

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

- CN 201920741030 U 20190522
- CN 2020090982 W 20200519

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.

IPC 8 full level

C01D 5/16 (2006.01)

CPC (source: CN EP KR)

C01D 5/16 (2013.01 - CN EP KR); **C01P 2006/80** (2013.01 - CN EP KR); **C01P 2006/82** (2013.01 - CN)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2020233558 A1 20201126; CN 113874322 A 20211231; CN 113874322 B 20240322; CN 117326574 A 20240102; CN 212315566 U 20210108; EP 3972936 A1 20220330; EP 3972936 A4 20230712; KR 20220034732 A 20220318

DOCDB simple family (application)

CN 2020090982 W 20200519; CN 201920741030 U 20190522; CN 202080037986 A 20200519; CN 202311265402 A 20200519; EP 20809363 A 20200519; KR 20217041435 A 20200519