

Frequently Asked Questions about the California Permissible Exposure Limit for Beryllium FAQ 308

I have heard that the Permissible Exposure Limit (PEL) for beryllium changed in California. Is this true?

Yes. In response to the issuance of a new Beryllium Standard for General Industry (29 CFR 1910.1024) by the United States Occupational Safety and Health Administration (OSHA) in January 2017, the California Occupational Safety and Health Administration (Cal/OSHA) adopted the requirements of the OSHA Beryllium Standard in its entirety and published the requirements in Section 5205, Beryllium, of the General Industry Safety Orders. It is important to note that Cal/OSHA had reduced the Permissible Exposure Limit (PEL) for Beryllium in April 2006 so that the only changes related to the adoption of the OSHA Beryllium Standard would be the addition of a Short-Term Exposure Limit (STEL) of $2.0 \mu\text{g}/\text{m}^3$ as determined over a 15-minute sampling period and the other ancillary provisions. A copy of the adopted standard for beryllium can be found in [Section 5205](#).

When did the revision to the PEL in California become effective?

The adoption of the PELs and other ancillary provisions for beryllium in California were effective on December 1, 2017.

What does this mean for manufacturers in California?

For California manufacturers processing beryllium oxide ceramic in ways that could generate airborne dust, mist or fume, this means that you must control worker exposure to the revised PEL and STEL on or before the compliance dates listed in the Beryllium Standard. Materion Ceramics Inc. expects little impact to operations that do not generate dust, mist or fume, but does expect the adopted Beryllium Standard in California to impact customers with operations that produce dust, mist or fume. See Safety Facts 301 – Safety Practices for Working with Beryllium Oxide Products for a list of operations that have low inhalation concern and a list of operations that are a likely inhalation hazard.

How can I determine if worker exposure to airborne beryllium exceeds the PEL and STEL?

To determine worker exposure to airborne beryllium in operations that could generate airborne dust, mist or fume, it is necessary to conduct a workplace exposure characterization including air sampling in the worker's breathing zone. Materion Ceramics Inc. recommends the use of an industrial hygienist or other qualified professional to conduct the workplace exposure characterization. If a workplace exposure characterization has been previously conducted and there have been no changes to the operation, compare the results to the PEL and STEL.

Where can I find an industrial hygienist or other qualified occupational health professional?

Materion Brush Inc. has provided training to independent industrial hygiene consultants across the U.S. in beryllium hazard recognition and control of beryllium manufacturing operations. Several of these consultants are located in California. To obtain a list of consultants nearest you, access our web site at www.materion.com and go to the Beryllium Consultant Network page under the Environmental Health and Safety resources available under the Resource Center tab. Resources are also available in the phone book, search engines on the web under "Industrial Hygiene Consultants" or through occupational health professional association web-sites such as the [American Industrial Hygiene Association](http://www.ahc.org).

Occupational health services may also be available (sometimes without cost) from government organizations related to health and safety, workers' compensation or public health protection. For example, The [California Division of Occupational Safety and Health](http://www.cdph.ca) offers a free consultant service to industry. In addition, workers' compensation insurers often provide such services, sometimes without cost or at lower cost.

What should I do if the air sample results exceed or have the potential to exceed the PEL?

Operations and activities that exceed or have the potential to exceed the PEL require further evaluation by an industrial hygienist or other qualified occupational health professional and may require the addition of engineering and work practice controls to minimize the generation of beryllium-containing particulate. These engineering and work practice controls could include ventilation, isolation, containment, process substitution and housekeeping.

Approved respirators must be used per the requirements of Section 5144, Respiratory Protection, of the General Industry Safety Orders:

- when engineering and work practices controls are not practical or feasible;
- while engineering and work practices controls are being instituted; or,
- when airborne exposures exceed or have the potential to exceed the PEL.

Materion Ceramics Inc. encourages those handling beryllium and beryllium-containing materials in ways which generate particulate containing beryllium to utilize engineering and work practice controls to keep beryllium work areas clean and to keep particulate containing beryllium out of the lungs, off the skin, off of clothing, in the work process, in the work area and on the plant site. Using this model and an action level of $0.2 \mu\text{g}/\text{m}^3$, Materion Ceramics Inc. is being successful in preventing chronic beryllium disease (CBD) and beryllium sensitization in new workers.

How can I obtain assistance?

If you have any questions regarding the above information, please contact your sales representative; our sales department at +1-216-486-4200; or the Product Safety Hotline at 1-800-862-4118 (in the U.S.) or +1-216-383-4019 (outside the U.S.). This document, as well as other product specific safety data information, can be found at www.materion.com. Additionally, information on the Beryllium Worker Protection Model and process specific safety guidance can be found in the Interactive Guide to Working Safely with Beryllium and Beryllium-containing Materials at www.berylliumssafety.com.