

Title (en)  
MIXTURE OF AN AMINE ALKOXYLATE ESTER AND A QUATERNARY AMMONIUM COMPOUND AS A COLLECTOR FOR MINERALS CONTAINING SILICATE

Title (de)  
MISCHUNG AUS EINEM AMINALKOXYLATESTER UND EINER QUARTERNÄREN AMMONIUMVERBINDUNG ALS SAMMLER FÜR SILIKATHALTIGE MINERALIEN

Title (fr)  
MÉLANGE D'UN ESTER ALCOXYLATE D'AMINE ET D'UN COMPOSÉ D'AMMONIUM QUATERNAIRE EN TANT QUE COLLECTEUR POUR MINÉRAUX CONTENANT DU SILICATE

Publication  
**EP 2355933 B1 20160720 (DE)**

Application  
**EP 09778846 A 20091006**

Priority  
• EP 2009007147 W 20091006  
• DE 102008056338 A 20081107

Abstract (en)  
[origin: WO2010051895A1] The invention relates to the use of a composition of A) at least one quaternary ammonia compound comprising at least one organic radical bonded to the ammonia nitrogen atom and optionally comprising heteroatoms and having 1 to 36 carbon atoms, and B) at least one amine alkoxylate ester of formula (1) or a salt thereof, where A, B are, independently of each other, a C2- through C5-alkylene radical R1, a C8- through C24-alkyl radical or alkenyl radical R2, R3, R4 independent of each other, H, or a C8- through C24-acyl radical, with the stipulation that at least one of the radicals R2, R3 or R4 stands for a C8- through C24-acyl radical, and x, y, z, independently of each other, stand for a whole number from 0 through 50, with the stipulation that x + y + z is a whole number from 1 through 100, in quantities of 10 through 5000 g/tonne of ore as a collector in silicate floatation.

IPC 8 full level  
**B03D 1/004** (2006.01); **B03D 1/01** (2006.01); **B03D 1/02** (2006.01); **C09K 23/00** (2022.01); **B03D 101/02** (2006.01); **B03D 103/04** (2006.01); **B03D 103/06** (2006.01)

CPC (source: EP US)  
**B03D 1/0043** (2013.01 - EP US); **B03D 1/01** (2013.01 - EP US); **B03D 1/011** (2013.01 - EP US); **B03D 1/02** (2013.01 - US); **B03D 2201/02** (2013.01 - EP US); **B03D 2203/04** (2013.01 - EP US); **B03D 2203/06** (2013.01 - EP US)

Designated contracting state (EPC)  
AT DE FI NO

DOCDB simple family (publication)  
**WO 2010051895 A1 20100514**; AU 2009313103 A1 20100514; AU 2009313103 B2 20150827; BR PI0920415 A2 20151222; CA 2742931 A1 20100514; CA 2742931 C 20160927; CL 2011001023 A1 20111111; CN 102112235 A 20110629; DE 102008056338 A1 20100520; DE 102008056338 B4 20120216; EP 2355933 A1 20110817; EP 2355933 B1 20160720; RU 2011122805 A 20121220; RU 2508950 C2 20140310; UA 103343 C2 20131010; US 2011203975 A1 20110825; US 9027757 B2 20150512; ZA 201100206 B 20111026

DOCDB simple family (application)  
**EP 2009007147 W 20091006**; AU 2009313103 A 20091006; BR PI0920415 A 20091006; CA 2742931 A 20091006; CL 2011001023 A 20110505; CN 200980129752 A 20091006; DE 102008056338 A 20081107; EP 09778846 A 20091006; RU 2011122805 A 20091006; UA A201107159 A 20091006; US 200913126303 A 20091006; ZA 201100206 A 20110107