9903199-9
IPOS

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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B01J 19/26, 19/18, 10/00, 14/00 — A1

(11) International Publication Number: WO 98/31459

(43) International Publication Date: 23 July 1998 (23.07.98)

(21) International Application Number: PCT/EP98/00195

(22) International Filing Date: 15 January 1998 (15.01.98)

(30) Priority Data:
97830013.5 20 January 1997 (20.01.97) EP
(34) Countries for which the regional or international application was filed: AT et al.

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(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, GW, 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, US, 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, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: APPARATUS FOR THE PRODUCTION OF POLYADDUCTS OF ALKYLENE OXIDES WITH A COMBINED LIQUID-IN-GAS AND GAS-IN-LIQUID DISPERSION REACTOR

(57) Abstract

The present invention relates to apparatus for the semi-continuous polymerisation of monomers with the use of a chain initiator. This apparatus is characterised in that it comprises a reactor (1) arranged with its axis substantially vertical and defining a lower, frustoconical part (III), an upper atomisation part (I) and an intermediate part (II), the reactor (1) having monomer and initiator inlet apertures (8, 10, 20, 21) at least one outlet aperture (12), a recycling duct (15) connected at one end to the outlet aperture (12) and at the other end to the upper part (I) through at least one atomiser (9), and a stirrer (25). The apparatus according to the invention has the particular advantage of being usable for reactions with any type of chain initiator and catalyst, whether they are solid, liquid or in suspension. The apparatus according to the invention may also be used in situations where there is risk of damage to the catalyst if this is pumped and in situations where the product obtained has a viscosity such that it cannot be recycled further.

