

Title (en)
COLLECTOR COMPOSITION AND FLOTATION METHOD

Title (de)
SAMMLERZUSAMMENSETZUNG UND FLOTATIONSVERFAHREN

Title (fr)
COMPOSITION DE COLLECTEUR ET PROCÉDÉ DE FLOTTATION

Publication
EP 4364852 A1 20240508 (EN)

Application
EP 22205668 A 20221104

Priority
EP 22205668 A 20221104

Abstract (en)
The disclosure is directed to collector composition comprising anionic, cationic, and/or amphoteric derivatives of cashew nutshell liquid, and the use of those collector compositions in flotation methods.

IPC 8 full level
B03D 1/004 (2006.01); **B03D 1/008** (2006.01); **B03D 1/01** (2006.01); **B03D 1/012** (2006.01); **B03D 1/014** (2006.01)

CPC (source: EP)
B03D 1/0043 (2013.01); **B03D 1/008** (2013.01); **B03D 1/01** (2013.01); **B03D 1/011** (2013.01); **B03D 1/012** (2013.01); **B03D 1/014** (2013.01);
B03D 2201/02 (2013.01); **B03D 2203/06** (2013.01)

Citation (applicant)

- WO 2019007712 A1 20190110 - AKZO NOBEL CHEMICALS INT BV [NL]
- WO 2019007714 A1 20190110 - AKZO NOBEL CHEMICALS INT BV [NL]
- RU 2717862 C1 20200326 - PUBLICHNOE AKTSIONERNOE OBSHCHESTVO URALKHIMPLAST [RU]
- RU 2744327 C1 20210305 - PUBLICHNOE AKTSIONERNOE OBSHCHESTVO URALKALIJ PAO URALKALIJ [RU]
- WO 2021140166 A1 20210715 - BASF SE [DE], et al
- US 4358368 A 19821109 - HELLSTEN KARL M E, et al
- US 4828687 A 19890509 - HELLSTEN MARTIN [SE], et al
- US 2016129456 A1 20160512 - SMOLKO-SCHVARZMAYR NATALIJA [SE], et al
- "Nonionic Surfactants: Organic Chemistry in Surfactant Science Series", vol. 72, 1998, MARCEL DEKKER, INC, pages: 1 - 37

Citation (search report)

- [XA] CN 113774510 A 20211210 - ZHEJIANG HENGLAN TECH CO LTD
- [XJ] CN 106117539 A 20161116 - CHANGSHU NAISU BIOLOGICAL MAT TECH CO LTD
- [XJ] CN 105906797 A 20160831 - CHANGSHU NAISU BIOLOGICAL MAT TECH CO LTD
- [XJ] CN 109158050 A 20190108 - SHANGHAI BRONKOW CHEMICAL CO LTD, et al
- [XJ] WO 2017060451 A1 20170413 - CLARIANT INT LTD [CH]
- [XJ] CN 108530307 A 20180914 - SHANGHAI BRONKOW CHEMICAL CO LTD, et al
- [XJ] CN 112500299 A 20210316 - UNIV EAST CHINA SCIENCE & TECH, et al
- [XJ] CN 110013794 A 20190716 - PETROCHINA CO LTD
- [YA] US 4514290 A 19850430 - SWIATKOWSKI PIOTR [SE], et al
- [YA] US 4358368 A 19821109 - HELLSTEN KARL M E, et al
- [YA] RU 2744327 C1 20210305 - PUBLICHNOE AKTSIONERNOE OBSHCHESTVO URALKALIJ PAO URALKALIJ [RU]
- [YA] RU 2718880 C1 20200415 - PUBLICHNOE AKTSIONERNOE OBSHCHESTVO URALKHIMPLAST [RU]

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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4364852 A1 20240508; WO 2024094486 A1 20240510

DOCDB simple family (application)

EP 22205668 A 20221104; EP 2023079600 W 20231024