

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : C01B 6/06, B05D 5/00, 3/00	A1	(11) International Publication Number: WO 99/42402 (43) International Publication Date: 26 August 1999 (26.08.99)
(21) International Application Number: PCT/US98/03406 (22) International Filing Date: 20 February 1998 (20.02.98) (71) Applicant: MORTON INTERNATIONAL, INC. [US/US]; Patent & Trademark Dept., 100 North Riverside Plaza, Chicago, IL 60606-1596 (US). (72) Inventors: FAKLER, John; 4325 East Karen Drive, Phoenix, AZ 85032 (US). RUSH, Michael; 11545 North FLW Boule- vard #2032, Scottsdale, AZ 85259 (US). CAMPBELL, Scott; 17018 Alamosa Avenue, Fountain Hills, AZ 85268 (US). (74) Agent: WHITE, Gerald, K.; Morton International, Inc., 100 North Riverside Plaza, Chicago, IL 60606-1596 (US).		(81) Designated States: CA, CN, JP, KR, SG, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: COMPOSITION AND METHOD FOR REDUCING COPPER OXIDE TO METALLIC COPPER (57) Abstract A composition for reducing a copper oxide layer to metallic copper so as to facilitate bonding a resin to the metallic copper is disclosed. The composition is an aqueous reducing solution containing a cyclic borane compound. Examples of such cyclic borane compounds include those having nitrogen or sulfur as a ring-forming member, such as morpholine borane, piperidine borane, pyridine borane, piperazine borane, 2,6-lutidine borane, 4-methylmorpholine borane, and 1,4-oxathiane borane, and also N,N-diethylaniline borane.		