

THE FACTS BERYLLIUM



About 66,000 workers in the EU are estimated to be potentially exposed to beryllium. The primary routes of human exposure to beryllium and its compounds are through inhalation of dusts and fumes and dermal contact with products containing beryllium. They are carcinogenic to humans (classified as Group 1 by IARC) causing beryllium sensitization, acute and chronic beryllium disease (CBD; sometimes called berylliosis), and lung cancer in humans.

Where risks occur

The highest potential for exposure can be for beryllium miners, beryllium alloy makers and fabricators, phosphorus manufacturers, ceramics workers, missile technicians, nuclear reactor workers, electric and electronic equipment workers, and jewelers. Occupational exposure may also lead to at-home exposure to beryllium on work garments.

More about the substance

Beryllium is a light metal with unusually high melting-point and strength-to-weight ratio. It is lightest of all solid, chemically stable substances. Pure beryllium metal and its alloys with copper and aluminum are used in aircraft industry and space vehicles, nuclear reactors and audio components. Its oxide, chloride, fluoride, hydroxide, sulfate and nitrate find their uses in other multiple applications.

How symptoms can affect you

When beryllium containing dust is inhaled, it may cause shortness of breath, unexplained coughing, fatigue, weight loss, fever and night sweats. Prolonged exposure may cause berylliosis or lung cancer.

Latency period between exposure and beryllium related cancer varies from 15 to 25 years.

What you can do

Perform proper exposure measurements continuously so it is known when actions should be taken. Investigate if workers report early symptoms. Workers need to be aware of the effects of exposure.

The exposure to beryllium and its compounds can be reduced through engineering controls. It is supplemented by respirators where all feasible controls are not sufficient to reduce exposures to or below the exposure limits. In addition, personal protective clothing and equipment (PPE) (e.g. gloves, shoe covers) is also required. The workers should also wash their face, hands, and forearms before eating, smoking, or applying cosmetics. Prolonged skin contact with beryllium particulate should be avoided at all times. Instead of compressed air, HEPA vacuums should be used to clean equipment and the floor around the work areas.

References: IARC, CDC, CAREX, OSHA, NIOSH, EC