VEG / N:/KLG/GIGLCPATENTI/PTAS6046.DOT Washington, D.C. 20231	Assistant Commissioner for Patents		
KLG /N:KLG:GLCPATENT:PTAS6046.DOT Washington, D.C. 20231	ELEPRE RALE: VO/CV/CV/CV/C LINCLLLN	nments	
KLG / N:KLG/GLCPATENT/PTAS6046.DOT		D.C. 20231 = = = = = = = = = = = = = = = = = = =	
	KLG / N:\KLG\GLCPATENT\PTAS6046.DOT	S N	

04/08/2002 GTDH11 00000142 010493 GEDFFREY CHASE 01 FC:581 40.00 CH

> PATENT REEL: 012998 FRAME: 0946

ASSIGNMENT

For value received, we, Robert Sam Zorich, James Richard Thurmond, and David Allen Roberts, hereby sell, assign, and transfer to **AIR PRODUCTS AND CHEMICALS, INC.**, a corporation of the State of Delaware, having an office at 7201 Hamilton Boulevard, Allentown, PA 18195-1501, the entire right, title, and interest in and to the invention relating to

Use of Water and Acidic Water to Purify Liquid MOCVD Precursors

described in our application for Letters Patent of the United States (identified by Docket No. 06046 USA) executed of even date herewith, in and to all Letters Patent which may be issued upon said application, in and to any divisional or reissue applications based thereon, and in and to all Letters Patent upon said invention or improvements which may be granted in foreign countries. We hereby also assign and convey to said **AIR PRODUCTS AND CHEMICALS**, **INC.**, all the rights accruing to us by virtue of the International Convention for the Protection of Industrial Property (Art. 4), including the right to apply for and to have patents issued in its own name.

And we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and the Officials of the Patent Offices of all other countries to issue the Letters Patent of their respective countries to said **AIR PRODUCTS AND CHEMICALS, INC.**, as assignee of the entire right, title, and interest in and to the same.

And we hereby promise and agree to execute all papers and perform all acts necessary to secure to and vest in said **AIR PRODUCTS AND CHEMICALS, INC.**, its successors and assigns, the rights conveyed as herein set forth.

Robert Sam Zorjeh

James Richard Thurmond

(L.S.)

David Allen Roberts

James Richard Thurmond

(L.S.)

KLG / N:\KLG\GLCPATENT\ASGN6046.DOT

PATENT
RECORDED: 03/25/2002 REEL: 012998 FRAME: 0947