

16/10/02
2002062727

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 December 2001 (13.12.2001)

PCT

(10) International Publication Number
WO 01/094031 A3

(51) International Patent Classification⁷: **B05D 1/18**

(21) International Application Number: PCT/US01/17310

(22) International Filing Date: 29 May 2001 (29.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/589,557 7 June 2000 (07.06.2000) US

(71) Applicants (for all designated States except US): **NORTH CAROLINA STATE UNIVERSITY** [US/US]; Campus Box 7003, 1 Holladay Hall, Raleigh, NC 27695-7003 (US). **UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL** [US/US]; 308 Bynum Hall, Campus Box 4105, Chapel Hill, NC 27599-4105 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CARBONELL, Ruben, G.** [US/US]; 6105 Godfrey Drive, Raleigh, NC 27612 (US). **NOVICK, Brian, J.** [US/US]; 2113 Trail-ridge Court, Raleigh, NC 27603 (US). **DESIMONE, Joseph, M.** [US/US]; 5315 Crescent Ridge Road, Chapel Hill, NC 27516 (US).

(74) Agent: **MYERS BIGEL SIBLEY & SAJOVEC, P.A.**; P.O. Box 37428, Raleigh, NC 27627 (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, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
25 July 2002

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.



162162

WO 01/094031 A3



ACTION

(54) Title: METHOD FOR COATING USING LIQUID CARBON DIOXIDE

(57) Abstract: A method of coating a substrate comprises immersing a surface portion of a substrate in a first phase comprising carbon dioxide and a coating component comprising a polymeric precursor; then withdrawing the substrate from the first phase into a distinct second phase so that the coating component is deposited on the surface portion; and then subjecting the substrate to conditions sufficient to polymerize the polymeric precursor and form a polymerized coating.