

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 March 2005 (03.03.2005)

PCT

(10) International Publication Number
WO 2005/018300 A3

(51) International Patent Classification⁷: **E21B 43/22**,
C09K 3/00, C07C 309/00

(21) International Application Number:
PCT/US2004/025328

(22) International Filing Date: 4 August 2004 (04.08.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/893,729 15 July 2004 (15.07.2004) US

(71) Applicant (for all designated States except US):
CHEVRON ORONITE COMPANY LLC [US/US];
6001 Bollinger Canyon Road, 3rd Floor, San Ramon, CA
94583 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CAMPBELL, Curt,**
B. [US/US]; 180 Montego Drive, Hercules, CA 94547
(US). **SINQUIN, Gilles, P.** [FR/US]; 125 Lakeshore
Court, Richmond, CA 94804 (US).

(74) Agents: **KELLEY, Sarita, R.** et al.; ChevronTexaco Cor-
poration, Law Department, Post Office Box 6006, San Ra-
mon, CA 94583-0806 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments
- upon request of the applicant, before the expiration of the
time limit referred to in Article 21(2)(a)

(88) Date of publication of the international search report:
23 June 2005

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: ALKYLXYLENE SULFONATES FOR ENHANCED OIL RECOVERY PROCESSES

(57) Abstract: The present invention is directed to alkylxylene sulfonate for enhanced oil recovery processes. The alkylxylene moiety in the alkylxylene sulfonate contains a high percentage of the 4-alkyl-1,2-dimethyl benzene isomer and a high percentage of alkyl group attachment to the xylene ring at positions higher than the 2-position on the alkyl carbon chain. The present invention is also directed to a method for enhancing the recovery of oil from a subterranean reservoir which method employs the alkylxylene sulfonate of the present invention. The alkylxylene sulfonate is employed in an aqueous media. The method optionally employs co-surfactants. It has surprisingly been discovered that the high percentage of the 4-alkyl-1,2-dimethyl benzene isomer and the high percentage alkyl group attachment to the xylene moiety at positions higher than the 2-position along the alkyl carbon chain on the alkylxylene sulfonate of the present invention provides an enhanced oil recovery (EOR) surfactant having low Interfacial Tension (IFT).



WO 2005/018300 A3