



(43) International Publication Date
27 June 2013 (27.06.2013)

(10) International Publication Number
WO 2013/092442 A1

(51) International Patent Classification:

C09D 167/06 (2006.01) *C08K 5/00* (2006.01)
C09D 7/04 (2006.01) *C08K 13/02* (2006.01)
C09D 7/12 (2006.01) *C08K 5/3467* (2006.01)
C08K 3/10 (2006.01)

(21) International Application Number:

PCT/EP2012/075682

(22) International Filing Date:

17 December 2012 (17.12.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11194692.7 20 December 2011 (20.12.2011) EP

(71) Applicant: **AKZO NOBEL COATINGS INTERNATIONAL B.V.** [NL/NL]; Velperweg 76, NL-6824 BM Arnhem (NL).

(72) Inventors: **MEIJER, Michel Daniel**; Tuinderijpad 14, NL-2324 MC Leiden (NL). **VAN WEELDE, Eddy**; Meerkoet 32, NL-2957 NJ Nieuw-Lekkerland (NL). **VAN DIJK, Joseph Theodorus Maria**; Lage Morsweg 19, NL-2332 XA Leiden (NL). **FLAPPER, Jitte**; Johannes van der Waalsstraat 44-1, NL-1098 PN Amsterdam (NL).

(74) Agent: **AKZO NOBEL IP DEPARTMENT**; Velperweg 76, NL-6824 BM Arnhem (NL).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: DRIER FOR AUTO-OXIDISABLE COATING COMPOSITIONS

(57) Abstract: A drier for air-drying an auto-oxidizable resin composition, said drier comprising: 1,4,7-trialkyl- 1,4,7-triazacyclononane (L); a manganese salt having the general formula $Mn^{2+}[X]_n$, wherein anion X is selected from PF_6^- , SbF_6^- , AsF_6^- , BF_4^- , $B(C_6F_5)_4^-$, Cl^- , Br^- , I^- , NO_3^- , or R_2COO^- in which case $n=2$, or the anion X is SO_4^{2-} in which case $n=1$, and wherein R_2 is C_1 - C_{20} alkyl optionally substituted with heteroatoms, C_6 - C_{20} aryl optionally substituted with heteroatoms, or a polymeric residue; wherein the 1,4,7-trialkyl-1,4,7-triazacyclononane (L) is present in the mixture in an amount such that the molar ratio of Mn:L is at least 1.25:1 and preferably at least 1.5:1.



WO 2013/092442 A1