

GYPSUM.

Gypsum is a soft, white mineral, composed of hydrated calcium sulphate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$). The names *terra alba* and *land plaster* are also applied to it. It occurs usually in beds, often of great thickness.

The transparent crystallized or foliated variety is called *selenite*, and the fine fibrous, opalescent variety, *satin spar*. When the massive variety is of very fine texture and translucent it is called *alabaster*.

Gypsum is frequently coloured by the presence of impurities, especially the massive varieties.

USES.

The principal use of gypsum is for the manufacture of *plaster of Paris*, which consists of partially dehydrated gypsum. On heating finely powdered gypsum, within certain limits of temperature, it gives off part of its water of crystallization but retains the power of again taking up a like quantity of water, and, at the same time, forming into a solid mass.¹ This property of the calcined gypsum or plaster of Paris finds for it many uses in the arts and trades. A partial list of the uses is as follows:—wall plaster and decorations, moulds and patterns for various purposes, casts of art objects, etc., surgical and dental purposes, and as a cement. It is also the base of alabastine, used for tinting walls.

In the manufacturing of portland cement, gypsum is introduced into the cement for the purpose of regulating the rapidity of setting when mixed with water. Some cement mills purchase the gypsum ground very finely, while others purchase it in lump form or crushed to $\frac{1}{2}$ inch. As a rule a minimum of 36 per cent of sulphur trioxide (SO_3) is demanded.

Considerable quantities of ground gypsum and plaster of Paris are used by asbestos manufacturers in the manufacturing of pipe and boiler coverings, mill board, etc.

¹ For technology of Gypsum see "Gypsum in Canada", by L. H. Cole, No. 245, Mines Branch.