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(21) International Application Number: PCT/US99/05055 (22) International Filing Date: 9 March 1999 (09.03.99) (30) Priority Data: 09/107,401 30 June 1998 (30.06.98) US (71) Applicant: EASTMAN CHEMICAL COMPANY [US/US]; 100 North Eastmann Road, Kingsport, TN 37660 (US). (72) Inventors: SUMNER, Charles, E., Jr.; Eastman Chemical Company, 100 North Eastman Road, Kingsport, TN 37660 (US). TENNANT, Brent, A.; Eastman Chemical Company, 100 North Eastman Road, Kingsport, TN 37660 (US). (74) Agent: HENRY, Mark, J.; Staas & Halscy LLP, Suite 500, 700 Eleventh Street, N.W., Washington, DC 20001 (US).		(81) Designated States: BR, CN, JP, MX, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, PT, SE). Published <i>With international search report.</i>
(54) Title: METHOD OF PURIFYING AROMATIC DICARBOXYLIC ACIDS (57) Abstract A method of purifying an aromatic dicarboxylic acid by oxidizing m-xylene or p-xylene to produce crude isophthalic acid or crude terephthalic acid, respectively. The products of the oxidizing step are hydrogenated in the presence of a palladium catalyst. Carbon monoxide is introduced during the hydrogenation step. The palladium catalyst is provided on a carbon substrate. The products of the oxidizing step are dissolved in a solvent, which may be water, prior to the hydrogenation step. The products of the oxidizing step may be dissolved at an elevated temperature, above the normal boiling point of the solvent. The oxidation step produces isophthalic acid, 3-carboxybenzaldehyde and fluorenones in the case of oxidizing m-xylene and produces terephthalic acid, 4-carboxybenzaldehyde and fluorenones in the case of oxidizing p-xylene. It may be helpful to monitor the disappearance of 3-carboxybenzaldehyde in the case of oxidizing m-xylene and 4-carboxybenzaldehyde in the case of oxidizing p-xylene, and reducing the amount of carbon monoxide when the rate of disappearance is below a predetermined minimum. After the hydrogenation step, the isophthalic acid or terephthalic acid may be crystallized. The carbon monoxide may be maintained at a concentration of 100 to 500 ppm based on added hydrogen and carbon monoxide. Other aromatic dicarboxylic acids may also be purified by this procedure.		