SG 9701720-6.
RTMP'S copy orgined copy double-sided

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B01J	A2	(11) International Publication Number: WO 96/14146
		(43) International Publication Date: 17 May 1996 (17.05.96)

(21) International Application Number: PCT/US95/13696

(22) International Filing Date: 24 October 1995 (24.10.95)

(30) Priority Data:
08/330,770 28 October 1994 (28.10.94) US

(71) Applicant: E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US).

(72) Inventors: CONTRACTOR, Rashmikant, Maganlal; 2302 Orchard Lane, Wilmington, DE 19810-4233 (US). HOROWITZ, Harold, Saul; 22 Stable Court, Wilmington, DE 19803-1935 (US). SISLER, Gregg, Mason; 18 Thornhollow Road, Newark, DE 19711-7212 (US).

(74) Agents: STEVENSON, Robert, B. et al.; E.I. du Pont de Nemours and Company, Legal/Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).

(81) Designated States: AL, AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, IS, JP, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TJ, TM, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, 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), ARIPO patent (KE, LS, MW, SD, SZ, UG).

Published
Without international search report and to be republished upon receipt of that report.

(54) Title: VAPOR PHASE CATALYTIC OXIDATION OF n-BUTANE TO MALEIC ANHYDRIDE INCORPORATING IN SITU CATALYST CALCINATION/ACTIVATION

(57) Abstract

An improved process for selective vapor phase oxidation of n-butane to maleic anhydride involving the use of a recirculating solids reactor having a reaction zone and a catalyst regeneration zone wherein n-butane is converted to maleic acid in the reaction zone by use of a vanadium/phosphorous oxide (V/P/O) catalyst in oxidized form and the reduced vanadium/phosphorous oxide catalyst is regenerated by contact with oxygen in the regeneration zone. Replenishment of the inherent catalyst losses associated with the catalyst recycling process is accomplished by adding to the catalyst in the regeneration zone vanadium/phosphorous oxide catalyst precursor at a rate of addition that effectuates *in situ* calcination and activation of the vanadium/phosphorous oxide catalyst precursor while simultaneously maintaining the desired operating temperature of the n-butane to maleic anhydride conversion reaction. Such a process is useful in maintaining the high operating capacity of the reactor over an extended period of time.

