

Title (en)  
PROCESS FOR PURIFYING A SODIUM SULFATE RESIDUE

Title (de)  
VERFAHREN ZUR REINIGUNG VON NATRIUMSULFATRÜCKSTÄNDEN

Title (fr)  
PROCÉDÉ DE PURIFICATION D'UN RÉSIDU DE SULFATE DE SODIUM

Publication  
**EP 3972936 A1 20220330 (EN)**

Application  
**EP 20809363 A 20200519**

Priority

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Abstract (en)  
[origin: WO2020233558A1] Provided is a process for purifying a sodium sulfate residue comprising sodium sulfate, sodium carbonate and sodium chloride, and optionally insoluble matter. The process comprises: (a) dissolving the residue with a first aqueous solution to obtain a first aqueous suspension comprising at least 5 wt% and at most 32 wt% of sodium sulfate; (b) optionally separating the insoluble matter from the first aqueous suspension to obtain a separated insoluble matter and a second aqueous solution; (c1) acidifying the second aqueous solution with sulfuric acid to a pH of less than 6 so as to transform at least part or all of dissolved sodium carbonate to sodium sulfate; (c2) optionally aerating the acidified second aqueous solution with oxygen or air to convert sulfites to sulfates; (c3) alkalinizing the acidified second aqueous solution to a pH of about 7 or more with an alkali; (d) removing part of the water from the second aqueous solution to obtain a mother liquor and to crystallize sodium sulfate; (f) purging part of the mother liquor and recycling part of the non-purged mother liquor in at least one of the steps (a) to (d), wherein a weight ratio of the purged separated mother liquor to the non-purged separated mother liquor is at most 0.20 t/t. Also provided is a use of sodium sulfate particles obtained from the process.

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