DIS-MIN-US-NC-Fuchsite-green var. verdite

Fuchsite is a green variety of muscovite mica and is named after Johann Nepomuk von Fuchs (15 May 1774 – 5 March 1856), a German chemist and mineralogist. It differs from most other muscovites by having a variable amount of trivalent chromium substituting for aluminum within the mineral. Chromium is the source of fuchsite’s green color. Muscovite begins to take on a very light green color with the substitution of a small amount of chromium for aluminum. As the amount of chromium increases, the green color becomes stronger and ranges to a rich emerald green when abundant chromium is present. In most instances fuchsite occurs as tiny grains scattered through the rock mass, but occasionally rocks composed almost entirely of fuchsite are found. These green fuchsite-rich rocks are known as “verdite.”

Chemical formula of muscovite: KAl2(Si3AlO10)(OH)2

Chemical formula of fuchsite: K(Al,Cr)2(Si3AlO10)(OH)2

Chemical formula of verdite: K(Cr)2(Si3AlO10)(OH)2

Fuchsite is found in phyllites (metamorphosed, very fine-grained mica. ) and schists (foliated metamorphic rock made up of plate-shaped mineral grains) in metamorphic rocks of the green schist facies.

|  |  |
| --- | --- |
| Physical Properties of Fuchsite | |
| **Chemical Classification** | Silicate |
| **Color** | Light green to emerald green depending upon chromium content |
| **Streak** | White, often sheds tiny green flakes |
| **Luster** | Pearly to vitreous |
| **Diaphaneity** | Transparent to translucent |
| **Cleavage** | Perfect |
| **Mohs Hardness** | 2 to 3 |
| **Specific Gravity** | 2.8 to 2.9 |
| **Diagnostic Properties** | Cleavage, color, transparency |
| **Chemical Composition** | K(Al,Cr)2(Si3AlO10)(OH)2 |
| **Crystal System** | Monoclinic |
| **Uses** | Fuchsite of good purity is not abundant enough to support manufactured products. The primary use is as a gem material, especially ruby in fuchsite for cabochons, spheres, and small utility objects that will not be subjected to impact or wear. |