

Title (en)

PROCESS FOR PROCESSING RED MUD AND PRODUCING RARE-EARTH METAL SALTS

Title (de)

VERFAHREN ZUR VERARBEITUNG VON ROTSCHLAMM UND ZUR HERSTELLUNG VON SELTENERDMETALLSALZEN

Title (fr)

PROCÉDÉ DE TRAITEMENT DE BOUE ROUGE ET DE PRODUCTION DE SELS DE MÉTAL DE TERRES RARES

Publication

**EP 3433391 A1 20190130 (EN)**

Application

**EP 17728251 A 20170323**

Priority

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- HU P1600393 A 20160624
- HU 2017050007 W 20170323

Abstract (en)

[origin: US2020299806A1] The invention relates to a process for processing red mud, said process comprising the following steps: (a) providing red mud waste of alumina production (in the following: red mud); (b) further, providing waste containing organic material, and converting to synthesis gas by high temperature pyrolysis; (c) converting the sodium oxide present in the red mud in the form of soluble glass to sodium carbonate with carbonic acid; (d1) magnetizing the Fe<sub>2</sub>O<sub>3</sub> hematite ferric oxide present in the red mud and separating the anti-ferromagnetic Fe<sub>2</sub>O<sub>3</sub> hematite ferric oxide from the remained slurry by magnetic separator; (d2) converting the Fe<sub>2</sub>O<sub>3</sub> hematite ferric oxide present in the red mud to Fe<sub>3</sub>O<sub>4</sub> magnetite ferrous ferric oxide with synthesis gas, and separating the Fe<sub>3</sub>O<sub>4</sub> magnetite ferrous ferric oxide from the remained slurry by magnetic separator; (e) treating the remained slurry obtained in steps (d1) or (d2) with strong acid, thus obtaining metal sulphate solution and SiO<sub>2</sub> and TiO<sub>2</sub> suspension.

IPC 8 full level

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CPC (source: EP US)

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