A) 581-40

511.40998X00	03-05-2002				
Form PTO-1595 (Rev. 03/01) OMB No. 0651-0027 (exp.		U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office			
102000948					
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.					
1. Name of conveying party(ies): KOYAMA, NAOYUKI HAGA, KOUJI YOSHIDA, MASATO HIRAI, KEIZOU ASHIZAWA, TORANOSUKE Additional name(s) of conveying party(ies) atta	2. Name and add Name: HITAI Street Address:	ress of receiving party(ies) CHLCHEMICAL CO., LTD, s: 1-1, Nishishinjuku 2-chome, Shinjuku-ku, Tokyo 163-0449			
Nature of conveyance:					
Assignment	nange of Name	ne(s) & address(es) attached? ☐ Yes ☒ No			
4. Application number(s) or patent number(s):					
If this document is being filed together with A. Patent Application No.(s)	a new application, the execution date of th B. Patent Regis				
2/31/2001 MKAYPAGH 00000130 10018188)				
2 FC:581 40.00	OP /				
A	additional number(s) attached ☐ Yes ☒ N	o			
5. Name and address of party to whom corresconcerning document should be mailed:	6. Total number of a	pplications and patents involved 1			
Name: Antonelli, Terry, Stout & Krau		7. Total fee (37 CFR 3.41) \$40.00			
	│				
Internal Address:	Authorized	Authorized to be charged to deposit account			
1300 North Seventeenth Street	 	8. Deposit account number:			
Suite 1800 Arlington, VA 22209	8. Deposit accou	nt number:			
T	8. Deposit accou	ont number:			
Arlington, VA 22209					
Arlington, VA 22209 USA		01-2135			
Arlington, VA 22209 USA City: State: Zip:	(Attach duplicate	01-2135			
Arlington, VA 22209 USA City: State: Zip: 9. Statement and signature. To the best of my knowledge and belie copy of the original document. Ralph T. Webb, Reg. # 33,047	(Attach duplicate	01-2135 copy of this page if paying by deposit account) d correct and any attached copy is a true 12/18/2001			
Arlington, VA 22209 USA City: State: Zip: 9. Statement and signature. To the best of my knowledge and belie copy of the original document. Ralph T. Webb, Reg. # 33,047	(Attach duplicate	01-2135 copy of this page if paying by deposit account) d correct and any attached copy is a true 12/18/2001 Date			

Mail documents to be recorded with required cover sheet information to: Commissioner of Patent & Trademarks, Box Assignments Washington, D.C. 20231

> **PATENT REEL: 012619 FRAME: 0683**

ASSIGNMENT

For good and valuable consideration, the sufficiency and receipt of which is hereby acknowledged, as a below
named inventor, I hereby sell and assign to HITACHI CHEMICAL CO., LTD.
of 1-1, Nishishinjuku 2-chome, Shinjuku-ku, Tokyo 163-0449 JAPAN
its successors and assigns or other legal representatives all my rights, title and interest, in and for the United States of America, in and to "CMP ABRASIVE, METHOD FOR POLISHING SUBSTRATE AND METHOD FOR MANUFACTURING SEMICONDUCTOR DEVICE USING THE SAME, AND ADDITIVE FOR CMP ABRASIVE"
invented by me (if only one is named below) or us (if plural inventors are named below) and described in the application for United States Letters Patent therefor, executed by me even date herewith, and all United States Letters Patent which may be granted therefor, and all divisions, continuations and extensions thereof, the said interest being the
entire ownership of the said Letters Patent when granted, to be held and enjoyed by said
term for which said Letters Patent may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment and sale had not been made; And I hereby agree to sign and execute any further documents or instruments which may be necessary, lawful, and proper in the prosecution of the above-named application or in the preparation and prosecution of any continuing, continuation-in-part, substitute, divisional, renewal, reviewed or reissue applications or in any amendment, extension, or interference proceedings, or otherwise to secure the title thereto in said assignee;
And I do hereby authorize and request the Commissioner of Patents to issue said Letters Patent to said
(Compture)
(Full Name) (Signature)
1) Date December 12, 2001 Inventor Naoyuki KOYAMA Macyula Koyama
Residence Tsukuba-shi, Ibaraki, Japan Citizenship Japan
Residence Isakus Sir, Isakust, Sapan Chizensing Supan Hitachi Kasei Matsushiro Hausu A302, 4-3, Matsushiro 3-chome, Post Office Address Tsukuba-shi, Ibaraki 305-0035 JAPAN
2) Date December 12, 2001 Inventor Kouji HAGA Kouji Haga
Residence Hitachi-shi, Ibaraki, Japan Citizenship Japan
Residence Hitachi-shi, Ibaraki, Japan Citizenship Japan Namekawa-ryo 210, 20-13, Namekawa-cho 1-chome, Hitachi-shi, Post Office Address Ibaraki 317-0053 JAPAN
3) Date December 12, 2001 Inventor Masato YOSHIDA Marato Gortika
Residence Tsukuba-shi, Ibaraki, Japan Citizenship Japan
Hitachi Kasei Matsushiro Hausu 202, 4-3, Matsushiro 3-chome, Post Office Address Tsukuba-shi, Ibaraki 305-0035 JAPAN
4) Date December 12, 2001 Inventor Keizou HIRAI Keizo Hirai
Residence Hitachiota-shi, Ibaraki, Japan Citizenship Japan 847-115 Tenjinbayashi-cho, Hitachiota-shi, Ibaraki 313-0049
Post Office Address JAPAN 847-115 Tenjinbayashi-cho, Hitachiota-shi, Ibaraki 313-0049
5) Date December 12, 2001 Inventor Toranosuke ASHIZAWA Cranesche Ashizaun
Residence Hitachinaka-shi, Ibaraki, Japan Citizenship Japan
Post Office Address 315-18, Tarazaki, Hitachinaka-shi, Ibaraki 312-0003 JAPAN
Witness(es)
All) No. (Joshiel 2)
1)5)

PATENT REEL: 012619 FRAME: 0684

Date December 12, 2001	Inventor _Youiti MACHII	<u>Oye</u>	niti machie
Residence Tsuchiura-shi	Tharaki Janan	·/	apan
Post Office Address JAPAN	Kohoku 2-chome, Tsuch	iura-shi, Ibaraki 1	300-0032
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	_Inventor		
Residence		Citizenship	
Post Office Address			
Date	_Inventor		
Residence		Citizenship	
Post Office Address	·		
Date	_Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence	·	Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	
Post Office Address			
Date	Inventor		
Residence		Citizenship	

RECORDED: 12/18/2001

Post Office Address ____

PATENT REEL: 012619 FRAME: 0685