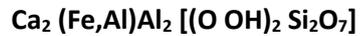




II - SOROSILICATES

Epidote, Vesuvianite, Hemimorphite,

EPIDOTE



Monoclique

Prismatic crystals elongated along the binary axis b. Striated faces following elongation.

Sometimes acicular or fibrous. Perfect cleavage

D = 3.3 to 3.5 / H = 6 to 7. Transparent to opaque. Glassy shine. Color usually green to yellowish green.



Metamorphism mineral in gneisses. Mineral from metamorphism of sandstones, limestones in the vicinity of eruptive rocks (with actinolite, sphene, chlorite). Also formed by alteration of plagioclase (saussuritization) and calcium silicates (frequent in Triassic ophites).

VESUVIANITE (Idocrase) $\text{Ca}_{10} (\text{Mg,Fe})_2 \text{Al}_4 [(\text{OH})_4 (\text{SiO}_4)_5 (\text{Si}_2\text{O}_7)_2]$ Quadratic

Generally prismatic crystals, sometimes centimetric, ending in pyramids more or less truncated at the base. Faces often vertically streaked. Sometimes grainy or massive.

D = 3.4 / H = 6.5. Uneven breakage. Color: green to brown, sometimes yellow, red-brown, blackish, more rarely pink-blue. Transparent to translucent. Vitreous to greasy shine. White dust.

Mineral of contact metamorphism, particularly in limestones with calcic garnets, wollastonite, diopside. Very beautiful crystals at Vesuvius (Italy) by the action of lava on limestone.





III - CYCLOSILICATES

Cordierite, Beryl, Tourmaline, Diopside, Chrysocolla

CORDERITE



Orthorhombic

pseudo-hexagonal prisms with vertically ridged faces. Often in compact masses or shapeless grains. Good cleavage.

D = 2.6 / H = 7. Transparent to translucent: Oily shine. Blue color; turns green by alteration. Very rapid alteration in masses of shapeless appearance having the composition of muscovite.

Accessory mineral of certain eruptive rocks (granites). Contact metamorphism mineral (Gneiss, crystalline schists).



BERYL



Hexagonal

Beautiful crystals free or included in the rock. Elongated hexagonal prisms, more rarely short or flattened. Prism faces often streaked. Bacillary aggregates frequent, often in grainy masses.

D = 2.7. H = 7.5 to 8. Conchoidal breakage. Color: colorless, greenish, gray, emerald green, pale green, yellow, white, pink. Transparent to translucent. Glassy shine. Colorless dust. Often difficult to distinguish from quartz, distinguishable from

apatite by its hardness and insolubility to acids, topaz by the absence of cleavage.

Beautiful qualities are sought after as gems. Depending on the color we distinguish:

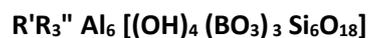


- emerald, emerald green in color (contains Cr and V);
- aquamarine, pale sky blue to blue green
- heliodor, yellow (contains Fe)
- morganite, pink (often contains Cs).

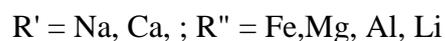
Mode of Deposit: Mainly in pegmatites and rocks genetically linked to granites: albitized granites, greisens, hydrothermal veins. The emeralds from the Muzo deposit (Colombia) are linked to hydrothermal events acting on a complex of bituminous sediments and intrusions of chromiferous magnesian igneous rocks. Emerald is also found in micaceous schists (Urals, Austria). Aquamarine is found in geodes and fissures in granite (Brazil). Morganite is found in lepidolite and rubellite pegmatites (var. Tourmaline).



TOURMALINE



Rhombohedral.



Prismatic crystals with a triangular section, sometimes grouped parallel or radially. Faces of the prism deeply grooved according to the elongation. The endings of the same crystal are different and reflect hemihedral (no center of symmetry).

D = 3 / H = 7.5. No cleavages. Transverse breaks. Translucent to opaque.

Vitreous shine. Variable color: black, schorl, iron variety) brown-black, greenish yellow to colorless (dravite, magnesian var.); pink (rubellite, var. lithiniferous), sometimes blue. Color change by heating.

Common pneumatolytic mineral of white mica granites and aplites. Most common accessory element of granitic pegmatites. In Gneisses and schists in the vicinity of granites. In Limestones and metamorphic marls. Frequently in cottages in Sn-W. Dravites appear in poorly metamorphic magnesian sedimentary rocks.



AW: 10 (TP 10)



Beautiful tourmalines are sought after as gems.