

## **Why Is Manganese Oxide Important?**

Manganese oxide is an essential ore used in the production of many goods we use every day. These include steel, aluminum, and copper alloys, dry cell batteries, fertilizers, soft ferrites used in electronics, and automobile undercoat paints.

### *Without manganese, there would be no steel*

Manganese oxide helps convert iron into steel. Pure iron, known as pig iron, is soft. When manganese is added to iron ore in a blast furnace during the smelting process, it strengthens the iron and converts it into hard steel.

### *Battery production*

Manganese oxide is used in dry-cell batteries, remote controls, flashlights, and lithium batteries, the rechargeable batteries used in portable electronic devices and electric cars.

### *Where does manganese ore come from?*

Most of the world's manganese deposits are found on the ocean floor and in bedrock. These deposits are lumpy black layers covering sedimentary rocks that formed in ancient oceans. Changes in the ocean's oxidation billions of years ago created high concentrations of manganese oxide, which then precipitated to the seabed. Most of the world's supply of manganese ore comes from a small number of mines, with the largest reserves found in bedrock in South Africa.