

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number
WO 2004/105935 A1

(51) International Patent Classification⁷: **B01J 19/18**,
C07C 51/265

(21) International Application Number:
PCT/US2004/016180

(22) International Filing Date: 20 May 2004 (20.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/443,542 22 May 2003 (22.05.2003) US

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BICKHAM, David, Robert** [GB/GB]; 8 Berkley Drive, Guisborough, Cleveland Cleveland TS14 7LX GB (GB). **COOKE, Michael** [GB/GB]; 42 Hall Avenue, Widnes, Cheshire Cheshire WA8 8XS GB (GB). **DAVIS, Martin, Reid, Burton** [GB/GB]; The White House, Hutton Village Road, Guisborough, Cleveland Cleveland TS14 8EJ GB (GB). **HOUSLEY, Samuel, Duncan** [GB/GB]; 5 Blue Barn Lane, Hutton Rudby, Yarm, North Yorkshire Yorkshire TS15 0JG GB (GB). **MCDONNELL, Finbar, Gerald** [GB/GB]; 57 Falcon Way, Guisborough, Cleveland Cleveland TS14 8HT GB (GB).

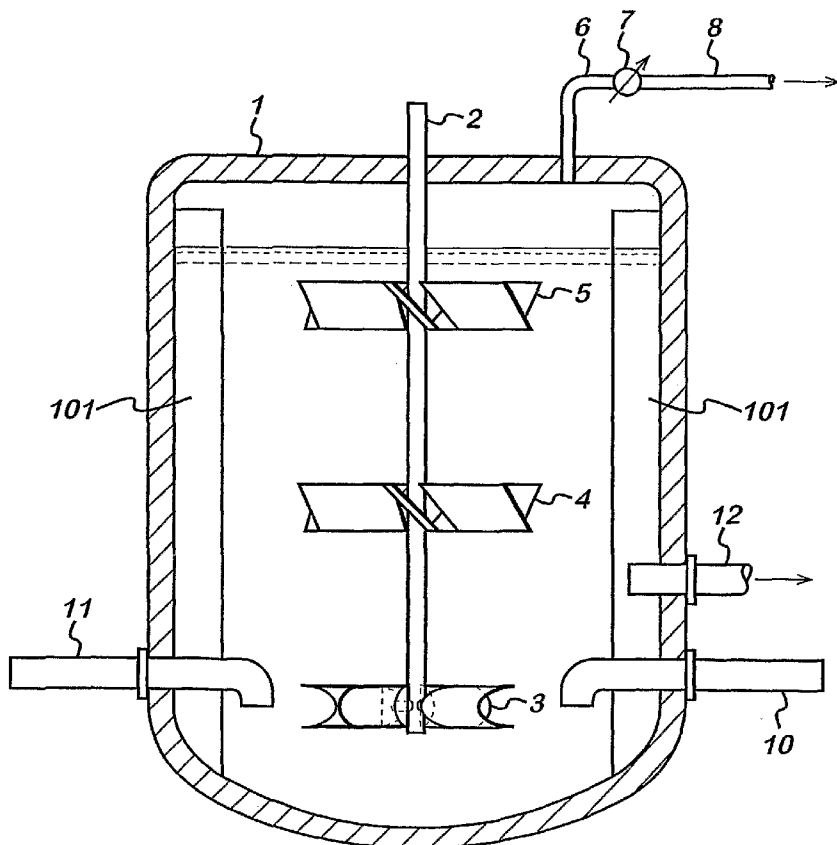
(74) Agent: **KRUKIEL, Charles**; 4417 Lancaster Pike, CRP722/1002, Wilmington, DE 19805 (US).

(71) Applicant (*for all designated States except US*): **INVISTA TECHNOLOGIES S.A.R.L.** [LU/US]; Intellectual Property Record Center, 4417 Lancaster Pike, CRP722/1032, Wilmington, DE 19805 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

[Continued on next page]

(54) Title: APPARATUS FOR AND METHOD OF PRODUCING AROMATIC CARBOXYLIC ACIDS



(57) Abstract: A reactor for the oxidation of a precursor to an aromatic carboxylic acid or ester thereof in a liquid phase reaction mixture is disclosed. The reactor (1) comprises an elongate vessel, substantially vertical in use, having an upper mixing element (5) and a lower mixing element (3), characterised in that the upper mixing element (5) is an axial pumping impeller and the lower mixing element (3) is a radial pumping impeller. A process of producing a carboxylic acid or ester thereof in a reactor of the invention is also disclosed. In use, the configuration of mixing elements leads to three highly turbulent mixing zones. In a preferred embodiment of the process of the present invention oxidant, from one inlet, and solvent, precursor and catalyst, are introduced directly into a mixing zone. The highly turbulent mixing zones lead to rapid mass transfer suppressing the formation of unwanted, coloured by-products and reduced reactor fouling.



GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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 receipt of amendments

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