

# Antimony - ToxFAQs™

## What is antimony?

Antimony is a silvery-white metal that is found in the earth's crust. In the environment, antimony metal is found combined with other substances to form antimony compounds that can be found in ores (rocks found in nature with minerals in them). Antimony can exist in two chemical "states" called trivalent or pentavalent.



Antimony ores are mined and then mixed with other metals to form antimony alloys, which are used in lead storage batteries, solder, sheet and pipe metal, bearings, castings, and pewter. Antimony oxide is an antimony compound that is added to textiles and plastics to prevent them from catching fire. It is also used in paints, ceramics, and fireworks, and as enamels for plastics, metal, and glass.

## How can I be exposed to antimony?

Because antimony is **found naturally in the environment**, you are exposed to very low levels of it every day, mostly in food and drinking water. You can also be exposed to very low levels of antimony in air. Drinking water from some plastic water bottles may contain higher levels of antimony, but these levels are not known to cause health effects.

Higher levels of antimony may be found near waste sites or industries that process or release it, such as smelters, coal-fired plants, and garbage incinerators.

## What happens when I eat or breathe antimony?

When you breathe air containing antimony, antimony particles can be deposited in your lungs. Some of these particles can be coughed up and swallowed. Small particles deposited deeper in the lungs are likely to pass through the lining of the lungs and enter the bloodstream. Antimony in your lungs will enter your blood after several days or weeks, depending on the antimony compound. Compounds that don't dissolve easily, like antimony trioxide, will stay in the lungs longer where they can damage the lungs.

A small amount of the antimony that you eat or drink enters the blood after a few hours. The amount and the form of antimony in the food or water will affect how much antimony enters your blood.

## How can antimony affect my health?

**Antimony can have beneficial effects when used for medical reasons.** It has been used as a medicine to treat people infected with certain types of parasites. Some side effects have been reported, including heart problems, nausea and vomiting, and muscle and joint pain.

**The levels of antimony found in the environment are lower than levels known to cause health problems.**

Most of the available health effects data are for trivalent antimony compounds which appear to be more harmful than pentavalent antimony compounds. Studies in workers, who are typically exposed to higher levels of antimony, show that breathing antimony dust can cause heart and lung problems, stomach pain, diarrhea, vomiting, and stomach ulcers. Swallowing large doses of antimony can cause vomiting in people.

# Antimony

One way to learn about whether antimony will harm people is to conduct studies in lab animals. Most of these studies have **tested doses that are higher than levels found in the environment**. Studies in lab animals breathing high levels of antimony have reported lung and heart damage. Liver damage, decreases in blood sugar levels, and developmental effects (decreases in growth) have been found in animals swallowing antimony. Antimony can also irritate the skin and eyes.

## Can antimony cause cancer?

Lung cancer was found in some studies of rats that breathed high levels of antimony trioxide.

The Department of Health and Human Services (HHS) considers antimony trioxide to be reasonably anticipated to be a human carcinogen (causing cancer in people). The International Agency for Research on Cancer has determined that antimony trioxide is possibly carcinogenic to humans and that antimony trisulfide is not classifiable.

## Can I get a medical test to check for antimony?

There are medical tests to measure antimony levels in the body. Antimony can be measured in the urine, feces, and blood for several days after exposure. However, these tests cannot tell you how much antimony you have been exposed to, and they do not predict if you will experience any health effects. **Doctor's offices do not routinely offer these tests.**

## How can I protect myself and my family from antimony?

If you have been exposed to a significant amount of antimony and compounds, call your doctor or nurse. Be sure to ask a doctor if your children might have also been exposed.

Prevent children from eating or playing in dirt if you live near a waste site contaminated with antimony.

## For more information:

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at <https://wwwn.cdc.gov/dcs/ContactUs/Form>

Go to ATSDR's Toxicological Profile for Antimony: <https://www.atsdr.cdc.gov/ToxProfiles/tp.asp?id=332&tid=58>

Go to ATSDR's Toxic Substances Portal: <http://www.atsdr.cdc.gov/substances/index.asp>

Find & contact your ATSDR Regional Representative at [http://www.atsdr.cdc.gov/DRO/dro\\_org.html](http://www.atsdr.cdc.gov/DRO/dro_org.html)

