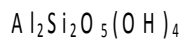


Kaolinite

Aluminum Silicate Hydroxide



Kaolinite shares the same chemistry as the minerals halloysite, dickite and nacrite.

The History Says

Kaolinite is also known as china clay and kaolin, named after Gaoling ("High Hill") in Jingde Town, Jiangxi, China. It was Discovered in the year 1867 in Kao-Ling, China.

The Present Scenario

Kaolinite is important to the production of ceramics and porcelain, and to produce glossy paper for magazines.

Kaolinite is a common phyllosilicate mineral. It is named for its type locality, Kao-Ling, Jianxi, China. It forms Kaolinite Group, members of which even belong to larger general group, Clays. Kaolinite's structure is composed of silicate sheets (Si_2O_5) bonded to gibbsite layers, aluminum oxide/hydroxide layers, $\text{Al}_2(\text{OH})_4$.

Natural Kaolinite usually contains small amounts of uranium and thorium. Hence, it is useful in radiological dating. The crystallography of Kaolinite played an important role in Linus Pauling's work on the nature of the chemical bond.

Physical Properties of Kaolinite

Color	Usually white, colorless, greenish or yellow.
Luster	Earthy
Transparency	Crystals are translucent.
Crystal system	Triclinic; 1.
Crystal habits	Foliated and earthy masses. Crystals of any size are rare and is usually microscopic.
Cleavage	Perfect in one direction, basal.
Fracture	Earthy
Hardness	1.5-2 (can leave marks on paper).
Specific gravity	2.6 (average).
Streak	White
Other characteristics	Clay like properties when water is added.

Associated Minerals of Kaolinite

- Fluorite
- Microcline
- Pyrite

- Hemimorphite
- Augite
- Dickite
- Halloysite
- Montmorillonite
- Quartz
- Muscovite
- Other clays

Occurrences of Kaolinite

Kaolinite is spread around the world. Few of the localities are as follows:

- Kao-Ling, Jianxi (China)
- Cornwall and Devon (England)
- Haute-Vienne (France)
- Near Dresden, Saxony (Germany)
- Donets Basin (Ukraine)
- Huberdeau, Quebec, and near Walton, Nova Scotia (Canada)
- Macon, Georgia (United States)
- Dixie Clay Company Mine (South Carolina)
- Near Webster (North Carolina)
- Arkansas
- Mesa Alta (New Mexico)
- Sterling Hill (New Jersey)

Uses of Kaolinite

- In the production of ceramics.
- As a filler for paint, rubber and plastics.
- In paper industry, to produce glossy paper as used in most magazines.