

(43) International Publication Date
14 May 2010 (14.05.2010)(10) International Publication Number
WO 2010/053598 A1

(51) International Patent Classification:

C07C 5/03 (2006.01) *C07C 11/04* (2006.01)
C07C 7/08 (2006.01)

(21) International Application Number:

PCT/US2009/046736

(22) International Filing Date:

9 June 2009 (09.06.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/260,751 29 October 2008 (29.10.2008) 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, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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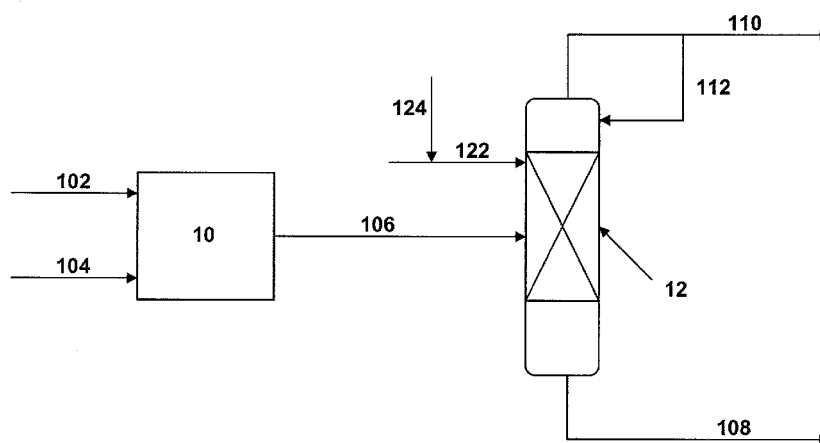
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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

(54) Title: ABSORBER DEMETHANIZER FOR METHANOL TO OLEFINS PROCESS

FIGURE 1



(57) Abstract: A process for conversion of methanol to olefins (MTO), including: contacting methanol and air in a methanol-to-olefins reactor; recovering an effluent from the methanol- to-olefins reactor comprising methanol, ethylene, and nitrogen oxides; separating the effluent via one or more reactive distillation and/or distillation stages using a hydrocarbon absorbent to recover a first fraction comprising ethylene and a second fraction comprising methane; wherein the separating comprises operating the one or more extractive distillation and/or distillation stages at temperatures and pressures sufficient to prevent any substantial conversion of nitrogen oxides to N_2O_3 .