

GYPSUM

$\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

Hydrated Calcium Sulphate

Gypsum is a typical evaporate mineral which is usually formed through the evaporation of saline waters. Lakes, seasonal lakes, or enclosed areas of sea rich in salts dry up through evaporation, either seasonally, or during drought periods, and when this happens the salts and the minerals within the water crystallise as the water disappears. The most common mineral, and the first to crystallise is salt, but Gypsum also crystallises, and adopts one of it's many forms. In arid desert environments grains of sand may be incorporated into the crystal growth, creating the variety known as "Desert Rose". Another type of crystal growth is known as "Satin Spar", which is a fibrous variety with a silky lustre. Another variety "Alabaster" is composed of compacted fine grain crystals. Other varieties are "Daisy Gypsum" and "Selenite". Some forms are hard to categorise, but are usually identifiable as Gypsum.

Gypsum is widely used in industry, the main producers being U.S.A., Canada, France, U.S.S.R., Italy, and Spain. It is used in the manufacture of cement, paper, fertiliser, plasterboard, and paint. Plaster of Paris, used for setting broken bones is made by heating Gypsum to drive off the water of crystallisation, then grinding to a fine powder, which is used to impregnate a bandage ready for use with the simple addition of water when so needed.

The form adopted by Gypsum depends on several variable conditions.

- 1. On it's concentration in the water from which it precipitated.*
 - 2. By impurities that might be incorporated in the crystal growth*
 - 3. On the temperature at which crystallisation occurs, and finally*
 - 4. By the rate of speed at which the crystallisation occurs.*
-

Bill Bagley