

Title (en)

Process for the electrolytic preparation of rare-earth elements or their alloys, and apparatus for carrying out the process.

Title (de)

Verfahren zur elektrolytischen Herstellung von seltenen Erden oder ihren Legierungen und Vorrichtung zur Durchführung dieses Verfahrens.

Title (fr)

Procédé de préparation électrolytique de terres rares ou de leurs alliages et dispositif pour la mise en oeuvre de ce procédé.

Publication

EP 0184515 A1 19860611 (FR)

Application

EP 85402404 A 19851204

Priority

FR 8418700 A 19841207

Abstract (en)

1. A process for the preparation of a rare earth metal or an alloy of rare earth metal with at least one metal selected from the group consisting of rare earths and transition metals by electrolysis in a bath of molten salts, characterised by effecting on solid electrodes the electrolysis of at least one chloride of a rare earth in a bath of salts essentially comprising lithium chloride and lithium fluoride ; the cathode being a cathode of tungsten or formed by at least one rare earth metal when preparing a rare earth metal or an alloy of rare earth metals, the cathode being formed by a transition metal or an alloy of a rare earth metal and a transition metal when preparing an alloy of at least one rare earth metal and at least one transition metal.

Abstract (fr)

L'invention concerne un procédé de préparation par électrolyse en bains de sels fondus d'une terre rare ou d'un alliage à base d'une terre rare ainsi qu'une cellule pour la mise en oeuvre de ce procédé. Selon l'invention, on part d'un bain comprenant au moins un chlorure d'une terre rare, au moins un chlorure alcalin ou alcalino-terreux et au moins un fluorure alcalin ou alcalino-terreux. Par ailleurs la cellule selon l'invention comprend une cuve 2 prolongée verticalement par une conduite de soutirage 3.

IPC 1-7

C25C 3/00; **C25C 3/34**

IPC 8 full level

C25C 3/00 (2006.01); **C25C 3/34** (2006.01); **C25C 3/36** (2006.01); **C25C 7/00** (2006.01)

CPC (source: EP KR)

C25C 1/22 (2013.01 - KR); **C25C 3/00** (2013.01 - EP); **C25C 3/34** (2013.01 - EP)

Citation (search report)

- [X] FR 430116 A 19111009 - ANTON KRATKY [AT], et al
- [X] US 4139427 A 19790213 - GREINACHER EKKEHARD
- [X] US 2961387 A 19601122 - SLATIN HARVEY L
- [A] FR 2108000 A1 19720512 - MOLYBDENUM CORP [US]
- [X] CHEMICAL ABSTRACTS, vol. 62, no. 7, 29 mars 1965, colonnes 7384h-7385a, Columbus, Ohio, US; YU. S. SOKOLOVSKII et al.: "Electrode processes during cerium electrolysis in chloride fluoride melts" & TR. INST. ELEKTROKHM., AKAD. NAUK SSSR, URAL'SK. FILIAL NO. 47-51 (1964)

Cited by

US4966661A; FR2661425A1; US5091065A

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EP 0184515 A1 19860611; **EP 0184515 B1 19890816**; AT E45597 T1 19890915; AU 5085085 A 19860612; AU 591080 B2 19891130; CA 1276585 C 19901120; CA 1318882 C 19930608; CN 85108786 A 19861105; DE 3572371 D1 19890921; ES 549652 A0 19870416; ES 8705050 A1 19870416; FR 2574434 A1 19860613; FR 2574434 B1 19890421; JP H0440435 B2 19920702; JP S61159593 A 19860719; KR 860005054 A 19860716; KR 910009402 B1 19911115; MY 102430 A 19920630; NO 172989 B 19930628; NO 172989 C 19931006; NO 854899 L 19860609; ZA 859360 B 19860827

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