

12-30-05

01-11-2006

10/563087

Form PTO-1595 (Rev. 07/05)  
OMB No. 0651-0027 (exp. 6/30/2008)

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office



103155490

Attorney Docket No. 1303.45694X00

To the Director of the U.S. Patent and Trademark Office, if documents or the new address(es) differ.

1. Name of conveying party(ies):  
Keiji SUMIYA  
Nachimuthu SENGUTTUVAN  
Hiroyuki ISHIBASHI

2. Name and address of receiving party(ies)  
Name: **Hitachi Chemical Co., Ltd.**

Additional name(s) of conveying party(ies) attached?  Yes  No  
3. Nature of conveyance/Execution Date(s):  
Execution Date(s) November 30, 2005, November 30, 2005, November 30, 2005  
 Assignment  Merger  
 Security Agreement  Change of Name  
 Joint Research Agreement  
 Government Interest Assignment  
 Executive Order 9424, Confirmatory License  
 Other \_\_\_\_\_

Street Address: 1-1, Nishi-Shinjuku 2-chome  
Shinjuku-ku, Tokyo 163-0449, Japan  
Additional name(s) & address(es) attached?  Yes  No

4. Application or patent numbers(s):  This document is being filed together with a new application.  
A. Patent Application No.(s) 10/563087 B. Patent Registration No.(s)

Additional number(s) attached  Yes  No

5. Name and address of party to whom correspondence concerning document should be mailed:  
Name: **ANTONELLI, TERRY, STOUT & KRAUS, LLP**  
Internal Address:  
**1300 NORTH 17<sup>TH</sup> STREET - SUITE 1800**  
City: **ARLINGTON** State: **VA** Zip **22209**  
Phone Number: 703-312-6000  
Fax Number: 703-312-6666  
Email Address: email@antonelli.com

6. Total number of applications and patents involved 1  
7. Total fee (37 CFR 3.41)..... \$40.00  
 Authorized to be charged by credit card  
 Authorized to be charged to deposit account  
 Enclosed  
 None required (government interest not affecting title)  
8. Payment Information  
a. Credit Card Last 4 Numbers 1032  
Expiration Date 06/06  
b. Deposit account number: 01-2135  
Authorized User Name Ronald L. Shore

DO NOT USE THIS SPACE

Alan E. Schlavelli, Reg#32,087  
Name of Person Signing

Signature

12/30/2005  
Date

Total number of pages including cover sheet, attachments, and document: 2  
Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:  
Mail Stop Assignment Recordation Services, Director of the USPTO, P.O. Box 1450, Alexandria, VA 22313-1450

**ASSIGNMENT**

Whereas, I/we,

NameAddress1) **Keiji SUMIYA**

c/o Research &amp; Development Center, HITACHI CHEMICAL COMPANY, LTD.,

48, Wadai,  
Tsukuba-shi, Ibaraki 300-4247 Japan

c/o Research &amp; Development Center, HITACHI CHEMICAL COMPANY, LTD.,

2) **Nachimuthu SENGUTTUVAN**48, Wadai,  
Tsukuba-shi, Ibaraki 300-4247 Japan

c/o Yamazaki Works, HITACHI CHEMICAL COMPANY, LTD.,

3) **Hiroyuki ISHIBASHI**1380-1, Nishihara, Ashizaki,  
Hitachinaka-shi, Ibaraki 312-0003 Japan

hereinafter called assignor(s), have invented certain improvements in  
**CRUCIBLE AND SINGLE CRYSTAL GROWTH METHOD USING CRUCIBLE**

and executed an application for Letters Patent of the United States of America therefor on even date herewith unless otherwise indicated below:

filed on \_\_\_\_\_, Serial No. \_\_\_\_\_; and

Whereas

**HITACHI CHEMICAL COMPANY, LTD.**1-1, Nishi-Shinjuku 2-chome,  
Shinjuku-ku, Tokyo 163-0449 Japan

(assignee), desires to acquire the entire right, title and interest in the application and invention, and to any United States patents to be obtained therefor;

NOW THEREFORE, be it known that, for good and valuable consideration from assignee, the receipt of which is hereby acknowledged, I/WE, as assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto the assignee, its lawful successors and assigns, MY/OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof, and I/WE hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/WE will, without further consideration, communicate with assignee, its successors and assigns, any facts known to ME/US respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver all papers that may be necessary or desirable to perfect the title to this invention in said assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

INVENTORSDATE SIGNED

1):

*Keiji Sumiya*

Name:

Keiji SUMIYA

*30/November/2005*

2):

*N. Senguttuvan*

Name:

Nachimuthu SENGUTTUVAN

*30 November, 2005*

3):

*Hiroyuki Ishibashi*

Name:

Hiroyuki ISHIBASHI

*30 November, 2005*

(Legalization not required for recording but is prima facie evidence of execution under 35 U.S.C. § 261)