

Feldspar AT_4O_8 in which A=potassium, sodium or calcium, T= silicon and aluminum.

There are three types of feldspar, Alkali feldspar (Orthoclase, microcline, anorthoclase and sanidine), barium feldspar (celsian and hyalophane), and plagioclase feldspar (oligoclase, andesine, labradorite, bytownite and anorthite). These are a group of tectosilicate minerals that make up a big portion of the earth's crust. Feldspars crystallize from the magma of both intrusive and extrusive rocks. These minerals either have a monoclinic or triclinic crystal system with the luster being vitreous or pearly in some minerals. The specific gravity of most feldspars ranges from about 2.5-2.7. Feldspars are useful as fluxing agents in ceramic and glass production.

Labradorite Plagioclase $[(Ca,Na)(Al,Si)_4O_8]$

Labradorite, part of the plagioclase feldspar series, has a very distinctive molecular assortment, which causes a color-changing side-effect called labradorescence. The bluish iridescence, or schiller effect, is the result of light diffraction within the large crystal masses. This optical phenomenon is due to exsolution of separate micro-layers in the mineral of slightly variable composition between An_{48} - An_{58} . Environmental conditions of precise heat and pressure are needed to separate the molecular components enough to cause the labradorescence. B25



Labradorite B25



Labradorite R15

Albite $\text{NaAlSi}_3\text{O}_8$

Crystals of this variety of feldspar can either be tabular or platy. They can also be massive or granular. It has a triclinic crystal system with polysynthetic twinning present in some samples shown by fine striations on the basal cleavage. The lamellar variety of albite is known as cleavelandite. It has a hardness of 6-6.5. Albite derives its name from the Latin word *albus* meaning “white”, although it can be other colors too such as pink, or green. Albite is found in low grade metamorphic rocks and also in pegmatites and felsic igneous rocks such as syenites, and rhyolites.



Morganite on Albite M51



Tourmaline on Albite OR 17