

# MICA- rocks.

Muscovite is found in igneous, metamorphic, and sedimentary rocks. In igneous rocks, it is a primary mineral that is especially common in granitic rocks.

In granite pegmatites, muscovite is often found in large crystals with a pseudo-hexagonal outline. These crystals are called "books" because they can be split into paper-thin sheets.

Muscovite rarely occurs in igneous rocks of intermediate, mafic, and ultramafic composition.

Muscovite can form during the regional metamorphism of argillaceous rocks. The heat and pressure of metamorphism transforms clay minerals into tiny grains of mica which enlarge as metamorphism progresses.

Muscovite can occur as isolated grains in schist and gneiss, or it can be abundant enough that the rocks are called "mica schist" or "micaceous gneiss".

Muscovite is not especially resistant to chemical weathering, so it is quickly transformed into clay minerals. Tiny flakes of muscovite sometimes survive long enough to be incorporated into sediments and immature sedimentary rocks. It is evidence that these sediments and rocks have not been subjected to severe weathering.

## Chemical Composition

Muscovite is a potassium-rich mica with the following generalized composition.  $KAl_2(AlSi_3O_{10})(OH)_2$

In this formula potassium is sometimes replaced by other ions with a single positive charge such as sodium, rubidium, or cesium. Aluminum is sometimes replaced by magnesium, iron, lithium, chromium, or vanadium.