

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/JP2018/034655

**A. CLASSIFICATION OF SUBJECT MATTER**  
Int. Cl. C23F11/14 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
Int. Cl. C23F11/00-C23F11/18, C23F14/00-C23F17/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996  
Published unexamined utility model applications of Japan 1971-2018  
Registered utility model specifications of Japan 1996-2018  
Published registered utility model applications of Japan 1994-2018

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	JP 2012-172227 A (NAIGAI KAGAKU SEIHIN KK) 10 September 2012, paragraphs [0009]-[0043] (Family: none)	1, 3-6 2
X A	JP 50-075653 A (CALGON CORPORATION) 20 June 1975, claims, page 2, upper right column, line 14 to page 5, lower right column, line 5 & US 3860430 A, claims, column 1-4 & AU 7352974 A & CA 1041284 A	1, 3-6 2
X A	JP 2013-019042 A (KURITA WATER INDUSTRIES LTD.) 31 January 2013, paragraphs [0004], [0017]-[0020] (Family: none)	1, 3-6 2

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents:  
"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search  
01.11.2018

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Name and mailing address of the ISA/  
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 4657785 A (NALCO CHEMICAL COMPANY) 14 April 1987, column 1, line 7 to line 21, column 4, line 7, to line 44 (Family: none)	1, 3, 5-6 2, 4
X A	JP 6134921 B1 (KATAYAMA CHEMICAL WORKS CO.) 31 May 2017, paragraphs [0002], [0011]-[0046] & JP 2017-214640 A	1, 3-4, 6 2, 5
A	JP 2000-160369 A (TOSOH CORP.) 13 June 2000, entire text (Family: none)	1-6
A	JP 57-171668 A (NIPPON STEEL CORP.) 22 October 1982, entire text (Family: none)	1-6
A	JP 63-290284 A (CIBA GEIGY AG) 28 November 1988, entire text & GB 2204864 A, whole document & DE 3814055 A1 & FR 2614630 A1	1-6
A	JP 2014-037585 A (FUJIFILM CORP.) 27 February 2014, entire text & WO 2014/027566 A1, whole document & TW 201410919 A & KR 10-2015-0023916 A	1-6