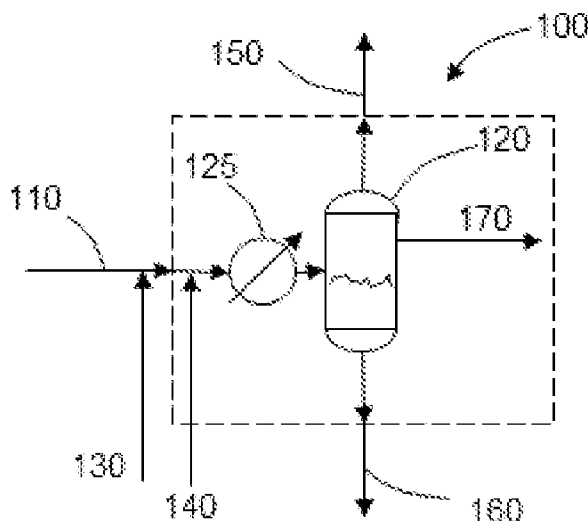




- (51) **International Patent Classification:**
C07C 2/30 (2006.01) **C08F 10/00** (2006.01)
C07C 2/32 (2006.01)
- (21) **International Application Number:** PCT/US2012/051956
- (22) **International Filing Date:** 23 August 2012 (23.08.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:** 61/578,996 22 December 2011 (22.12.2011) US
- (71) **Applicant (for all designated States except US):** **EXXON-MOBIL CHEMICAL PATENTS INC.** [US/US]; 5200 Bayway Drive, Baytown, TX 77520-2101 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **WEBER, Michael, W.** [US/US]; 13807 Greenwood Lane South, Houston, TX 77044 (US). **LATTNER, James, R.** [US/US]; 10 Bay Oaks, Laporte, TX 77571 (US). **VERAA, Michael, J.** [US/US]; 16915 Soaring Forest Drive, Houston, TX 77059 (US).
- (74) **Agents:** **ABDON, Robert, L.** et al.; ExxonMobil Chemical Company, Law Technology, P.O. Box 2149, Baytown, TX 77522-2149 (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, 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, 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).

[Continued on next page]

(54) **Title:** METHODS AND APPARATUS FOR DEACTIVATING A CATALYST COMPOSITION**Figure 1**

(57) **Abstract:** Disclosed herein are methods and apparatus for deactivating a catalyst composition in an reaction product stream. One such method and apparatus contact the catalyst composition with a catalyst-deactivating composition and a diluent in a vapor phase of a product-receiving vessel, wherein the boiling point of the diluent is at least 5.0°C greater than the boiling point of the catalyst-deactivating composition. Also disclosed are oligomerization systems for producing oligomers.

**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))*

Published:

- *with international search report (Art. 21(3))*