



(51) International Patent Classification:

B01D 53/14 (2006.01) **C08F 6/00** (2006.01)
C07C 7/11 (2006.01)

(21) International Application Number:

PCT/US2015/059658

(22) International Filing Date:

9 November 2015 (09.11.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/093,656 18 December 2014 (18.12.2014) 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, 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, 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, ST, 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).

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))

(54) Title: PROCESS FOR PURIFICATION OF VENT STREAMS

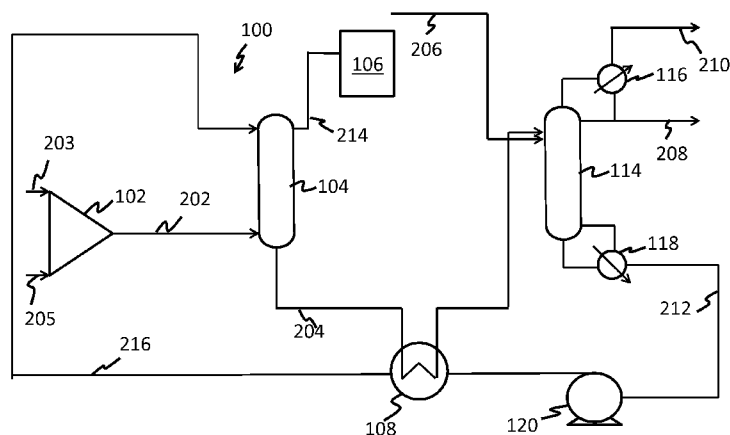


Figure 1

(57) **Abstract:** Disclosed herein is a system for recovering olefins from a vent stream comprising an absorber; and a stripper; where the absorber and the stripper are in a recycle loop; and where the absorber is operative to treat a vent stream with a solvent to remove more than 99 wt% of a halogenated by-product contained in the vent stream and to recover 90 to 95 wt% of olefin molecules present in the vent stream; and where the stripper is operative to remove more than 99 wt% of the halogenated by-products present in the solvent; and where the solvent is recycled to the absorber.