



(51) International Patent Classification:

C08K 5/17 (2006.01) *C08F 20/00* (2006.01)
C08K 5/13 (2006.01) *C08F 6/02* (2006.01)
C08F 2/40 (2006.01)

(21) International Application Number:

PCT/US2012/023453

(22) International Filing Date:

1 February 2012 (01.02.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/020,487 3 February 2011 (03.02.2011) US

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(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, 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, 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, MD, 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).

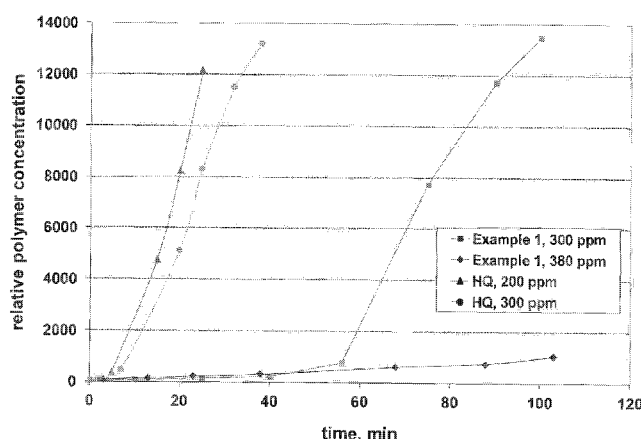
Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))
- of inventorship (Rule 4.17(iv))

[Continued on next page]

(54) Title: MULTI-COMPONENT POLYMERIZATION INHIBITORS FOR ETHYLENICALLY UNSATURATED MONOMERS

FIG. 1



(57) Abstract: The invention provides a composition and a method of using the composition for inhibiting the unwanted polymerization of ethylenically unsaturated monomers. The composition is prepared by reducing a nitroxide stable free radical to its corresponding hydroxylamine through reaction with a dialkyl/aryl hydroxylamine and subsequent addition of a polymerization prevention component selected from phenolic antioxidants, phenylenediamine and phenylenediamine derivatives, or phenothiazine and phenothiazine derivatives targeted towards ethylenically unsaturated monomers. The conversion of the nitroxide by the dialkyl/aryl hydroxylamine is to prevent it or the polymerization prevention component from being "spent" by reaction with each other, impurities or any other incompatible components. This allows previously incompatible combinations to now work effectively. In fact, the combination is more efficacious as the combination exerts a synergy due to the presence of various polymerization prevention reagents. The composition is a synergistic combination of various polymerization inhibition compounds for the inhibition of the unwanted polymerization of ethylenically unsaturated monomers.

**Published:****(88) Date of publication of the international search report:**

8 November 2012

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

A. CLASSIFICATION OF SUBJECT MATTER*C08K 5/17(2006.01)i, C08K 5/13(2006.01)i, C08F 2/40(2006.01)i, C08F 20/00(2006.01)i, C08F 6/02(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C08K 5/17; C07C 69/52; C07C 7/20; C08F 2/38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: polymerization, inhibit, monomer, nitroxide radical, hydroxylamine, phenolic

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003-0105249 A1 (MUSLIM, D. SHAHID) 05 June 2003 See claims 1, 2, 4, paragraph [0048]	1-13
A	US 6342647 B1 (ROOF, GLENN L. et al.) 29 January 2002 See claim 2, column 6 lines 30-67	1-13
A	US 05322960 A (SAKAMOTO, KAZUHIKO et al.) 21 June 1994 See claims 1, 4	1-13
A	US 05489720 A (ARHANCET, GRACIELA B.) 06 February 1996 See claims 1, 7	1-13



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&" document member of the same patent family

Date of the actual completion of the international search

20 SEPTEMBER 2012 (20.09.2012)

Date of mailing of the international search report

20 SEPTEMBER 2012 (20.09.2012)

Name and mailing address of the ISA/KR

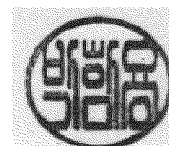
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Telephone No. 82-42-481-8409



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/023453

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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