

Title (en)
ELECTROLYTIC PROCESS AND APPARATUS FOR THE CONTROLLED OXIDATION AND REDUCTION OF INORGANIC AND ORGANIC SPECIES IN AQUEOUS SOLUTIONS

Title (de)
ELEKTROLYTISCHES VERFAHREN UND VORRICHTUNG FÜR DIE KONTROLLIERTE OXIDATION UND REDUKTION VON ANORGANISCHEN UND ORGANISCHEN STOFFEN IN WÄSSRIGEN LÖSUNGEN

Title (fr)
PROCEDE ET APPAREIL ELECTROLYTIQUES DESTINES A L'OXYDATION OU LA REDUCTION CONTROLEES D'ESPECES INORGANIQUES ET ORGANIQUES DANS DES SOLUTIONS AQUEUSES

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Application
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Abstract (en)
[origin: WO0178879A1] An improved electrolytic process and apparatus are disclosed for oxidizing or reducing inorganic and organic species, especially in dilute aqueous solutions. The electrolytic reactor (100) includes an anode (101), a cathode (102) and a monobed of cation exchange material (116) in contact with the anode (101) as the primary electrode for oxidation and anion exchange material in contact with the cathode (102) as the primary electrode for reduction. The monobed (116) includes both modified ion exchange material, modified to have active semiconductor junctions to enhance the oxidation or reduction, and unmodified ion exchange material to enhance diffusion of the ions through the monobed. The monobed may be divided into segments including one or more particulate ion exchange resin segments (108, 110) and one or more ion exchange membrane segments (104, 106).

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