

## RESPIRATORY PROTECTION FOR PROCESSING BERYLLIUM-CONTAINING MATERIALS

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Beryllium and beryllium-containing materials, in solid form and as contained in finished products, presents no special health risks. Most manufacturing operations conducted properly on well-maintained equipment are capable of safely processing beryllium-containing materials. However, like many industrial materials, beryllium and beryllium-containing materials may present a health risk if handled improperly. The inhalation of dust, mist or fume containing beryllium can cause a serious lung condition in some individuals. The degree of hazard varies, depending on the form of the product, how it is processed and handled, as well as the amount of beryllium in the product. Read the product specific Safety Data Sheet (SDS) for additional environmental, health, and safety information before working with beryllium and beryllium-containing materials.

In addition, processing beryllium and beryllium-containing materials shall be conducted in accordance with the Beryllium Standard for General Industry (29 CFR 1910.1024) established by the Occupational Safety and Health Administration (OSHA) which includes a Permissible Exposure Limits (PEL) of 0.2 microgram beryllium per cubic meter ( $0.2 \mu\text{g}/\text{m}^3$ ) as an 8-hour Time Weighted Average (TWA), a Short-Term Exposure Limit (STEL) of  $2.0 \mu\text{g}/\text{m}^3$  determined over a 15-minute sampling period and ancillary requirements prompted at an Action Level (AL) of  $0.1 \mu\text{g}/\text{m}^3$  or other specified situations.

The use of local exhaust ventilation and/or other engineering controls is the preferred method of controlling exposure to airborne beryllium-containing particulate. When engineering and/or work practice controls are not practical or effective, or when airborne exposures exceed or have the potential to exceed occupational exposure limits, approved respirators must be used as specified by an industrial hygienist or other qualified professional, and in compliance with the Respiratory Protection Standard (29 CFR 1910.134) established by OSHA. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Respirator users must satisfactorily complete quantitative and/or qualitative fit testing and respirator training. Users of tight-fitting respirators must not have facial hair between the face and the sealing surface of the respirator facepiece or which interferes with the operation of the respirator inhalation and/or exhalation valves.

A half-face, air-purifying respirator (APR) with cartridge filters approved by the appropriate competent authority, such as N100, R100 or P100, is the minimum recommended type. Proper use of this respirator reduces the airborne concentration of particulate by a factor of 10 and provides protection up to 10 times the occupational exposure limit (OEL). For operations or processes with higher actual or potential exposure, respirators that provide a higher level of protection, such as a powered air-purifying respirator (PAPR), must be used. Exposure to unknown concentrations of particulate requires the wearing of a pressure-demand airline respirator or pressure-demand, self-contained breathing apparatus (SCBA). Pressure-demand airline respirators are used when performing jobs with high potential exposures, such as changing filters in a dust collector or other air-cleaning device.

Proper selection and use of respirators must be supervised by a trained person to assure proper sizing, fitting, use, cleaning and maintenance of the device. Paper-type dust masks or paint masks cannot be substituted for an approved respirator.



## ADDITIONAL INFORMATION

The information contained in this Safety Facts applies only to the subject referenced in the title. Read the MSDS specific to the products in use at your facility for more detailed environmental, health and safety guidance. SDSs can be obtained by contacting the Materion Brush Inc. Product Safety Hotline at (800) 862-4118 or visit our website at [www.materion.com](http://www.materion.com).

Additional information can also be obtained by contacting a Materion Brush Inc. Sales Representative or:

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