PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

20000534-8
IPOS

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : C07D 301/32

A1

(11) International Publication Number: WO 99/07690

(43) International Publication Date: 18 February 1999 (18.02.99)

(21) International Application Number: PCT/EP98/04693

(22) International Filing Date: 27 July 1998 (27.07.98)

(30) Priority Data:
08/908,604 8 August 1997 (08.08.97) US

(71) Applicant *(for all designated States except MN)*: ARCO CHEMICAL TECHNOLOGY, L.P. [US/US]; Two Greenville Crossing, Suite 238, 4001 Kennett Pike, Greenville, DE 19807 (US).

(71) Applicant *(for MN only)*: ARCO CHEMIE TECHNOLOGIE NEDERLAND B.V. [NL/NL]; P.O. Box 7195, NL-3000 HD Rotterdam (NL).

(72) Inventor: RUETER, Michael, A.; 350 Maiden Lane, Norristown, PA 19401 (US).

(74) Agent: SMAGGASGALE, Gillian, Helen; Mathys & Squire, 100 Gray's Inn Road, London WC1X 8AL (GB).

(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: PROPYLENE OXIDE PURIFICATION

(57) Abstract

Propylene oxide obtained by an epoxidation process which uses methanol as a solvent may be effectively treated to remove acetaldehyde by subjecting the crude epoxidation reaction product to fractional distillation. The methanol solvent is utilized during such distillation to lower the relative volatility of the acetaldehyde impurity, thereby making it possible to obtain a bottoms fraction containing substantially all the acetaldehyde. Purified propylene oxide having a reduced acetaldehyde concentration is removed as an overhead stream. Water may also be effectively separated from the propylene oxide using this procedure.