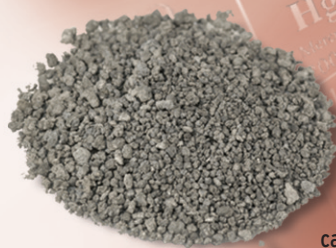


Cadmium

This common battery and paint ingredient can be very toxic, especially for those who handle it in production

ABOUT THE SUBSTANCE

Cadmium is a soft, bluish-white metal. Often found as an impurity in other metal ores, cadmium also naturally occurs in the environment through erosion of soil and rock, forest fires and volcanic eruptions.



Small cadmium rocks

PRODUCTION

It is mainly produced from the refining and smelting of zinc ore, and in smaller amounts from lead and copper ore. Small amounts also are recovered from recycling iron and steel in the smelting process. China is the current top producer of cadmium

PRODUCT USAGE

Since about 1850 cadmium has been used as a pigment, producing bright reds, strong yellows and orange hues. It is used to color paints, ceramics, glass and plastics.

Since the time of Thomas Edison cadmium has been used in batteries. Currently more than three quarters of all cadmium is now used for nickel cadmium (NiCd) rechargeable batteries. Cadmium also is used in the electroplating process and as a stabilizer in plastics such as PVC.

TOXIC HEALTH EFFECTS

Cadmium can be ingested, inhaled or absorbed through the skin. Most safety issues deal with inhalation, as it is responsible for the quickest and highest levels of exposure for workers in factories.

Short-term exposure: nausea, vomiting, diarrhea, muscle cramps, sensory disturbances, liver injury, convulsions, shock and renal failure.

Long-term exposure: kidney, liver, bone and blood damage.

How a battery works

Thin sheets of nickel and cadmium are tightly rolled to form the core. A chemical reaction between nickel hydroxide, cadmium hydroxide and an electrolyte, potassium hydroxide, produces an electrical current.

