

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
22 May 2003 (22.05.2003)

PCT

(10) International Publication Number
WO 03/042134 A2

(51) International Patent Classification⁷: C07C

(21) International Application Number: PCT/US02/35495

(22) International Filing Date:
5 November 2002 (05.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/053,073 13 November 2001 (13.11.2001) US

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

(72) Inventors: **WHITTLE, Kelley, Moran**; 5 Ball Farm Way, Wilmington, DE 19808 (US). **ALLGEIER, Alan, Martin**; 1407 N. Grant Avenue, Wilmington, DE 19806 (US). **HIGLEY, David, Page**; 2517 Kingman Drive, Wilmington, DE 19810 (US). **GANNETT, Thomas, Papin**; 1166 Elderon Drive, Wilmington, DE 19808 (US).

(74) Agent: **SEBREE, Chyrrea, J.**; E. I. DU PONT DE NEMOURS AND COMPANY, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, DE 19805 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, 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, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR THE PREPARATION OF TERTIARY AMINES FROM PRIMARY AMINES AND NITRILES

(57) Abstract: Disclosed is a method for preparing tertiary amine compounds from primary amines and nitriles in the presence of hydrogen gas and a metal catalyst, or metal-containing catalyst composition, at a temperature from about 50°C to about 200°C and at a pressure from about 100 psig to 1500 psig. The primary amines and the nitriles used in the process may be diamines and/or dinitriles, or may be combinations of primary amines and/or nitriles. Also disclosed are novel tertiary amine compounds made by the described method.



WO 03/042134 A2