

Beryllium Hazard Alert



Beryllium is a lightweight, hard metal. It is nonmagnetic, easy to shape, and a good conductor of heat and electricity. Beryllium's many uses include in aerospace parts, semi-conductor chips, spark-resistant tools, nuclear reactor fuel rods, and nuclear weapons.

The Hazards

Maintenance, repair, and demolition where beryllium was used can disturb beryllium dust on floors, pipes, and other surfaces. Breathing small amounts of dust or fumes from beryllium or its alloys, ceramics, or salts can cause some people to develop sensitivity to beryllium. This sensitivity is like an allergy. Even exposure to small amounts of beryllium can cause the disease to get worse, and it can continue to get worse even after you are no longer exposed. You may have bumps on your skin or a wound that will not heal until beryllium particles are removed.

If you develop an allergy (or sensitization) to beryllium, you could develop chronic beryllium disease (CBD). CBD can be treated, but not cured; sometimes it can kill. CBD is a lung disease, but it can affect the lymph nodes, spleen, liver, kidneys, heart, and skin. Chronic beryllium disease can cause constant coughing, coughing up of blood, shortness of breath, chest pain, fever, night sweats, rapid heart beat, loss of appetite, and weight loss.

Less than 1% of nuclear construction and maintenance workers exposed to beryllium have developed chronic beryllium disease. In jobs where workers have inhaled the most beryllium – such as, machinists in beryllium operations – 10 to 14% of the workers have gotten CBD. CBD can take a few months or 30 years to develop after the first exposure to beryllium; the average is 10 to 15 years.

The International Agency for Research on Cancer has found that beryllium can cause lung cancer.

What You Can Do

Ask to see the material safety data sheet (MSDS) for any material you will use in your work. If you must work around beryllium, protect yourself against skin contact or inhaling beryllium in these ways:

- Work in well-ventilated areas where there is good exhaust and the air is monitored regularly for beryllium. Before entering a work area where beryllium was used, ask for the monitoring results.
- Before work, change into work clothes, including a shirt, pants, and shoes. After your shift, before you leave work: take a shower, completely clean your hands and hair, and change to street clothes.
- Do not eat, drink or smoke where there may be beryllium.
- OSHA has said its exposure limit for beryllium – 2 micrograms per cubic meter of air, averaged over 8 hours – may be too high to protect some workers (OSHA HIB, 9/2/99). Do not assume levels below that are safe.

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- OSHA recommends using engineering controls to limit beryllium exposure, such as:
 - Enclose processes (isolated from the worker)
 - Install appropriate local-exhaust ventilation
 - Use vacuum systems in machining operations
 - Use pellets for abrasive blasting, instead of powders, if you can
 - If possible, substitute another material for one that contains beryllium.
- Use approved respirators for tasks that may result in any exposure.
- If you have any of the symptoms listed above – lung problems, coughing, night sweats, weight loss – and you may have been exposed to beryllium, tell your doctor or a doctor who specializes in occupational lung diseases that you may have been exposed. Blood tests can show if you are allergic (sensitized) to beryllium – if it has affected your immune system. If you are allergic, you will need lung and other medical tests to see if you have chronic beryllium disease.
- If a doctor says you are allergic to beryllium or have CBD, do not work where you can be exposed to it again.

Government Help for Nuclear Workers

The Energy Employees Occupational Illness Compensation Program Act of 2000 (EEOICPA) provides benefits to current and former nuclear weapons program employees and current and former beryllium workers. The Department of Labor program makes a one-time payment of \$150,000 to those workers or their survivors if a claim for CBD or cancer (or, at some work sites, silicosis) is allowed. The Act provides payment of medical costs, including travel expenses, to monitor and treat covered illnesses that may be work-related (including CBD), also. For information, call 1- 866-888-3322 or go to www.dol.gov/esa/regs/compliance/owcp/eoicp/main.htm.

To learn more about beryllium, call your local union, the Center to Protect Workers' Rights (301-578-8500 or www.cpwr.com), the National Jewish Medical and Research Center (1-800-222-5864), the National Institute for Occupational Safety and Health (1-800-35-NIOSH, www.cdc.gov/niosh), or the Occupational Safety and Health Administration (1-800-321-6742 or www.osha.gov). Or go to www.elcosh.org.

Some information for this hazard alert was provided by the National Jewish Medical and Research Center.