

Title (en)

MONO- AND BISALKYLENE TRIALKOXYSILANES AS DISPERSANTS FOR HYDRAULIC BINDERS

Title (de)

MONO- UND BISALKYLENTRIALKOXYSILANE ALS DISPERGIERMITTEL FÜR HYDRAULISCHE BINDEMittel

Title (fr)

MONO- ET BISALKYLÈNTRIALCOXYSILANES COMME AGENTS DISPERSANTS POUR LIANTS HYDRAULIQUES

Publication

**EP 3209707 A1 20170830 (DE)**

Application

**EP 15784296 A 20151008**

Priority

- EP 14189932 A 20141022
- EP 2015073270 W 20151008

Abstract (en)

[origin: WO2016062552A1] The invention relates to mono- and bisalkylene trialkoxysilanes of general formula (I), wherein –Y– stands for –O– or –N(R<sub>9</sub>)<sub>2</sub>-a–; each –Z– is the same or different and is selected from the group consisting of –O– and –CHR<sub>4b</sub>–; a stands for 1 if –Y– equals –O– and for 1 or 2 if –Y– equals –N(R<sub>9</sub>)<sub>2</sub>-a–; m is a natural number from 1 to 20; n is a natural number from 7 to 200; each R<sub>1</sub> is the same or different and is selected from the group consisting of methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, and phenyl; and R<sub>2</sub>, R<sub>3</sub>, R<sub>4a</sub>, R<sub>4b</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> each stand independently for H, suitable linear or branched C<sub>1</sub>-C<sub>20</sub> alkyl or possibly C<sub>2</sub>-C<sub>20</sub> alkenyl, C<sub>2</sub>-C<sub>20</sub> alkynyl, C<sub>1</sub>-C<sub>20</sub> alkanoyl, C<sub>3</sub>-C<sub>20</sub> alkenoyl, ω-carboxy-(C<sub>1</sub>-C<sub>6</sub> alkyl)carbonyl, and ω-carboxy-(C<sub>2</sub>-C<sub>6</sub> alkenyl)carbonyl and/or C<sub>7</sub>-C<sub>20</sub> aryloyl. The invention further relates to methods for producing said mono- and bisalkylene trialkoxysilanes, the to use of said mono- and bisalkylene trialkoxysilanes as dispersants in aqueous suspensions of gravels and of hydraulic binders, and to said aqueous suspensions as such.

IPC 8 full level

**C08G 65/336** (2006.01); **C04B 24/42** (2006.01); **C08G 65/22** (2006.01)

CPC (source: CN EP KR US)

**C04B 14/02** (2013.01 - US); **C04B 24/42** (2013.01 - CN EP KR US); **C04B 28/006** (2013.01 - CN EP KR US); **C04B 28/02** (2013.01 - EP KR US);  
**C04B 28/04** (2013.01 - CN); **C07F 7/1804** (2013.01 - KR); **C07F 7/1892** (2013.01 - KR); **C08G 65/336** (2013.01 - CN);  
**C04B 2103/408** (2013.01 - CN EP KR US); **C04B 2201/50** (2013.01 - CN); **C08G 2650/04** (2013.01 - CN); **Y02P 40/10** (2015.11 - EP US)

C-Set (source: CN EP US)

CN

**C04B 28/04 + C04B 14/06 + C04B 24/42 + C04B 2103/50**

EP US

**C04B 28/02 + C04B 14/02 + C04B 24/42**

Citation (search report)

See references of WO 2016062552A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2016062552 A1 20160428**; CN 107108358 A 20170829; EP 3209707 A1 20170830; JP 2017533313 A 20171109;  
KR 20170076730 A 20170704; TW 201615648 A 20160501; US 2017355642 A1 20171214

DOCDB simple family (application)

**EP 2015073270 W 20151008**; CN 201580070080 A 20151008; EP 15784296 A 20151008; JP 2017521989 A 20151008;  
KR 20177013700 A 20151008; TW 104130078 A 20150911; US 201515520888 A 20151008