MATERION

FREQUENTLY ASKED QUESTIONS

Frequently Asked Questions about Airborne Beryllium Levels and Exposure Assessment
FAQ200

What are the current occupational exposure levels in major industrialized nations?

The majority of industrialized nations use an occupational exposure level of 2.0 µg/m^3 8-hour time weighted average (TWA) for beryllium.

Are changes to the occupational exposure limit expected in the next 3-5 years?

Yes. Materion Brush Inc. expects the occupational exposure level will be lowered when the United States (U.S.) Occupational Safety and Health Administration (OSHA) issues a beryllium standard. OSHA is currently in the data gathering stage and it is not known when a draft standard will be published for comment.

Does Materion Brush Inc. have an occupational exposure guideline for airborne beryllium?

Yes. Materion Brush Inc. has adopted a recommended exposure guideline (REG) of 0.2 µg/m^3 TWA based on recent studies[1,2,3] and consideration of particle size[4,5], chemical form[6] and process related risks[7]. Materion Brush Inc. utilizes work practices that reduce airborne dust generation, engineering controls, and respiratory protection in its efforts to maintain worker exposures below 0.2 µg/m^3.

How can I determine employee airborne beryllium exposure?

Materion Brush Inc. recommends using qualified occupational health professional to collect representative air samples and statistically analyze[8] the results to give a reliable determination of employee airborne beryllium exposure.

Where can I find an occupational health professional?

Materion Brush Inc. has provided training to nearly 100 independent industrial hygiene consultants across the U.S. in beryllium hazard recognition and control of beryllium manufacturing operations. Today, most of these consultants are part of the Beryllium Consultant Network (BCN). To obtain a list of the BCN and find the consultant(s) nearest you, access our web site at www.materion.com. Resources are also available in the phone book or search engines on the web under “Industrial Hygiene Consultants”, occupational health professional association web-sites in the U.S. (American Industrial Hygiene Association; www.aiha.org) and European Union (British Occupational Hygiene Society; www.bohs.org). In some countries and some states, occupational health services are available (sometimes without cost) from government organizations related to health and safety, workers’ compensation, or public health protection. For example, in the United States, OSHA offers a free consultant service to industry (www.osha.gov). 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 indicate a possible problem?

1. Consider whether immediate actions are necessary to protect personnel from exposure.
2. Contact an occupational health professional for consultation. This professional will be able to assist you in determining your need for the following:

- Work practice analysis
- Respiratory protection
- Training
- Clothing and skin protection
- Migration control
- Exposure assessment
- Engineering controls
- Housekeeping procedures

Materion Brush Inc. uses a comprehensive program, including worker training, engineering and work practices, to control fugitive dust emissions and work area cleanliness. Materion Brush Inc. believes it is also important 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 to reduce risk of adverse health effects.

How can I obtain assistance?

If you have any questions regarding the above information, please contact your sales representative or call the Product Safety Hotline at (800) 862-4118. Get product specific material safety data information at www.materion.com.

[1]Johnson J., et al. Beryllium Exposure Control Program at the Cardiff Atomic Weapons Establishment in the United Kingdom. Appl Occup Environ Hyg 16(5): 619-630 (2001).
[2]Schuler, C., et al. Process-Related Risk of Beryllium Sensitization and Disease in a Copper-Beryllium Alloy Facility. Am J Ind Med 47:195–205 (2005).
[3] Madl A.K., et al. Exposure-Reponse Analysis for Beryllium Sensitization and Chronic Beryllium Disease Among Workers in a Beryllium Metal Machining Plant. JOEH 4:6 448-466 (2007)
[4]Kent M., Robins T., Madl A. Is Total Mass or Mass of Alveolar-Deposited Airborne Particles of Beryllium a Better Predictor of the Prevalence of Disease? A Preliminary Study of a Beryllium Processing Facility. Appl Occup Environ Hyg 16(5): 539-558 (2001).
[5]McCawley M. et al. Ultrafine Beryllium Number Concentration as a Possible Metric for Chronic Beryllium Disease Risk. Appl Occup Environ Hyg 16(5): 631-638 (2001).
[6]Deubner D., et al. Beryllium Sensitization, Chronic Beryllium Disease, and Exposures at a Beryllium Mining and Extraction Facility. Appl Occup Environ Hyg 16(5): 579-592 (2001).
[7]Kreiss K., Mroz M., Zhen B., Wiedemann H., Barna B. Risks of beryllium disease related to work processes at a metal, alloy, and oxide production plant. Occ. and Env. Medicine 54: 605-612 (1997).
[8]American Industrial Hygiene Association " A Strategy for Assessing and Managing Occupational Exposures, 3rd Ed.".