(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
15 May 2003 (15.05.2003)

PCT

(10) International Publication Number
WO 03/040435 A2

(51) International Patent Classification[7]: C25B

(21) International Application Number: PCT/EP02/12436

(22) International Filing Date:
7 November 2002 (07.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/344,761	7 November 2001 (07.11.2001)	US
10/141,108	8 May 2002 (08.05.2002)	US

(71) Applicant *(for all designated States except US)*: **DE NORA ELETTRODI S.P.A.** [IT/IT]; Via Dei Canzi, 1, I-20134 Milan (IT).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **TSOU, Yu-Min** [US/US]; 215 William Livingston Ct., Princeton, NJ 08540 (US). **DENG, Hua** [CN/US]; 955 Easton Rd., Warrington, PA 18976 (US). **MARTELLI, Gian, Nicola** [IT/IT]; Via Cadorna, 59, I-20090 Vimodrone (IT). **ALLEN, Robert, J.** [US/US]; 130 Adams Avenue, Saugus, MA 01906 (US). **DE CASTRO, Emory, S.** [US/US]; 60 Little Nahant Road, Nahant, MA 01980-1028 (US).

(74) Agents: **REISTÖTTER, KINZEBACH & PARTNER** et al.; Sternwartstrasse 4, 81679 München (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, 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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, 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, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

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.

WO 03/040435 A2

(54) Title: IMPROVED RHODIUM ELECTROCATALYST AND METHOD OF PREPARATION

(57) Abstract: An improved novel rhodium sulphide catalyst for reduction of oxygen in industrial electrolyzers which is highly resistant towards corrosion and poisoning by organic species, thus making it particularly suitable for use in aqueous hydrochloric acid electrolysis, also when technical grade acid containing organic contaminants is employed. By modifying the method of preparation, the activity and consistency of the catalyst is substantially improved.