503029734 10/22/2014

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3076334

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
YUKIO INAZUKI	09/16/2014
TOYOHISA SAKURADA	09/16/2014
HIDEO KANEKO	09/16/2014
TAKURO KOSAKA	09/16/2014
KOUHEI SASAMOTO	09/16/2014

RECEIVING PARTY DATA

Name:	SHIN-ETSU CHEMICAL CO., LTD.
Street Address:	6-1, OHTEMACHI 2-CHOME, CHIYODA-KU
City:	TOKYO
State/Country:	JAPAN

PROPERTY NUMBERS Total: 1

Property Type	Number			
Application Number:	14520415			

CORRESPONDENCE DATA

Fax Number: (703)205-8050

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

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Email: mailroom@bskb.com, Thuy-Kim.T.Nguyen@bskb.com

Correspondent Name: BIRCH, STEWART, KOLASCH & BIRCH, LLP

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ATTORNEY DOCKET NUMBER:	0171-1770PUS1
NAME OF SUBMITTER:	THUY-KIM T. NGUYEN
SIGNATURE:	/Thuy-Kim T. Nguyen/
DATE SIGNED:	10/22/2014

Total Attachments: 3

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PATENT 503029734 REEL: 034007 FRAME: 0046

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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DECLARATION AND ASSIGNMENT FOR PATENT AND DESIGN APPLICATIONS

United States Patent Rights, or United States Plus all Foreign Patent Rights

Title of Invention	10)	Halftone Phase Shift Photomask Blank, Halftone Phase Shift Photomask and Pattern Exposure Method
		As a below named inventor (hereinafter designated as the undersigned), I hereby declare that:
Application not Attached	ieβ	This declaration is directed to the application attached hereto. If the application is not attached hereto, the application is as identified by the attorney docket number as set forth above and/or the following:
Enter Appln. No.	NC)	United States Application Number or PCT International Applin. No.
Enter Filing Date	4 0	filed on
		The above-identified application was made or authorized to be made by me.
		I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.
		I have reviewed and understand the contents of the above-identified application, including the claims.
		I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56.
		WHEREAS, the undersigned has invented certain new and useful improvements described in the application identified.
Ireert Mame of Assignee	1	WHEREAS, Shin-Etsu Chemical Co., Ltd.
Insert Address of Assignee	są.	of 6-1, Ohtemachi 2-chome, Chiyoda-ku, Tokyo, Japan,
		its heirs, successors, legal representatives and assigns (hereinafter designated as the Assignee) is desirous of acquiring the entire right, title and interest in and to said invention and in and to any Letters Patent(s) that may be granted therefor in the United States of America and
Check Box if Appropriate	ę	in any foreign countries.
		NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the undersigned has sold, assigned and transferred, and by these presents does (do) sell, assign and transfer unto said Assignee the full and exclusive right to the said invention in the United States of America, its territories, dependencies and possessions and the entire right, title and interest in and to any and all Leiters Patent(s) which may be granted therefor in the United States of America, its territories, dependencies and possessions, and if the box above is designated, in any and all foreign countries; and to any and all divisions, reissues, continuations, conversions and extensions thereof for the full term or

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terms for which the same may be granted.

BSKB-DECASSIGN(09-12)

Attorney Docket No.

The undersigned agrees to execute all papers necessary in connection with this application and any continuing, divisional, conversion or reissue applications thereof and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

The undersigned agrees to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation, division, conversion or reissue thereof or Letters Patent(s) or reissue patent issued thereon and to cooperate with the Assignee in every way possible in obtaining and producing evidence and proceeding with such interference.

The undersigned agrees to execute all papers and documents and to perform any act which may be necessary in connection with claims or provisions of the International Convention for the Protection of Industrial Property or similar agreements.

The undersigned agrees to perform all affirmative acts which may be necessary to obtain a grant of (a) valid United States of America and any foreign patent(s) to the Assignee and to vest all rights therein hereby conveyed to said Assignee as fully and entirely as the same would have been held by the undersigned if this Assignment and sale had not been made.

The undersigned hereby authorizes and requests the Patent and Trademark Office Officials in the United States of America and in any foreign countries to issue any and all Letters Patent(s) resulting from said application or any continuing, divisional conversion or reissue applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has the full right to convey the entire interest herein assigned, and that he has not executed, and will not execute, any agreement in conflict herewith.

The undersigned hereby grants the law firm of Birch, Stewart, Kolasch & Birch, LLP the power to insert any further identification which may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

The undersigned hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

The undersigned hereby acknowledges that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

In witness whereof, executed by the undersigned on the date opposite the undersigned name.

Inventor's Name	\$	Inventor:	Yukio INAZUKI	Date:	September	16,	2014
Inventor's Signature	\$ 9	Signature:	- 4 ha - Loze /			*********	

An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use a separate form for each inventor; or check the box below and complete the attached page(s) to list additional inventors.

Additional inventors are being named on the 1 supplemental sheet(s) attached hereto.

LEGAL NAME OF INVENTOR

BSKB-DECASSIGN-SINGLE (09-12)

SUPPLEMENTAL SHEET FOR DECLARATION AND ASSIGNMENT

ADDITIONAL INVENTOR(S) Supplemental Sheet Page 1 of 1

	LEGAL N	AME OF JOINT INVENTOR, IF ANY		
lewentor's Name	⇒ Inventor:	Toyohisa SAKURADA	Date: September 16, 2014	
inventor's Signature	⇔ Signature:	Tombre Shurado		*******
	LEGAL N	AME OF JOINT INVENTOR, IF ANY		
Inventor's Name	^o Inventor:	Hideo KANEKO	Date: September 16, 2014	
inventor's Signature	⇒ Signature:	Wide Lyncho-		
	LEGAL N	ame of joint inventor, if any		
Inventor's Name	⇒inventor;	Takuro KOSAKA	Date: September 16, 2014	
inventor's Signature	⇔Signature:	Takuro Kosaka		
	LEGAL N	AME OF JOINT INVENTOR, IF ANY		
laventor's Name	∜Inventor:	Kouhei SASAMOTO	Date: September 16, 2014	****
inventor's Signature	⇔Signature:	Kohei Sapamoto		
	LEGĂL N.	AME OF JOINT INVENTOR, IF ANY		
hventor's Name	⇔Inventor:		Date:	
nventor's Signature	⇒Signature:			
	LEGAL N	AME OF JOINT INVENTOR, IF ANY		
aventor's Name	[⇒] Inventor:		Date:	
nventor's Signature	⁴⁸ Signature:			
	LEGAL N.	AME OF JOINT INVENTOR, IF ANY		
nvenior's Mame	⇔Inventor:		Date:	·*••
nventor's Signature	⇔Signature:			
	LEGAL N	AME OF JOINT INVENTOR, IF ANY		
nventor's Name	⇔Inventor:		Date:	**********
nventar's Signature	[∞] Signature:			

BSK8-DECASSIGN\(09-12)

PATENT REEL: 034007 FRAME: 0049

RECORDED: 10/22/2014