

(19) World Intellectual Property Organization
International Bureau



G00002

(43) International Publication Date
20 June 2002 (20.06.2002)

PCT

(10) International Publication Number
WO 02/048038 A3

(51) International Patent Classification⁷: **C01B 33/26**,
B01J 3/06

Dublin 5 (IE). **VARGHESE, Biju**; 7573 Canter Ridge Lane, Worthington, OH 43085 (US). **WEBB, Steven, William**; 253 Weydon Road, Worthington, OH 43085 (US).

(21) International Application Number: PCT/US01/46615

(22) International Filing Date: 5 December 2001 (05.12.2001)

(74) Agents: **SNYDER, Bernard** et al.; General Electric Company, 3135 Easton Turnpike W3C, Fairfield, CT 06828 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/737,667 15 December 2000 (15.12.2000) US
09/799,192 5 March 2001 (05.03.2001) US

(71) Applicant: **GENERAL ELECTRIC COMPANY**
[US/US]; 1 River Road, Schenectady, NY 12345 (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, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

(72) Inventors: **VAGARALI, Suresh, Shankarappa**; 6867 Linbrook Boulevard, Columbus, OH 43235 (US). **ANTHONY, Thomas, Richard**; 2142 Lynnwood Drive, Schenectady, NY 12309 (US). **CASEY, John**; 159 Georgian Village, Castleknock, Dublin 15 (IE). **DEVRIES, Robert, Charles**; 17 Van Vorst Drive, Burnt Hills, NY 12027 (US). **DOLE, Stephen, Lee**; 1195 Vinewood Drive, Columbus, OH 43229 (US). **LUCEK, John, William**; 2660 Quail Crossing Drive, Powell, OH 43065 (US). **SMITH, Alan, Cameron**; 144 Furry Park Road, Killester,

(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, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

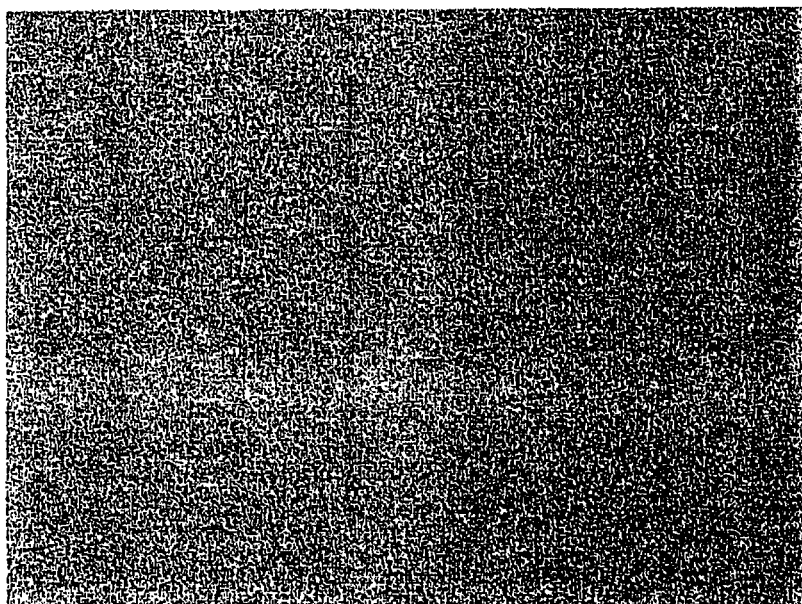
— with international search report

[Continued on next page]

(54) Title: **JADEITE AND ITS PRODUCTION**



162162



(57) Abstract: A jadeite material has a thickness in excess of about 1.0 mm and CIELAB indices of $L^* > 42$, $a^* < -6$, and $b^* > +6$. The grain size of the jadeite material is less than about 30 microns and is an equiaxed grain structure. The jadeite material has an optical transmission peak between 500 and 565 nm with an I/I_0 optical transmission ratio of over 40 %. The first step in making the jadeite material is to wrap a glass block, convertible by HP/HT into jadeite and having a nominal composition of $\text{NaAlSi}_2\text{O}_6$, with a graphite or refractive metal sheet. The wrapped glass block is placed in an HP/HT apparatus, rapidly heated, and subjected therein to a pressure in excess of about 3 GPa and a temperature in excess of about 1000 °C for a time adequate to convert the glass block into jadeite. The jadeite material then is cooled and the pressure

WO 02/048038 A3

subsequently released.



— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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.

(88) Date of publication of the international search report:

1 May 2003