

Title (en)  
MANUFACTURING CALCIUM SULFONATE GREASES USING ALKALI METAL HYDROXIDE AND DELAYED ADDITION OF NON-AQUEOUS CONVERTING AGENTS

Title (de)  
HERSTELLUNG VON SULFONATSCHMIERFETT UNTER VERWENDUNG VON ALKALIMETALLHYDROXID UND VERZÖGERTER ZUGABE VON WASSERFREIEN UMWANDLUNGSMITTELN

Title (fr)  
FABRICATION DE GRAISSES DE SULFONATE DE CALCIUM À L'AIDE D'UN HYDROXYDE DE MÉTAL ALCALIN ET PAR ADDITION DIFFÉRÉE D'AGENTS DE CONVERSION NON AQUEUX

Publication  
**EP 3400280 A4 20181114 (EN)**

Application  
**EP 16884167 A 20161214**

Priority

- US 201614990473 A 20160107
- US 201615130422 A 20160415
- US 2016066578 W 20161214

Abstract (en)  
[origin: WO2017120000A1] An overbased calcium sulfonate grease composition and method of manufacture comprising added alkali metal hydroxide alone or in combination with (a) calcium hydroxyapatite and/or added calcium carbonate used as calcium containing bases for reacting with complexing acids) and/or (b) at least one delay period between the addition of water as a converting agent and addition of a portion of a non-aqueous converting agent. A delay period may involve the period of time it takes to adjust the temperature of the mixture, a period of time during which the mixture is held at a temperature or within a range of temperatures, and multiples and any combination thereof. These calcium sulfonate greases have improved thickener yield and high dropping points compared to greases made without added alkali metal hydroxide and delay between the additions of water and a non-aqueous converting agent, particularly when a poor quality overbased calcium sulfonate is used.

IPC 8 full level  
**C10M 177/00** (2006.01); **C10M 101/00** (2006.01); **C10M 115/10** (2006.01); **C10M 121/04** (2006.01); **C10M 159/20** (2006.01); **C10M 159/24** (2006.01); **C10M 169/02** (2006.01); **C10M 169/04** (2006.01)

CPC (source: EP KR)  
**C10M 159/24** (2013.01 - EP KR); **C10M 2201/062** (2013.01 - EP KR); **C10M 2219/089** (2013.01 - EP KR); **C10N 2050/10** (2013.01 - EP KR); **C10N 2070/00** (2013.01 - EP KR)

Citation (search report)

- [XYI] CN 104327906 A 20150204 - CHINA PETROLEUM & CHEMICAL
- [Y] US 5308514 A 19940503 - OLSON WILLIAM D [CA], et al
- See references of WO 2017120000A1

Designated contracting state (EPC)  
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Designated extension state (EPC)  
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DOCDB simple family (publication)  
**WO 2017120000 A1 20170713**; AU 2016385438 A1 20180705; AU 2016385438 B2 20190418; BR 112018013843 A2 20181211; BR 112018013843 B1 20220809; CA 3010739 A1 20170713; CA 3010739 C 20190219; CN 108473910 A 20180831; CN 108473910 B 20200214; EP 3400280 A1 20181114; EP 3400280 A4 20181114; EP 3400280 B1 20231004; JP 2019501266 A 20190117; JP 6511199 B2 20190515; KR 102095188 B1 20200331; KR 20180101478 A 20180912; MX 2018008341 A 20190131

DOCDB simple family (application)  
**US 2016066578 W 20161214**; AU 2016385438 A 20161214; BR 112018013843 A 20161214; CA 3010739 A 20161214; CN 201680078383 A 20161214; EP 16884167 A 20161214; JP 2018535335 A 20161214; KR 20187022789 A 20161214; MX 2018008341 A 20161214