

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:	“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
“A” document defining the general state of the art which is not considered to be of particular relevance	“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
“E” earlier application or patent but published on or after the international filing date	“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
“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	“&” document member of the same patent family
“O” document referring to an oral disclosure, use, exhibition or other means	
“P” document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search
01.11.2018

Date of mailing of the international search report
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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