

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 September 2007 (07.09.2007)

PCT

(10) International Publication Number
WO 2007/100531 A3

(51) International Patent Classification:

C01B 11/02 (2006.01) **C11D 3/20** (2006.01)
C11D 3/00 (2006.01) **C11D 3/36** (2006.01)
C11D 3/02 (2006.01) **C11D 11/00** (2006.01)
C11D 3/06 (2006.01)

(21) International Application Number:

PCT/US2007/004288

(22) International Filing Date:

16 February 2007 (16.02.2007)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11/364,527 28 February 2006 (28.02.2006) US

(71) Applicant (for all designated States except US): **BASF CATALYSTS LLC** [US/US]; 101 Wood Avenue, P.O. Box 770, Iselin, NJ 08830-0770 (US).

(72) Inventors: **SPERONELLO, Barry, K.**; 15 Carriage Trail, Montgomery Township, NJ 08520 (US). **CASTELLANA, Frank, S.**; 227 Stuart Road East, Princeton, New Jersey 08540 (US).

(74) Agents: **HAMPILOS, Gus, T.** et al.; 101 Wood Avenue, P.O. Box 770, Iselin, NJ 08830-0770 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

18 October 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CHLORINE DIOXIDE BASED CLEANER/SANITIZER

(57) Abstract: This invention relates to an improved chlorine dioxide solution or liquid mixture containing a phosphate and, as well, as to a composition for forming the chlorine dioxide and phosphate liquid mixture. This improved chlorine dioxide solution is used to clean and/or sanitize without causing corrosion. The corrosion nature of the chlorine dioxide solution is lessened due to the addition of phosphate to the composition.



WO 2007/100531 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/004288

A. CLASSIFICATION OF SUBJECT MATTER

INV. C01B11/02 C11D3/00 C11D3/02 C11D3/06 C11D3/20
C11D3/36 C11D11/00

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)

C11D C01B

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 022 262 A (WHITE JAMES F) 26 November 1935 (1935-11-26) cited in the application column 2, line 19 - line 30 -----	1-6, 10, 12-16
X	US 6 238 643 B1 (THANGARAJ APPADURAI [US] ET AL) 29 May 2001 (2001-05-29) cited in the application column 8, line 13 - line 65 -----	1-6, 11, 12, 15, 16
P, X	GB 2 426 708 A (ANIMAX LTD [GB]; CLINIMAX LTD [GB]) 6 December 2006 (2006-12-06) claims 1-26; example 1 -----	1, 2, 4-9, 12-16
A	WO 2006/000756 A (EBIOX LTD [GB]; MACGREGOR KEITH MARTIN [GB]) 5 January 2006 (2006-01-05) claims 1-16 -----	1-20
-/--		

☒ 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 document but published on or after the international filing date

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)

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

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

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

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.

G document member of the same patent family

Date of the actual completion of the international search

8 August 2007

Date of mailing of the international search report

16/08/2007

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Richards, Michael

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/004288

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2005/249658 A1 (TARBET BRYON J [US]) 10 November 2005 (2005-11-10) claims 1-20 -----	1-20
A	US 6 699 404 B2 (SPERONELLO BARRY K [US] ET AL) 2 March 2004 (2004-03-02) cited in the application claims 1-37 -----	1-20

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/004288

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2022262	A	26-11-1935	NONE	
US 6238643	B1	29-05-2001	AT 238232 T AU 1120399 A DE 69813864 D1 DE 69813864 T2 DK 1027280 T3 EP 1027280 A1 ES 2197513 T3 IN 184820 A1 JP 2001522773 T PT 1027280 T WO 9924356 A1 ZA 9810086 A	15-05-2003 31-05-1999 28-05-2003 29-01-2004 04-08-2003 16-08-2000 01-01-2004 30-09-2000 20-11-2001 29-08-2003 20-05-1999 04-05-1999
GB 2426708	A	06-12-2006	NONE	
WO 2006000756	A	05-01-2006	AU 2005256803 A1 CA 2572259 A1 EP 1765420 A1	05-01-2006 05-01-2006 28-03-2007
US 2005249658	A1	10-11-2005	WO 2005104703 A2	10-11-2005
US 6699404	B2	02-03-2004	AU 2954901 A BR 0108058 A CA 2399587 A1 CN 1406208 A EP 1259459 A1 JP 2003521526 T MX PA02007468 A WO 0156923 A1 US 2003080317 A1 US 6432322 B1 ZA 200206116 A	14-08-2001 28-01-2003 09-08-2001 26-03-2003 27-11-2002 15-07-2003 14-04-2003 09-08-2001 01-05-2003 13-08-2002 31-10-2003