

Silica is considered by chemists to be an acid, because it combines with what are called bases, such as alcalies, earths, and oxides.

Quartz, if perfectly pure, would, in fact, consist wholly of silica, but it has never been met with absolutely pure. The nearest approach to pure silica is in the perfectly transparent crystals of quartz called rock crystal, which in some instances contains $99\frac{1}{2}$ per ct. of silica.

The most abundant variety of quartz, often called "flint," is the vitreous or hyaline kind. The name as applied to the common quartz of the country is obviously improper, because it belongs to the variety of which gun flints are made; and the two differ materially in appearance, structure and origin.

The common or vitreous quartz is the principal stone in our fields in the middle counties of Maryland, and is almost the only constituent of pebbles, gravel and sand. No description is needed of a mineral so well known. It contains from 95 to 99 per ct. of silica, whilst "flint" contains from 86 to 94 per ct.

Another variety of quartz, whose texture and constitution is very similar to that of flint, is called chert or hornstone. It is found in layers and masses in some of the limestones of Washington and Allegany counties.

The variety called pitchstone has a resinous lustre, is much less hard than either of the above, and presents a greater variety of color. It usually contains from 80 to 90 per ct. of silica, 6 to 10 per ct. of water, besides small proportions of oxide of iron and alumina.

There are other varieties of quartz, which as they rarely or never form essential portions of large masses of rock, need not be described at this time. Among these are agate, onyx, chalcedony, cornelian, and amethyst.

Quartz is considered one of the most indestructible substances in nature, and it is for this reason that it is almost the only constituent of gravel and sand.

2.—FELSPAR.

This group of minerals is also widely distributed, and forms a large portion of most rocks of igneous origin, among which are granites, sienites, and the varieties of trap rocks, including hornblende rocks, porphyry, basalt, &c.

The colors of felspar are usually white, inclining to gray, greenish, reddish, or flesh color. It can generally be distinguished from quartz by its laminated structure, and is less hard than quartz. The chemical composition of several varieties will be seen in the subjoined table: