



MATERIAL SAFETY DATA SHEET

PRODUCT: SHARPSHOT® Abrasives

Section 1: GENERAL INFORMATION

Manufacturer: Minerals Research & Recovery, Inc.
4620 South Coach Drive
Tucson, Arizona 85714

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For Additional Information, Contact:
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Section 2: CHEMICAL INGREDIENTS

Composition: 100% Copper Slag (Complex silicates and oxides of iron, silica, calcium, and aluminum)

<u>Component</u>	<u>CAS #</u>	<u>Typical % Weight</u>	<u>Fed OSHA PEL (mg/m³)</u>	<u>CA OSHA PEL (mg/m³)</u>	<u>ACGIH TLV (mg/m³)</u>
<u>Iron (Fe)</u>	<u>1309-37-1</u>	<u>30-35</u>	<u>10</u>	<u>5</u>	<u>5</u>
<u>Silicates (amorph. SiO₂)</u>	<u>7440-21-3</u>	<u>35-45</u>	<u>1.8</u>	<u>6 (resp = 3)</u>	<u>10</u>
<u>Alpha-Alumina (Al₂O₃)</u>	<u>1344-28-1</u>	<u>5-15</u>	<u>15 (resp =5)</u>	<u>10 (resp = 5)</u>	<u>1 (resp)</u>
<u>Calcium oxide (CaO)</u>	<u>1305-78-8</u>	<u>0-10</u>	<u>5</u>	<u>2</u>	<u>2</u>
<u>Magnesium oxide (MgO)</u>	<u>1309-48-4</u>	<u><1</u>	<u>15</u>	<u>10</u>	<u>10</u>

Please note that this product may contain the following chemical components in quantities less than 1% by weight. Under extreme conditions (e.g. sandblasting in a confined space without sufficient ventilation), OSHA PELs or ACGIH TLV's could be exceeded. In these situations, employee exposure monitoring should be performed to determine exposure levels. You can contact us for further information.

<u>Component</u>	<u>CAS #</u>	<u>Typical % Weight</u>	<u>Fed OSHA PEL (mg/m³)</u>	<u>CA OSHA PEL (mg/m³)</u>	<u>ACGIH TLV (mg/m³)</u>
<u>Arsenic (As)</u>	<u>7440-38-2</u>	<u><0.001</u>	<u>0.01</u>	<u>0.01</u>	<u>0.01</u>
<u>Cobalt (Co)</u>	<u>7440-48-4</u>	<u><0.003</u>	<u>0.1</u>	<u>0.02</u>	<u>0.02</u>
<u>Copper (Cu)</u>	<u>7440-50-8</u>	<u><0.25</u>	<u>1</u>	<u>0.1</u>	<u>1</u>
<u>Lead (Pb)</u>	<u>7439-92-11</u>	<u><0.003</u>	<u>0.05</u>	<u>0.05</u>	<u>0.05</u>
<u>Vanadium (Vn)</u>	<u>1314-62-1</u>	<u><0.001</u>	<u>0.5 (resp)</u>	<u>0.05 (resp)</u>	<u>0.05 (resp)</u>
<u>Crystalline Silica (SiO₂)</u>	<u>480-86-07</u>	<u><0.1</u>	<u>14.2 (resp = 4.7)</u>	<u>0.3 (resp = 0.1)</u>	<u>0.05 (resp)</u>

Footnotes:

- (1) See last page for important additional terms and conditions including disclaimer of warranties.
- (2) Concentration may vary somewhat between batches or lots. Where possible, a concentration range is indicated. Occasionally, however, levels may even fall outside of the typical concentration range.

Section 3: PHYSICAL DATA

<u>Physical State:</u>	Granular	<u>Bulk Density:</u>	110 - 120 lbs/ft ³
<u>Specific Gravity:</u>	3.4 - 3.6	<u>Vapor Pressure:</u>	NA
<u>Appearance/ Odor:</u>	Dull Black, Odorless	<u>Vapor Density:</u>	NA
<u>Boiling Point:</u>	NA	<u>Evaporation Rate:</u>	NA
<u>Melting Point:</u>	Over 2000° F		
<u>pH:</u>	NA		

Section 4: FIRE AND EXPLOSION HAZARD DATA

<u>Flash Point:</u>	NA	<u>Lower Explosive Limit:</u>	NA
<u>Autoignition Temperature:</u>	NA	<u>Upper Explosive Limit:</u>	NA
<u>Fire Hazard:</u>	NA	<u>Explosion Hazard:</u>	NA
<u>Extinguishing Media:</u>	NA	<u>Special Fire Fighting Procedures:</u>	NA
<u>Unusual Fire and Explosion Hazards:</u>	NA		

Section 5: REACTIVITY DATA

<u>Stability:</u>	Stable
<u>Incompatibilities (Materials to Avoid):</u>	Strong mineral acids
<u>Hazardous Thermal Decomposition Products:</u>	None Expected
<u>Polymerization:</u>	Will not occur

Section 6: HEALTH HAZARD DATA

Proper precautions should be taken to avoid any health hazard. A health hazard may occur if limits for air contaminants exceed PEL limits as per 29 CFR 1910.1000. Proper engineering controls and ventilation should be used to prevent air contaminants from exceeding PEL limits. NIOSH-approved respirators should be used during all abrasive blasting operations. (For

information on potentially hazardous elements refer to Section 2.)

Usual Route (s) of Entry: Inhalation of dust during handling or use

Medical Conditions Possibly

Aggravated By Exposure: Chronic diseases or disorders of the respiratory system.

Section 7: FIRST AID AND MEDICAL EMERGENCY PROCEDURES

Eye Contact: Not anticipated to pose an acute or significant eye contact hazard. In the event of eye contact, flush eyes with generous amounts of water.

Skin Contact: Not anticipated to pose an acute or significant skin contact hazard. Wash with soap and water as needed to remove from skin

Inhalation: Not anticipated to pose an acute or significant inhalation hazard if proper work practices are employed to maintain dust exposure below OSHA PEL's. If overexposure occurs, remove individual to area with fresh air until symptoms cease.

Ingestion: Not considered to be an ingestion hazard.

Section 8: PRECAUTIONS FOR SAFE HANDLING AND USE

Procedures to Follow if Material is Released or Spilled: Using appropriate personnel protective equipment, material should be swept or vacuumed or otherwise collected into appropriate containers.

Waste Disposal Method(s): Landfill disposal or other methods that are in accordance with local, state and federal regulations. Virgin (unused and uncontaminated) material does not exceed the Toxicity Characteristic Leaching Procedure (TCLP) hazardous waste limits per 40 CFR 261.3. Used or contaminated material should be tested in accordance with 40 CFR 262.11 or any applicable local or state regulations to determine if it is a hazardous waste and disposed of accordingly.

Section 9: OCCUPATIONAL EXPOSURE CONTROL MEASURES

Engineering Controls (Ventilation, etc.): Ventilation should be sufficient to maintain dust levels below applicable exposure limit.

Work Practices (Handling and Storage, etc.): Avoid creating airborne dust during handling and use.

Eye Protection: Safety glasses, goggles or face shields are recommended during abrasive blasting or when dust levels are excessive.

Skin Protection: Gloves and long-sleeved clothing are recommended during abrasive blasting or when dust levels are excessive.

Respiratory Protection: When engineering controls are not sufficient to lower dust levels below the applicable exposure limit, use a NIOSH-approved respirator. NIOSH-approved respirators should be used during all abrasive blasting operations in accordance with 29 CFR 1910.134 (OSHA Respiratory Protection Program).

ADDITIONAL MISCELLANEOUS INFORMATION

If material is being used for abrasive air blasting, proper protective clothing, eye protection and respiratory protection should be used in accordance with OSHA regulations. If air blasting is being performed in confined area, proper ventilation should be used in accordance with OSHA regulations.

Abbreviations:

NA = Not Applicable

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

We believe that Minerals Research & Recovery's (MRR) copper slag products are not hazardous chemicals as defined by the U.S. Federal Occupational Safety and Health Hazard Communication Standard 29 CFR 1910.1200 (c). However, this should not be construed as a warranty that any MRR product is or is not a hazardous chemical under any applicable safety, or environmental statute, rule, or regulation. The use or application of any MRR product, whether or not used in conjunction with any other product, may result in the violation of safety or environmental statutes, rules or regulations as MRR has no control over how the MRR product is used, nor the possible contaminants that may exist on the surface to which it is applied. Therefore, there shall be no express or implied warranty that the spent MRR product conforms with applicable safety and/or environmental statutes, rules or regulation. All sales of this product are subject to MRR's standard terms and conditions of sale. Further, MRR makes no warranties as to any of its products, express or implied, including the Implied Warranty of Merchantability, any implied warranty of fitness for a particular purpose or any implied warranties otherwise arising from course of dealing or trade.

By acceptance of any MRR product, the buyer thereof agrees that MRR's liability for any claim for damages, including, but not limited to, remediation or cleanup costs shall not exceed the value of the goods provided.

This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof, including any environmental restrictions or prohibitions that may apply.