Title (en)

INTEGRATED METHOD FOR THE DECADMIATION OF PHOSPHORIC ACID

Title (de)

INTEGRIERTES VERFAHREN ZUR ENTKOFFEINIERUNG VON PHOSPHORSÄURE

Title (fr)

PROCEDE INTEGRE DE DECADMIATION D'ACIDE PHOSPHORIQUE

Publication

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Application

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Abstract (en)

[origin: WO2022124875A1] The present invention relates to an integrated method for the decadmiation of phosphoric acid, which comprises: etching (1) phosphate (Ph) with sulphuric acid (SA) in a reactor so as to prepare a phosphoric acid solution containing cadmium and calcium sulphate dihydrate or hemihydrate; concentrating (2) said phosphoric acid solution, so as to form a concentrated phosphoric acid (PA) having a mass content between 42% and 61% of P2O5; adding (3) sulphuric acid (SA) in order to adjust the free sulphate content, anhydrite being formed by recrystallisation of the calcium sulphate dihydrate and hemihydrate, the cadmium co-crystallising with said anhydrite, so as to obtain decadmiated phosphoric acid and cadium-rich anhydrite sludge; - desulphating (4) the decadmiated phosphoric acid; desaturating (5) and clarifying (6) by decanting the mixture of decadmiated phosphoric acid and sludge; conditioning (7) said sludges (PS1) with a phosphoric acid solution (APd) having a titre by mass of less than or equal to 61% of P2O5; recycling the conditioned sludge (PS2) in the phosphate etching step (1).

IPC 8 full level

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