

# Beryllium - ToxFAQs™

## What is beryllium?

Beryllium is a lightweight metal that is found naturally in rocks, coal, soil, and volcanic dust. Because it is lightweight and strong, beryllium has many uses in the electronics, aerospace, and defense industries. It is also used in energy applications and in the medical and dental fields. Beryllium is mined in the United States. The U.S. Department of the Interior has identified beryllium as a critical mineral. This means that it is essential to the U.S. economy and national security. Most of the beryllium in the U.S. is found in Utah, Nevada, South Dakota, Texas, and Alaska.



## What happens to beryllium in the environment?

- Beryllium does not break down in the environment.
- Beryllium is more likely to be found in the sediment (layers of dirt) in water bodies than in the actual water. Beryllium is carried to water bodies when soil and rocks are broken down by weather.
- Beryllium in the air falls down to the ground or is carried by rain.
- Beryllium can contaminate groundwater.

## How can I be exposed to beryllium?

- People can be exposed to small amounts of beryllium in the air before it falls to the ground.
- There are small amounts of beryllium in food.
- Most exposures to beryllium are in the workplace. People who work in beryllium manufacturing, fabricating, or reclaiming industries are at higher risk of exposure.
- People who live near beryllium manufacturing facilities or municipal waste sites may also be exposed to higher amounts of beryllium.
- Beryllium has been found in cigarettes, so people who smoke may be exposed to beryllium.

**If you work with beryllium it is important to follow all safety guidelines and wear protective equipment.**

## How can beryllium affect my health?

Breathing in beryllium can lead to lung disease and lung cancer. Exposure to beryllium can also cause something called beryllium sensitization, an immune response that can lead to more serious health problems if the person keeps being exposed. People exposed to beryllium are at risk for developing *acute* beryllium disease and *chronic* beryllium disease, which cause problems in the lungs. Symptoms of acute beryllium disease include irritation of the lungs, nose, and throat, as well as trouble breathing and tiredness. People with chronic beryllium disease develop lesions (masses) in the lungs that can lead to scarring. They may experience chest pain, cough, and/or shortness of breath.

Skin contact with beryllium may cause an allergic response or lead to beryllium sensitization.

Studies in animals have shown that eating or drinking beryllium may cause changes in brain and liver enzyme levels and may decrease body weight.

# Beryllium

## Can beryllium cause cancer?

Several studies have looked at the risk of cancer for workers at beryllium facilities. There have been several agencies and organizations that have reviewed studies and made an assessment about whether beryllium could cause cancer.

The [Department of Health and Human Services \(HHS\)](#) considers beryllium to be a known human carcinogen (causing cancer).

The [U.S. Environmental Protection Agency \(EPA\)](#) has classified inhaled (breathed in) beryllium as a probable human carcinogen. However, EPA decided that eating or drinking beryllium does not cause cancer because there is not enough information to understand the toxicity for this route of exposure.

The [International Agency for Research on Cancer \(IARC\)](#) has classified beryllium as carcinogenic to humans, which means there was enough evidence to find cancer in both animals and humans.

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

There are tests to measure beryllium in saliva, urine, hair, and blood. However, these are not part of a standard health test. The tests may only tell you if you have been recently exposed to beryllium. They will not predict if you will have health problems. If you think you have been exposed, call your doctor, nurse, or the poison control hotline. There are also blood tests that measure whether you have been exposed to beryllium and might be at risk of developing beryllium lung disease. If you think you are exposed to beryllium, ask your doctor or nurse about getting this blood test for beryllium sensitization.

## How can I protect my family from beryllium exposure?

- Avoid exposure to air, water, or soil that is contaminated with high amounts of beryllium.
- It is important to follow all [National Institute for Occupational Safety and Health \(NIOSH\)](#) and [Occupational Safety and Health Administration \(OSHA\)](#) safety guidelines and regulations and wear personal protective equipment if you work with beryllium.

## Want 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 Beryllium](#)

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

If you have any more questions or concerns, you can also 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)