

Working With Beryllium Copper

**FRC East Processing
Procedures**

Beryllium Copper

- Several alloys processed
 - Manufacture of bushings
 - Removal tools manufactured from beryllium copper (ex. chisels)
- Developed local processing specification for handling beryllium copper parts and raw stock August 2002
- Artisans and supervisors familiar with MSDS sheets
- FRC East POC
 - Ross Dotson ross.dotson@navy.mil
 - (252)-464-7154

Concerns

- Working with beryllium copper a personnel hazard
- Fine particles of beryllium copper from machining, grinding, sanding, filing and any other operation that removes base metal
- Beryllium dust or fumes irritate the respiratory tract
- Hypersensitive or allergic reactions to repeated or prolonged exposure
 - Symptoms include redness, itching and pain when exposed.

FRC East PPE Requirements

- Contact with beryllium copper particles must be avoided
- PPE requirements when handling beryllium copper & cleaning equipment used to manufacture or repair beryllium copper parts:
 - Tyvek coveralls
 - Safety shoes
 - Safety glasses with side-shields while machining
 - Leather gloves
- Gloves worn while installing or removing beryllium copper materials
 - Not required near moving machinery
- Individuals must report to the Occupational Health Clinic immediately if beryllium copper material lodged in the skin

Handling of BeCu Parts and Materials

- Any clean-up of copper beryllium residue shall be performed in fashion that does not create dust:
 - The use of compressed air or brooms is prohibited
 - Use HEPA vacuum and wet methods such as with wet rags or alcohol wipes preferred.
 - Leather gloves and tools (tongs, scoops, shovels, etc.) used to clean up beryllium turnings, chips, and other residue
- Machined parts should be thoroughly cleaned of loose particulate prior to handling
- Machinery used for machining beryllium copper alloys shall be cleaned and coolant reservoirs pumped prior to use on other alloys. Contact RCRA & Hazardous Waste Management

Handling of BeCu Parts & Materials *cont.*

- Machinery used for machining beryllium copper alloys shall be cleaned and coolant reservoirs pumped prior to use on other alloys
 - Contact RCRA & Hazardous Waste Management Branch for assistance.
- Machinery may be dedicated to the machining beryllium copper
 - Such equipment would only require cleaning per normal shop practice.
 - Equipment designated for this purpose shall be clearly labeled that it is to only be used for machining copper beryllium

Handling of BeCu Parts & Materials *cont.*

- Cleanup rags and other beryllium waste collected in plastic bags
 - Bags shall be labeled “DANGER: CONTAMINATED WITH BERYLLIUM. DO NOT REMOVE DUST BY BLOWING OR SHARING. CANCER AND LUNG DISEASE HAZARD.”
- RCRA & Hazardous Waste Management Branch contacted for disposal instructions
- Stock and parts made from copper beryllium shall be wrapped in plastic during storage and transportation. The wrapped material shall be marked as copper beryllium.

Handling of Be Waste

- Be: In Solid Metallic Form Not a RCRA Waste
- Under CERCLA, Be is a Hazardous Substance Reportable at 10lb Threshold
- FRCSE Disposes of Approx 1000 lb Be Waste per Annum
 - In the Form of CuBe Shavings, Chips and Fines
 - Sources: Machine and Milling Operations, Tactical A/C Line, Tool Crib