

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 July 2002 (04.07.2002)

PCT

(10) International Publication Number
WO 02/051961 A3

(51) International Patent Classification⁷: **C01B 15/037**,
H01L 21/306, A61K 6/00, D21C 9/08, C09K 15/30

(BE). ASHLAND INC. [US/US]; 50 E. Rivercenter Blvd,
P.O. Box 391, Covington, KY 41012-0391 (US).

(21) International Application Number: PCT/BE01/00219

(72) Inventors; and

(22) International Filing Date:

21 December 2001 (21.12.2001)

(75) Inventors/Applicants (for US only): **VOS, Rita** [BE/BE];
Villadreef 14, B-3128 Tremelo (BE). **MERTENS, Paul**
[BE/BE]; Dijleweg 30A, B-2820 Bonheiden (BE). **FES-
TER, Albrecht** [DE/DE]; Bindingstrasse 11, 60598
Frankfurt am Main (DE). **DOLL, Oliver** [DE/DE];
Bildstockstrasse 8, 63075 Offenbach-Bürgel (DE).
KOLBESEN, Bernd [AT/DE]; Ricarda-Huch-Strasse 20,
61350 Bad Homburg (DE).

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/257,928 22 December 2000 (22.12.2000) US

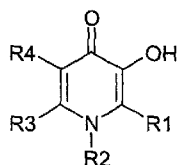
(74) Agents: **VAN MALDEREN, Joëlle** et al.; Office van
Malderen, Place Reine Fabiola 6/1, B-1083 Brussels (BE).

(71) Applicants (for all designated States except US): **IN-
TERUNIVERSITAIR MICROELEKTRONICA CEN-
TRUM (IMEC)** [BE/BE]; Kapeldreef 75, B-3001 Leuven

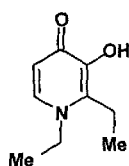
(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

[Continued on next page]

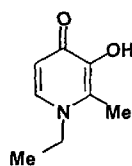
(54) Title: COMPOSITION COMPRISING AN OXIDIZING AND COMPLEXING COMPOUND



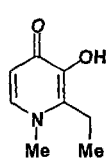
(57) Abstract: The present invention is related to a composition comprising an oxidizing compound and a complexing compound with the chemical formula wherein R1, R2, R3 and R4 are selected from the group consisting of H and any organic side chain. The oxidizing compound can be in the form of an aqueous solution. The complexing compound is for complexing metal ions. Metal ions can be present in the solution or in an external medium being contacted with the solution. The present invention can be used for cleaning a semiconductor substrate.



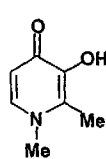
DEHP



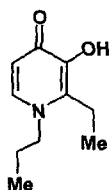
1-EMHP



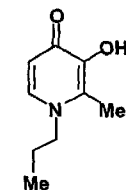
2-EMHP



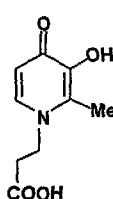
DMHP



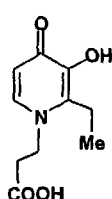
PEHP



PMHP



ECMHP



ECEHP



WO 02/051961 A3



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, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(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

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

17 October 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.