

FELDSPAR.

There are several varieties of *feldspar*, all of which consist of silicates of alumina and one or more of the alkali group—potash, soda, lime, and baryta. The hardness of the various varieties range from 5 to 7, with an average of 6 on Mohs' scale. With the exception of *orthoclase* and the rare variety, *hyalophane*, which are monoclinic, the feldspars all belong to the triclinic system of crystallization.

Orthoclase and *microcline* are the two varieties of chief industrial importance. They are identical in composition and physical properties, belonging, however, to different crystal systems. The chemical composition of the pure mineral is as follows:—

| | |
|-------------------------------------|-------|
| Silica (SiO_2) | 64.7% |
| Alumina (Al_2O_3) | 18.4% |
| Potash (K_2O) | 16.9% |
| <hr/> | |
| | 100.0 |

Part of the potash is sometimes replaced by soda.

Albite is used to some extent, either alone or mixed with orthoclase. It is a soda feldspar, having the following composition, when pure:—

| | |
|-------------------------------------|--------|
| Silica (SiO_2) | 68.6% |
| Alumina (Al_2O_3) | 19.6% |
| Soda (Na_2O) | 11.8% |
| <hr/> | |
| | 100.0% |

Part of the soda is usually replaced by potash and lime.

While these feldspars are common constituents of many igneous rocks they usually occur in such small grains, and intermixed to such a degree with other minerals, that their utilization is not economically possible. In some localities they occur in comparatively large masses in coarsely crystallized pegmatites along with quartz, tourmaline, and mica, from which, in the course of mining, they may be fairly easily separated by hand.