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(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

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(54) **Title:** NANOPLATELET METAL HYDROXIDES AND METHODS OF PREPARING SAME

(57) **Abstract:** Nanoplatelet forms of metal hydroxide and metal oxide are provided, as well as methods for preparing same. The nanoplatelets are suitable for use as fire retardants and as agents for chemical or biological decontamination.



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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/17823

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: COIF 5/14( 2006.0 1),7/02( 2006.01),11/02( 2006.01)

USPC: 423/594. 19,604,622,629,632,635

According to International Patent Classification (IPC) or to both national classification and IPC

## B FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U S. 423/594.19,604,622,629,632,635

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<b>X</b>	US 6,395,084 B1 (PRIEST et al) 28 May 2002 (28.05.2002), column 7, lines 25-30.	1-12, 24-35
<b>X</b>	US 5,28 1,494 A (ETTEL et al) 25 January 1994 (25.01.1994), column 4, lines 19-25	1-8, 48-54
<b>X</b>	US 5,057,299 A (LOWN et al) 15 October 1991 (15 10 1991), column 7, lines 27-30	1-8
<b>X</b>	US 4,202,871 A (MATSUMOTO et al) 13 May 1980 (13 5.1980), example 8	9-12
<b>X</b>	US 3,765,866 A (NAYAR et al) 16 October 1973 (16.10 1973), column 5, lines 1-7	9-12, 78-81



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