



(51) International Patent Classification:

C11D 1/02 (2006.01) *B08B 3/08* (2006.01)
A47L 15/00 (2006.01)

(21) International Application Number:

PCT/IB2012/052920

(22) International Filing Date:

8 June 2012 (08.06.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/159,467 14 June 2011 (14.06.2011) US

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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, 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.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, 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).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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

2 May 2013

(54) Title: NON-BLEACHING PROCEDURE FOR THE REMOVAL OF TEA AND COFFEE STAINS

(57) Abstract: A novel approach to the removal of coffee and tea stains from dishes is disclosed. Tea, coffee and other stains caused by tannins are particularly difficult to remove and traditional techniques include harsh treatments that use bleach, or other environmentally undesirable chemicals such as phosphates, EDTA, NTA or other aminocarboxylates. Applicants have found that an acid rinse prior to alkaline cleaning of stained dishware such as ceramics porcelain and the like can remove up to one hundred percent of even aged coffee and tea stains.



WO 2012/172465 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2012/052920**A. CLASSIFICATION OF SUBJECT MATTER***C11D 1/02(2006.01)i, A47L 15/00(2006.01)i, B08B 3/08(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)

C11D 1/02; C11D 3/395; C11D 3/37; B08B 3/00; B08B 3/04; B08B 9/20; B08B 3/08; C11D 3/00; B08B 3/02

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: dishwashing, dishware, acidic solution, acid pre-soak composition, removal, coffee, tea, stain, alkaline liquid detergent

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007-0181161 A1 (HELMUT MAIER et al.) 09 August 2007 See paragraphs [1]-[12]; and claims 1-20.	1-19
A	US 04683008 A (BETTS; JAMES F.) 28 July 1987 See column 2, line 58 - column 3, line 6; and claim 1.	1-19
A	US 7828908 B1 (MIRALLES ALTONY) 09 November 2010 See column 9, lines 54-60; and claim 1.	1-19
A	US 2007-0093407 A1 (GIULIA OTTAVIA BIANCHETTI et al.) 26 April 2007 See claim 1.	1-19
A	US 6451752 B1 (DELROISSE; MICHEL GILBERT et al.) 17 September 2002 See claims 1-6.	1-19

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

* Special categories of cited documents:

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"&" document member of the same patent family

Date of the actual completion of the international search

18 FEBRUARY 2013 (18.02.2013)

Date of mailing of the international search report

19 FEBRUARY 2013 (19.02.2013)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/IB2012/052920

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