Working With Beryllium Copper

FRC East Processing Procedures
**Working With Beryllium Copper**

---

1. **REPORT DATE**
   - SEP 2009

2. **REPORT TYPE**
   - 00-00-2009 to 00-00-2009

3. **AUTHOR(S)**
   - Fleet Readiness Center (FRC) East, PSC Box 8012, Cherry Point, NC, 28533

4. **SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)**

---

**Abstract**

---

**Subject Terms**

---
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 \textit{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