

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number
WO 2004/028962 A1

(51) International Patent Classification⁷: **C01B 15/023**,
B01J 29/04, C07D 301/12, 303/04, C01B 15/037

(21) International Application Number:
PCT/EP2003/010558

(22) International Filing Date:
23 September 2003 (23.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02021967.1 30 September 2002 (30.09.2002) EP

(71) Applicant: **DEGUSSA AG** [DE/DE]; Bennigsenplatz 1,
40474 Düsseldorf (DE).

(72) Inventors: **BRASSE, Claudia**; Elsa-Brandström-Strasse
5d, 63452 Hanau (DE). **GLENNEBERG, Jürgen**;
Bieberer Strasse 37, 63065 Offenbach (DE). **HAAS,**
Thomas; Lersnerstrasse 30a, 60322 Frankfurt (DE).
STOCHNIOL, Guido; Weinbergstrasse 23b, 63571
Gelnhausen (DE).

(74) Agent: **STERNAGEL, FLEISCHER, GODEMEYER**
& PARTNER; Braunsberger Feld 29, 51429 Bergisch
Gladbach (DE).

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

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (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

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

(54) Title: NOVEL AQUEOUS HYDROGEN PEROXIDE SOLUTIONS

(57) Abstract: The present invention refers to an aqueous hydrogen peroxide solution comprising: i) less than 50 wppm alkali metals, alkaline earth metals or combinations thereof in total, irrespective whether the alkali or alkaline earth metals are present in cationic or complex form; ii) less than 50 wppm of amines having a pK_B of less than 4.5 or the corresponding protonated compounds in total; and iii) at least 100 wppm anions or compounds that can dissociate to form anions in total, whereby the wppm are based on the weight of hydrogen peroxide and the concentration of hydrogen peroxide is more than 50 % by weight based on the total weight of the hydrogen peroxide solution, a process for preparation of said hydrogen peroxide solution and the use of said solution in a process for epoxidation of olefins.

WO 2004/028962 A1