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English

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,

[Continued on nextpage]

(54) Title: METHODS AND APPARATUSES FOR PURIFYING PHOSPHORUS PENTAFLUORIDE

(57) Abstract: Embodiments of methods and apparatuses for purifying phosphorus pentafluoride are provided. The method comprises the step of contacting a feed stream comprising phosphorus pentafluoride and impurities with anhydrous hydrogen fluoride. The anhydrous hydrogen fluoride reduces the impurities from the feed stream to form an impurity-depleted phosphorus pentafluoride effluent.

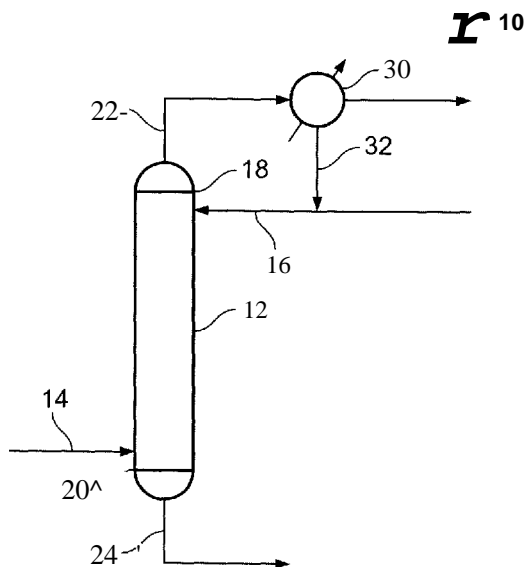


FIG. 1

WO 2013/003180 A3

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, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/043455**A. CLASSIFICATION OF SUBJECT MATTER****COIB 25/10(2006.01)i, COIG 28/00(2006.01)1, B01J 19/24(2006.01)1**

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)

COIB 25/10; COIB 7/07; COIB 7/22; COIB 25/455; B01D 3/40; B01D 53/38

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: purifying, phosphorus pentafluoride, anhydrous hydrogen fluoride, arsenic, impurity, arsenic pentafluoride, phosphorus oxytrifluoride

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 2189418 A1 (STELLA CHEMIFA CORPORATION) 26 May 2010 See abstract ; claims 1, 9	1-10
A	US 2010-0322838 A1 (MASAHIDE WAKI et al.) 23 December 2010 See abstract ; claims 1, 8	1-10
A	US 04491570 A (GREGORY A. WHEATON et al.) 01 January 1985 See abstract ; claims 1, 11	1-10
A	US 2002-0001553 A1 (ANDREAS BULAN et al.) 03 January 2002 See abstract ; claim 1	1-10
PX	US 2012-0003137 A1 (RYAN J. HULSE et al.) 05 January 2012 See abstract ; claims 1-9	1-10

 Further documents are listed in the continuation of Box C. See patent family annex.

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search

28 DECEMBER 2012 (28.12.2012)

Date of mailing of the international search report

02 JANUARY 2013 (02.01.2013)

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2012/043455

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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