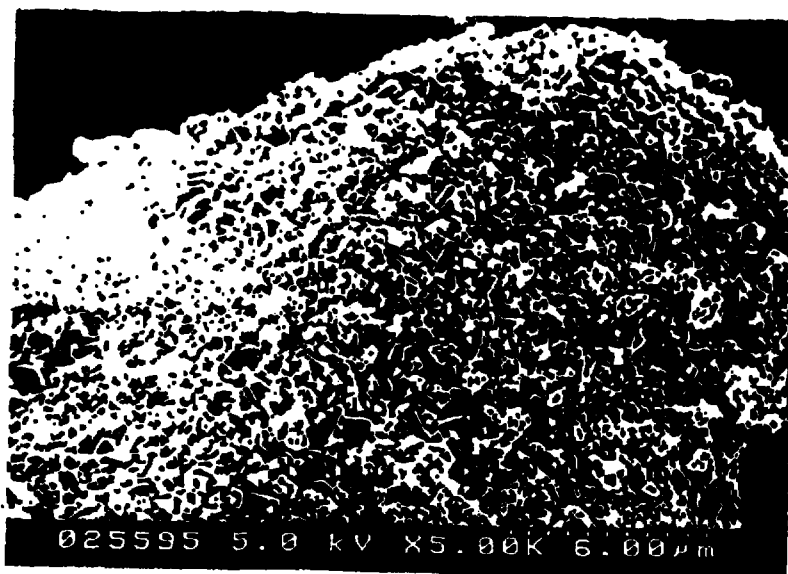




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : C01G 45/00, H01M 4/50	A1	(11) International Publication Number: WO 00/09447 (43) International Publication Date: 24 February 2000 (24.02.00)
(21) International Application Number: PCT/US99/17759 (22) International Filing Date: 5 August 1999 (05.08.99) (30) Priority Data: 60/096,353 13 August 1998 (13.08.98) US (71) Applicant (for all designated States except US): E.I. DU PONT DE NEMOURS AND COMPANY [US/US]; 1007 Market Street, Wilmington, DE 19898 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): MIAO, Chwen-Chang, Roger [US/US]; 9 Jack Reynolds Way, Avondale, PA 19311 (US). TORARDI, Carmine [US/US]; 24 West Dale Road, Wilmington, DE 19810 (US). (74) Agent: SIEGELL, Barbara, C.; E.I. du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).		(81) Designated States: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, EE, GE, GR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>

(54) Title: METHOD FOR PRODUCING LITHIUM MANGANESE OXIDE INTERCALATION COMPOUNDS AND COMPOUNDS PRODUCED THEREBY

**(57) Abstract**

Lithium manganese oxide intercalation compounds and methods of their preparation are disclosed. Such compounds are well-suited as electrodes in lithium battery applications. The novel compositions comprise crystallites of spinel $\text{Li}_{1-x}\text{Mn}_2\text{O}_4$, wherein $-0.5 < x < 0.2$, wherein the crystallites are characterized as well-shaped octahedra with average maximum crystalline dimension of greater than 2 micrometers and being formed into agglomerates having a surface area of less than $1\text{m}^2/\text{g}$.