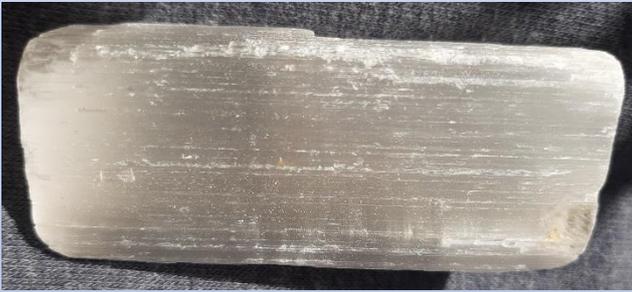


What is gypsum?

Gypsum is a sulfate mineral and has CaSO_4 as basic chemical formula. Natural gypsum also contains two water molecules, which makes natural gypsum $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. Gypsum is a very soft mineral, 2 on the Mohs hardness scale, which means that you can scratch it with your fingernails. You can imagine that soft gypsum has a hard time in nature when exposed to the weather. Gypsum is formed by the evaporation of seawater, just like salt. In some cases it can build layers of rock. This rock building gypsum can only last when it is protected by harder rock above and below the gypsum layers so that wind and water have less influence it and it does not erode so easily.

Gypsum can also form in nature in a different way, secondary gypsum formation. If pyrite is exposed to water and oxygen, it will start to oxidize and decompose (pyrite rot). It then falls apart into iron sulfate and sulfuric acid. This is the reason that you have to be very careful with your pyrite pieces and water or damp rooms. If the sulfuric acid can react with calcite, anhydrite can be formed. Anhydrite is in fact dehydrated gypsum. If anhydrite comes into contact with water, gypsum can be formed. In addition to this naturally formed gypsum, gypsum is also formed as a waste product of the phosphate industry and as a result from flue-gas desulfurization, a process in which sulfur dioxide is removed from flue gas produced by burning coal.



Satin spar is the fibrous form of gypsum. It often has a soft, silky shine and can be pink, white or gray in colour. The name satin spar is sometimes also used for a type of calcite. To distinguish between the two types of satin spar, it is common to say gypsum, var. satin spar or satin spar gypsum. The type of gray-white fibrous gypsum, often as staves or carved and polished with a silky lustre that you often see in shops being sold as 'selenite', is therefore actually satin spar. Selenite is an incorrect name for gypsum in this form.

Alabaster is the massive form of gypsum. This is usually pink or white in color. Alabaster is usually layer building and rock forming. Alabaster has no recognizable crystals. In Egypt the name alabaster is also used for a type of calcite. The two types of alabaster can be distinguished by their hardness. As mentioned, Gypsum has hardness 2 and calcite hardness 3.



Gypsum



Selenite is the clear, crystal-forming variety of gypsum. The name selenite is derived from the Greek moon goddess Selene. The ancient Greeks called all gypsum selenite because its colour and lustre resembled the light of the moon. Selenite includes most types of gypsum. Sometimes specific growth forms are given an additional name that indicates the shape. For example swallow-tail selenite or fish tail selenite. Maria glass is a name for glass-clear, flat sheet layered variety of selenite. In the past shrines dedicated to Mary were decorated with this type of gypsum, hence the name. Gypsum can also form crystals in beautiful rosettes, the so-called gypsum/desert roses.

