

OSHA Training Toolbox Talk: Hazardous Substance Awareness – Beryllium

[Reference: Parts 1910, 1915, and 1926, subpart Z; 1926 subpart Z]

Beryllium is a metal used in certain industries, including aerospace, electronics, and the manufacture of specialized metal alloys. Beryllium is used in these industries because it adds strength, stiffness, and durability to metal components while remaining lightweight and stable under repeated stress and temperature changes. Therefore, it may be present in metal components, tools, or parts designed for strength, heat resistance, or electrical performance. Exposure to beryllium can occur during activities such as machining, cutting, grinding, sanding, or handling beryllium-containing materials, particularly when those materials are disturbed or worked on in ways that generate dust.

The primary health concern with beryllium is inhalation of airborne dust or fumes. When beryllium-containing materials are machined or ground, fine particles can become airborne and be inhaled into the lungs. In some individuals, exposure to beryllium can lead to sensitization, which means the immune system reacts strongly to even small amounts. Sensitized individuals may develop chronic beryllium disease, a serious lung condition that can progress over time and affect breathing and overall lung function. This disease has been known to develop even after relatively low exposures in susceptible individuals.

Skin contact with beryllium-containing materials can also contribute to sensitization, especially if proper protective measures are not followed. Beryllium dust can settle on surfaces, tools, and clothing, increasing the potential for both inhalation and skin contact if good housekeeping and hygiene practices are not maintained.

Precautions to reduce exposure include identifying beryllium-containing materials before work begins and using engineering controls such as local exhaust ventilation to capture dust at the source. Safe work practices that limit dust generation are important. When required, appropriate personal protective equipment, including respiratory protection, gloves, and protective clothing, must be worn. Good housekeeping and hygiene practices, such as cleaning work areas properly and washing hands and face before breaks or leaving the work area, are essential. Contaminated clothing and equipment should be handled according to established procedures to prevent carrying beryllium particles home.

If you are working with or around beryllium, or if you see a label or warning sign indicating its presence, remember that merely being near beryllium does not necessarily mean you are overexposed or at imminent risk. Following proper controls, procedures, and safety measures helps ensure exposure remains below OSHA's permissible limits.

If you have any questions or concerns about beryllium hazards or exposure, please direct them to your safety manager, supervisor, or other workplace representative. And please be sure to sign the training certification form to ensure you get credit for attending today's OSHA toolbox talk.

