

Date: Wed, 09 Aug 2000 08:19:42 -0600
From: Meredith Brown <racer@lanl.gov>
Subject: Red Alert: Grinding Wheels Update

Title: Red Alert- Grinding Wheels may contain small amounts of Beryllium (UPDATE)

Identifier: R-2000-OR-LMESY12-0701 Date: Aug 4, 2000

Lessons Learned Statement: Material Safety Data Sheets (MSDS) should be reviewed for all equipment/material that contain hazardous material prior to use.

Discussion of Activities: While reviewing MSDSs for materials on a hazardous materials inventory for a specific hazard communication training module, an employee discovered that a grinding wheel used in a machining process at the Y-12 Plant contained a small amount of beryllium. Industrial Hygiene immediately sent out a email requesting that all activities that use these wheels be suspended until a through investigation could take place. The products in question are Vitrified (VBonds "V76", "VH2", "V56", "VHP", "VLS", or "V86") A or C Abrasive Grinding Wheels, Sticks, and Hones. Fifty machines at Y-12 have been identified that could have or had the wheels. The affected grinding wheels were removed from the machines and storage and placed in a caged area. All personnel were removed from the affected areas. The shops were marked off with signs, restricting access. Industrial Hygiene conducted surface sampling for beryllium contamination on these machines. 430 smears were taken. Nine smears showed detectable beryllium; only two of the nine were above the free release limit. The affected machines were cleaned, resmeared, determined to be less than 0.2 ug/100 cm² and released for use.

Analysis: After discussion with the manufacturer it was determined that beryllium had been used in grinding wheels for approximately 30 years. The manufacturer had changed names several times during this period. It was an industry wide standard in the United States. The manufacturer stated that other manufacturers stopped adding beryllium to abrasive products 10-15 years ago. The reason for adding beryllium to the wheels is to increase the tolerance to thermal degradation.

Recommended Actions:

1. Review MSDSs for abrasive grinding products.
2. Remove products containing beryllium.
3. Sample machines currently or historically using abrasive products containing beryllium.
4. When beryllium is determined to be present follow 10 CFR 850 Chronic Beryllium Disease Prevention Program

ORIGINATOR: Lockheed Martin Energy Systems, Inc.

VALIDATOR: T. R. Butz

CONTACT: Jim Jenkins , 865-576-7180

PRIORITY DESCRIPTOR: Red/Urgent

ADC: Jim Jenkins

NAME OF REVIEWING OFFICIAL: N/A

KEYWORDS: beryllium, machining, grinding wheels

REFERENCES: N/A

DOE FUNCTIONAL CATEGORY(S): Conduct of Operations, Operations, Occupational Safety & Health, Safety

LMES FUNCTIONAL CATEGORY(S): Conduct of Operations, Safety & Health

HAZARDS CODES: Contamination, Hazardous Materials, Personnel Protection,

WORK ACTIVITY: Facility Equipment, Other