

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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>(51) International patent classification<sup>6</sup>:</b><br><br><b>C25B 11/06</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>A1</b> | <b>(11) International publication number:</b> WO 99/45175<br><br><b>(43) International publication date:</b><br>10 September 1999 (10.09.99)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>(21) International application number:</b> PCT/FR99/00304<br><br><b>(22) International filing date:</b> 11 February 1999 (11.02.99)<br><br><b>(30) Data relating to the priority:</b><br>98/02,485      2 March 1998 (02.03.98)      FR<br><br><b>(71) Applicant (for all designated States except US):</b><br>ELF ATOCHEM S.A. [FR/FR]; 4/8, cours Michelet,<br>F-92800 Puteaux (FR).<br><br><b>(72) Inventors; and</b><br><b>(75) Inventors/Applicants (US only):</b> ANDOLFATTO,<br>Françoise [FR/FR]; 38, rue Tête d'Or, F-69006 Lyon<br>(FR). DELMAS, François [FR/FR]; 3, avenue de la<br>Durance, F-13117 Lavera (FR).<br><br><b>(74) Representative:</b> DANG, Doris; Elf Atochem S.A.,<br>Dépt. Propriété Industrielle, Cours Michelet, La<br>Défense 10, F-92091 Paris la Défense Cedex (FR).                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | <b>(81) Designated states:</b> AL, AM, AT, AU, AZ, BA, BB, BG,<br>BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI,<br>GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,<br>KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,<br>MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO,<br>RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA,<br>UG, US, UZ, VN, YU, ZW, ARIPO Patent (GH, GM,<br>KE, LS, MW, SD, SZ, UG, ZW), Eurasian Patent (AM,<br>AZ, BY, KG, KZ, MD, RU, TJ, TM), European Patent<br>(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,<br>IT, LU, MC, NL, PT, SE), OAPI Patent (BF, BJ, CF,<br>CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD,<br>TG).<br><br><b>Published</b><br><i>With the International Search Report.</i> |
| <p style="text-align: center;">As printed</p> <p><b>(54) Title:</b> SPECIFIC CATHODE, USED FOR PREPARING AN ALKALINE METAL CHLORATE AND METHOD FOR MAKING SAME</p> <p><b>(54) Titre:</b> CATHODE SPECIFIQUE, UTILISABLE POUR LA PREPARATION D'UN CHLORATE DE METAL ALCALIN, ET SON PROCEDE DE FABRICATION</p> <p><b>(57) Abstract</b></p> <p>The invention concerns a specific cathode comprising a substrate and an element selected from the group comprising titanium, nickel, tantalum, zirconium, niobium and their alloys, coated with an intermediate mixed oxide layer based on titanium and ruthenium and an outer metal oxide layer comprising titanium, zirconium and ruthenium. The invention also concerns a method for making said cathode and its uses in electrolysis.</p> <p><b>(57) Abrégé</b></p> <p>L'invention concerne une cathode spécifique comprenant un substrat en un élément choisi dans le groupe formé de titane, nickel, tantale, zirconium, niobium et de leurs alliages, revêtu d'une couche intermédiaire d'oxyde mixte à base de titane et de ruthénium et d'une couche externe d'oxydes métalliques comprenant du titane, zirconium et ruthénium. Elle a également pour objet son procédé de fabrication et ses applications en électrolyse.</p> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |