

## PYROLUSITE.

*Pyrolusite* is a dark grey to iron black mineral composed of manganese dioxide ( $MnO_2$ ). It is also known as *black oxide of manganese*, or, less properly, as *black oxide*. Owing to the property it possesses of neutralizing the colour in glass due to silicate of iron, it is sometimes called *glass makers' soap*.

## USES.

When manganese dioxide and potassium chlorate are mixed together and heated, oxygen is given off. This is one method adopted for producing oxygen for industrial purposes, but it is being superseded by the electrolytic and liquid air methods.

Pyrolusite is used in the manufacturing of electric dry batteries. It should analyse at least 85 per cent manganese dioxide and not over one-half of one per cent ferric oxide.

In the melting of bronzes, manganese dioxide is added to the crucible as a desulphurizer.

As referred to before, pyrolusite is used for counteracting the green colour of glass due to silicate of iron, introduced by impurities. Manganese dioxide when added to the glass mixture gives a purplish tint, this colour is complementary to the green and thus destroys it, producing a colourless glass. It is used for the same purpose in porcelain manufacturing and enamelling on sheet metal. For these purposes the mineral should be as free from iron as possible.

Pyrolusite is used extensively in the manufacturing of varnish. It acts as a drier. For this use it should be high grade, very finely ground, and free from siliceous impurities.

Prices range, according to purity and quantity purchased, from \$17 to \$80. The average price paid by glass manufacturers is \$21 per ton.