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(54) **TEMPLATED, LAYERED MANGANESE PHOSPHATE**

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(58) **Field of Search** 423/311; 556/24

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(57) **ABSTRACT**

A new crystalline maganese phosphate composition having an empirical formula:

$$Mn_3(PO_4)_4.2(H_3NCH_2CH_2)_3N.6(H_2O).$$

The compound was determined to crystallize in the trigonal space group P-3c1 with a=8.8706(4) Å, c=26.1580(2) Å, and V (volume)=1783 $Å^3$. The structure consists of sheets of corner sharing $Mn(II)O_4$ and PO_4 tetrahedra with layers of $(H_3NCH_2CH_2)_3N$ and water molecules in-between. The pronated $(H_3NCH_2CH_2)_3N$ molecules provide charge balancing for the inorganic sheets. A network of hydrogen bonds between water molecules and the inorganic sheets holds the structure together.

12 Claims, 2 Drawing Sheets