

Beryllium

How You Can be Exposed

Beryllium is a lightweight, naturally occurring metal found in rocks, coal, soil, and volcanic dust. It is used in aerospace equipment, electronics, medical devices, metal alloys, and some industrial tools because it is strong and resistant to heat. For most people, everyday exposure to beryllium is very low. Workers in certain industries have the highest risk of exposure.

- **Air** – the most common route of exposure is breathing in beryllium dust or fumes. This can occur in workplaces that use beryllium or for people who live near industrial sites.
- **Soil and dust** – beryllium occurs naturally in soil. Small amounts can become airborne as dust. Exposure may occur if contaminated dust is inhaled or accidentally swallowed, especially near industrial or waste sites.
- **Water and food** – small amounts of beryllium can enter water from natural sources or industrial discharge. However, levels in drinking water and food are typically very low and are not a major source of exposure for most people.
- **Workplace exposure** – workers who handle beryllium-containing materials are at the highest risk of exposure. Inhalation of fine particles is the primary concern.

Health Effects

For the general public, the risk of negative health effects due to beryllium is low. Folks who live near waste sites or beryllium manufacturing locations are at a higher risk of exposure, as are workers employed at these sites.

Beryllium that is swallowed is not easily absorbed by the body and usually passes through in feces. Breathing in beryllium can cause lung irritation, coughing, shortness of breath, and chest pain. Some people may develop chronic beryllium disease (CBD), an immune-related lung disease that can cause long-term breathing problems and lung damage. Not everyone exposed develops this condition, but some individuals are more sensitive. Beryllium exposure has also been associated with an increased risk of lung cancer in workers with long-term occupational exposure.

How to Limit Exposure

For those who live in areas with elevated levels of beryllium, the best way to limit exposure is to avoid breathing in dust containing beryllium. To reduce the amount of dust in the home, keep windows closed, regularly wipe down surfaces and wet mop, and take shoes off when coming

indoors. Planting grass or other types of groundcover can help to keep beryllium contained in the soil, rather than allowing the metal to be released into the air as small particles which can then be inhaled.

Workers who interact with beryllium should always wear protective equipment when handling the metal, including gloves, extra layers of clothing, and a respirator. These items of clothing should be removed before leaving the workplace to avoid contaminating workers' cars and homes. Your employer should have engineering controls in place to limit beryllium exposure within the workplace, and they should set up regular medical screenings to monitor your health.

Sources

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