

Title (en)

Biodegradable quaternary esters used as flotation agents

Title (de)

Biologisch abbaubare Esterquats als Flotationshilfsmittel

Title (fr)

Esters quaternaires biodégradables utilisés comme agents de flottation

Publication

EP 1025908 B1 20020403 (DE)

Application

EP 00107539 A 19970117

Priority

- DE 19602856 A 19960126
- EP 97901048 A 19970117

Abstract (en)

[origin: EP1025908A1] The flotation process for removing mineral impurities, especially silicates, from ores comprises passing air through an aqueous suspension of the ground ore in the presence of a flotation aid and separating off the foam plus the impurities. The collector components used in the flotation aid comprise quaternised ester compounds (esterquats) of formula (I), (II) and/or (III), optionally with other anionic, cationic, amphoteric and/or non-ionic substances. In the formulae: R1CO, R5CO and R9CO = 6-24C acyl; R2, R3, R6 and R10 = H or 6-24C acyl; R4 = 1-4C alkyl or -(CH2CH2O)qH, where q = 1-12; R7, R8, R11, R12 and R13 = 1-4C alkyl; (m + n + p) or (m + n) = 0 or 1-12; and X = halide, alkylsulphate or alkylphosphate.

IPC 1-7

B03D 1/01

IPC 8 full level

B03D 1/01 (2006.01); **C09K 23/18** (2022.01)

CPC (source: EP KR)

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Cited by

CN102933310A; CN104520009A; CN104646186A; US8936159B2; US8353405B2; WO2011147855A3; WO2007122148A1; US8474627B2; USRE46235E

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