



(51) International Patent Classification:

C08F 2/38 (2006.01) *C08J 3/00* (2006.01)
C08F 2/40 (2006.01) *C08K 5/16* (2006.01)

(21) International Application Number:

PCT/US2014/011276

(22) International Filing Date:

13 January 2014 (13.01.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/765,508 12 February 2013 (12.02.2013) US

(71) Applicant: ECOLAB USA INC. [US/US]; 370 N. Wabasha Street, St. Paul, Minnesota 55102 (US).

(72) Inventors: COLORADO, JR., Ramon; 5104 Irving Way, Houston, Texas 77087 (US). LEWIS, Vincent; 5627 Walnut Glen Lane, Rosenberg, Texas 77471 (US). GEIGER, Robert A.; 5401 Gibraltar Pl., Richmond, Texas 77407 (US). HANCOCK, Jessica; Oostzijde 247, NL-1508EN Zaandam (NL). NEILSON, Andrew R.; 2027 Mound Lake Dr., Richmond, Texas 77406 (US).

(74) Agent: SORENSEN, Andrew D.; Ecolab Usa Inc., 655 Lone Oak Drive, Eagan, Minnesota 55121 (US).

(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, IR, IS, JP, KE, KG, 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, SA, 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, KM, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: ONLINE MONITORING OF POLYMERIZATION INHIBITORS FOR CONTROL OF UNDESIRABLE POLYMERIZATION

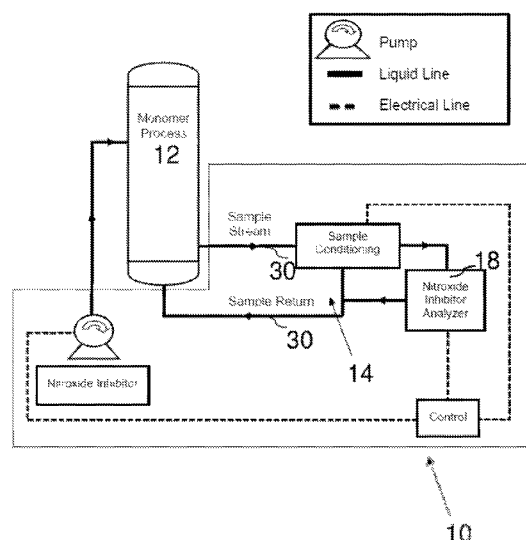


FIG. 1

(57) Abstract: Disclosed herein are systems and methods for monitoring and controlling a nitroxide-based polymerization inhibitor in vinyl-based monomers. A dosage of the nitroxide-based polymerization inhibitor is provided in the vinyl-based monomers. A residual concentration of the nitroxide-based polymerization inhibitor is measured substantially in real time, and an optimized dosage of the nitroxide-based polymerization inhibitor is provided in response to the measured residual concentration.



Declarations under Rule 4.17:

Published:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))* — *with international search report (Art. 21(3))*