

Novetas Solutions, LLC.

Please be advised that the [Public Citizen](#), a 40 year old major Washington DC nonprofit organization with over 80,000 members, has issued a formal letter to **OSHA in November 2011** asking that **OSHA** immediately address a potentially major worker health and safety violation by the entire [coal slag abrasive industry](#) concerning their failure to properly add warnings for **Beryllium** exposure to their MSDS, as per **OSHA's** Hazard Communication Guidelines under [29 CFR 1910.1200\(a\)](#).

This issue is of extreme importance to the entire Surface Preparation Industry and any other Industries or government agencies (DOT's and US Military) that are responsible for purchasing or allowing their workers to use coal and copper slag abrasives. There is a substantial amount of background documentation from OSHA itself which details how potentially toxic **Beryllium** is in the dust generated from abrasive blasting with coal slag as well as copper slag abrasives. **OSHA** is well aware of the dangers associated with coal and copper slag abrasives concerning the unique illnesses with beryllium exposure such as [Chronic Beryllium Disease and Cancer](#). In fact, the current head of OSHA, Assistant Secretary [Dr David Michaels](#), is a world renowned expert on **Beryllium** exposure and crafted the Dept of Energy's gold medal standard for protecting workers from **Beryllium** exposure under [10 CFR Part 850 CHRONIC BERYLLIUM DISEASE PREVENTION PROGRAM](#) in 1999 when he was Assistant Secretary of the Dept of Energy. This fact makes the need for the letter from the **Public Citizen to OSHA** to enforce their existing MSDS guidelines for **Beryllium** exposure in coal slag abrasives all the more shocking.

Novetas Solutions has been committed to insuring that all manufacturers of expendable abrasives market, and promote their products on a "[level playing field](#)". We applaud the **Public Citizen** for objectively looking at the facts and coming to the unbiased conclusion that based on the data from **OSHA** itself, the [eight](#) companies to include [Harsco Minerals which produces Black BeautyRCoal Slag and Iron Horse Copper Slag](#), that manufacture and sell coal slag abrasives clearly are in direct violation of the MSDS guidelines under **29 CFR 1910.1200(a)** for not reporting that their products contain the carcinogen **Beryllium** that could expose workers and others to toxic levels that under **29 CFR**, "**could be released in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees in those concentrations.**"

Novetas Solutions remains committed to insuring our Industry is fully educated and aware of the facts concerning the abrasive products they choose to purchase and allow their workers to utilize. In the coming days, Novetas will begin sending out additional back up documentation from **OSHA** and other federal health agencies such as the [EPA/NIOSH](#) that will provide more specifics concerning just how toxic **Beryllium** is for an unknown percentage of the population that are genetically predisposed to become potentially [terminally ill](#) if exposed to the **Beryllium** in the dust contained in [coal and copper slag abrasives](#).

To: Thomas Galassi, Director, Directorate of Enforcement Programs, OSHA

From: Justin Feldman, Worker Health and Safety Advocate, Public Citizen

Date: November 30, 2011

Re: Enforcement of Hazard Communications Standard

Manufacturers of coal slag abrasive are failing to report their product's beryllium exposure risks. This omission denies abrasive blasting workers their right to know about hazardous exposures as established under 29 CFR 1910.1200(a), OSHA's hazard communication standard. OSHA's Directorate of Enforcement Programs should inform these manufacturers of their legal obligation to disclose beryllium hazards on material safety data sheets (MSDS) and take enforcement action if the companies fail to comply.

Beryllium is a highly toxic metal that can result in chronic beryllium disease and lung cancer. Even short-term exposure at low levels can be dangerous. OSHA's own analysis, conducted for its draft beryllium standard, indicates that abrasive blasters may face higher beryllium exposure than any other occupation. Several studies show that coal slag abrasive can release beryllium at concentrations in excess of established occupational exposure limits, including OSHA's permissible exposure limit (PEL) and ACGIH's Threshold Limit Value.

Despite their toxic contents, all of the major coal slag abrasive manufacturers fail to disclose beryllium hazards on their material safety data sheets (see below). Some manufacturers even mislead end-users by marketing their product as "non-toxic". The Directorate of Enforcement Programs should move quickly to rectify these dangerous omissions.

Hazard Communications Standard

Pursuant to 29 CFR 1910.1200 (d)(5)(iv), manufacturers are required to disclose a hazardous substance if a mixture contains the toxicant at levels that "could be released in concentrations which would exceed an established OSHA permissible exposure limit or ACGIH Threshold Limit Value, or could present a health risk to employees in those concentrations."

Data from exposure assessment studies indicate coal slag abrasive contains levels of beryllium that can be released at concentrations in excess of ACGIH's TLV (0.05 µg/m³ 8-hour time-weighted average) and OSHA's PEL (2.0 µg/m³ 8-hour time-weighted average, 5.0 µg/m³ ceiling). Coal slag manufacturers are therefore legally obligated to disclose beryllium hazards on their MSDS.

Exposure Assessment Studies

There are three publicly available studies assessing beryllium exposure for blasting workers who use coal slag abrasive. Each of the studies collected multiple samples with beryllium concentrations that exceed the OSHA PEL and/or ACGIH TLV for beryllium.

1) Keith G. Crouch et al., *Control Technology and Exposure Assessment for Occupational Exposure to Beryllium: Abrasive Blasting with Coal-Slag*. NIOSH (2007).

This study used a variety of methods to assess beryllium exposure resulting from coal slag abrasive use over a two-day period. On Day 1, the personal breathing zone cassette sample for a blasting worker found an 8-hour TWA beryllium concentration of 2.1 µg/m³, which exceeds both OSHA's PEL and ACGIH's TLV. A 3-hour TWA for the same sample was 5.3 µg/m³, in excess of OSHA's permitted 15-minute TWA ceiling concentration. Area samples taken inside the tarp on Day 1 found a beryllium concentration of 0.15 µg/m³, which exceeds the ACGIH TLV.

2) J. D Meeker, et al., *Comparison of Occupational Exposures Among Painters Using Three Alternative Blasting Abrasives*, 3 JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL HYGIENE 80 (2006).

This three-year study assessed personal exposure for blasters who used three types of abrasive media on similar bridges. The investigators collected five personal breathing zone samples from blasters working with coal slag. They calculated task-weighted exposure concentrations, which ranged from 2.5 µg/m³ to 9.5 µg/m³. Even the minimum value exceeds the 8-hour TWA PEL and several values exceeded OSHA's ceiling for beryllium exposure (the geometric mean for the samples was 5.5 µg/m³).

3) KTA-Trator, Inc., *Evaluation of Substitute Materials for Silica Sand in Abrasive Blasting*. NIOSH (1998).

In this study, investigators assessed exposure to beryllium in coal slag abrasive by taking three area samples and one personal sample from a blasting site. The beryllium levels for these samples ranged from 0.86 µg/m³ to 5.87 µg/m³, with a geometric mean of 3.33 µg/m³. These values exceed the OSHA PEL and ACGIH TLV.

Disclosure of Beryllium Hazards by Coal Slag Abrasive Manufacturers

Manufacturer	Product Name	MSDS Discloses Beryllium?
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Harsco Corp.	Black Beauty	No
Abrasives, Inc.	Black Magic	No
American Industrial Minerals	BlackMax Coal Slag	No
ATI Black Diamond	various	No
Ensio, Inc.	Patriot Blast	No
Mobile Abrasives, Inc.	Black Blast	No
Opta Minerals, Inc.	Blackblast	No
U.S. Minerals	Black Magnum	No

Ten years ago, Public Citizen petitioned OSHA to update the beryllium PEL. Our petition has not yet resulted in a beryllium regulation that actually protects workers' health.

In absence of an adequate beryllium standard, the least that the OSHA Directorate of Enforcement Programs could do is ensure workers are informed about their risks, a right they are afforded by existing law.

CC: Debbie Berkowitz, OSHA Chief of Staff

