

1. IDENTIFICATION
Product Identity / Trade Name: Brass Wire Brushes

Product Use: Abrasive materials used on metals, concrete, masonry and building materials.

Manufacturer: United Abrasives, Inc.
 185 Boston Post Road
 Windham, CT 06256

Internet: www.unitedabrasives.com

Information Phone: (860) 456-7131 **Emergency Phone:** (860) 456-7131

Date of Preparation: September 21, 2015

2. HAZARD(S) IDENTIFICATION
Classification: Not classified as hazardous as defined by the GHS and OSHA 29 CFR 1910.1200.

Label Elements: None Required.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Aluminum	7429-90-5	Proprietary
Antimony	7440-36-0	Proprietary
Arsenic	7440-38-2	Proprietary
Beryllium	7440-41-7	Proprietary
Cadmium	7440-43-9	Proprietary
Carbon Black	1333-86-4	Proprietary
Chromium	7440-47-3	Proprietary
Cobalt	7440-48-4	Proprietary
Copper	7440-50-8	Proprietary
Iron	1309-37-1	Proprietary
Lead	7439-92-1	Proprietary
Manganese	7439-96-5	Proprietary
Nickel	7440-02-0	Proprietary
Phosphorous	7723-14-0	Proprietary
Silicon	7440-21-3	Proprietary
Silver	7440-22-4	Proprietary
Sulfur dioxide	7446-09-5	Proprietary
Tellurium	13494-80-9	Proprietary
Tin	7440-31-5	Proprietary
Zinc	7440-66-6	Proprietary
Zirconium	7440-67-6	Proprietary

The specific identity and/or exact percentage has been withheld as a trade secret.

4. FIRST-AID MEASURES

Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting or welding may produce potentially hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes

Ingestion: If dust is swallowed, seek medical attention.

Inhalation: If overexposed to dust, remove victim to fresh air and get immediate medical attention. Product contains beryllium, cobalt and nickel which may cause an allergic reaction. Get immediate medical attention if breathing is difficult.

Eye Contact: Flush eyes thoroughly with water, holding open eyelids. Get medical attention if irritation occurs and persists. Obtain immediate medical attention for foreign body in the eye.

Skin Contact: Wash dust from skin with soap and water. Launder contaminated clothing before reuse.

Most important symptoms/effects, acute and delayed: Use may generate dust that may cause eye and respiratory tract irritation. Dust may be acutely toxic by inhalation and ingestion. May cause allergic skin and respiratory reaction. Lead exposure may cause reproductive system effects and harm the unborn child. Lead exposure may cause damage to the central nervous system, kidneys, and blood. Arsenic exposure may cause damage to the liver, skin, respiratory system, and central nervous system. Cadmium exposure may cause damage to the lungs and kidneys. Arsenic, nickel and cadmium may cause cancer. Lead, arsenic, and cadmium may be acutely toxic. Manganese may cause nervous system damage.

Indication of immediate medical attention and special treatment, if necessary: Medical surveillance is required for workers working with lead-containing, arsenic containing, and cadmium-containing products. Get immediate medical attention for acute exposure by any route.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use class D extinguishing media on fines, dust, or molten metal. Use coarse water spray on chips and fires. Do NOT use halogenated extinguishing agents on small chips or fines. Do NOT use water for fires involving molten metal. These fire extinguishing agents will react with burning metal.

Specific hazards arising from the chemical: This product is not combustible, however, consideration must be given to the potential fire/explosion hazards from the base material being processed. Many materials create flammable/explosive dusts or turnings when brushed, machined or ground. Fumes released by this product may be harmful. Combustion may produce metal fumes, copper, lead, nickel, and chromium compounds, and lead oxides.

Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Minimize generation of dust. Use appropriate protective equipment to avoid inhalation and eye contact if dust is generated.

Environmental precautions: Notify authorities as required by local, state and federal regulations. Prevent product from entering drains. Do not flush into surface water or storm drains.

Methods and materials for containment and cleaning up: Pick up, sweep up or vacuum and place in a container for disposal. Minimize generation of dust.

7. HANDLING AND STORAGE

Precautions for safe handling: Use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling and use, especially before eating, drinking or smoking. Consider potential exposure to components of the base materials or coatings being brushed, machined or ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable. (29 CFR 1910.1025, 29 CFR 1910.1018, and 29 CFR 1910.1029 for lead, arsenic, and cadmium).

In normal power brushing operations, the material being removed will fly off the brush with considerable force along with the brush filaments, which break off due to fatigue. The potential for serious injury exists for both the operator and others in the work area (possibly 50 feet or more from the brush). To protect against this hazard, before rotating the brush, during rotation and until the rotation stops, all persons in the area must wear safety goggles or full face shields over safety glasses with side shields, along with appropriate protective clothing.

Conditions for safe storage, including any incompatibilities: Store in a dry location.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Aluminum	5 mg/m ³ TWA (respirable fraction), 15 mg/m ³ TWA (total dust) OSHA PEL 1 mg/m ³ TWA ACGIH TLV (respirable)
Antimony	0.5 mg/m ³ TWA OSHA PEL 0.5 mg/m ³ TWA ACGIH TLV
Arsenic	0.5 mg/m ³ TWA OSHA (organic compounds) 0.01 mg/m ³ TWA OSHA PEL (inorganic compounds) 0.01 mg/m ³ TWA ACGIH TLV (arsenic and inorganic compounds)
Beryllium	0.002 mg/m ³ TWA, 0.005 Ceiling, 0.025 (30 min peak) OSHA PEL 0.00005 mg/m ³ TWA ACGIH TLV (inhalable)
Cadmium	0.005 mg/m ³ TWA OSHA PEL 0.01 mg/m ³ TWA ACGIH TLV 0.002 mg/m ³ TWA ACGIH TLV (respirable fraction)
Carbon Black	3.5 mg/m ³ TWA OSHA PEL 3 mg/m ³ TWA ACGIH TLV (inhalable)
Chromium	0.5 mg/m ³ TWA OSHA PEL (chromium and inorganic compounds) 0.5 mg/m ³ TWA ACGIH TLV (chromium inorganic compounds)
Cobalt(as cobalt and inorganic compounds)	0.1 mg/m ³ TWA OSHA PEL (metal dust and fume) 0.02 mg/m ³ TWA ACGIH TLV
Copper	1 mg/m ³ TWA ACGIH TLV 1 mg/m ³ TWA OSHA PEL
Iron (as iron oxide)	10 mg/m ³ TWA OSHA PEL 5 mg/m ³ TWA ACGIH TLV
Lead (lead and inorganic compounds)	0.05 mg/m ³ TWA OSHA PEL 0.05 mg/m ³ TWA ACGIH TLV
Manganese (as manganese metal , inorganic compounds, fume)	5 mg/m ³ Ceiling OSHA PEL 0.02 mg/m ³ TWA (respirable), 0.1 mg/m ³ TWA (inhalable) ACGIH TLV
Nickel	1 mg/m ³ TWA OSHA PEL (elemental, insoluble compounds) 1.5 mg/m ³ TWA ACGIH TLV (inhalable) (elemental) 0.2 mg/m ³ TWA ACGIH TLV (inhalable) (insoluble compounds)
Phosphorous	None Established
Silicon	5 mg/m ³ TWA (respirable fraction), 15 mg/m ³ TWA (total dust) OSHA PEL
Silver	0.01 mg/m ³ TWA OSHA PEL 0.01 mg/m ³ TWA ACGIH TLV (as dust and fume)
Sulfur Dioxide	5 ppm TW OSHA PEL 0.25 ppm STEL ACGIH TLV
Tellurium (as tellurium and	0.1 mg/m ³ TWA OSHA PEL

compounds)	0.1 mg/m ³ TWA ACGIH TLV
Tin	2 mg/m ³ TWA OSHA PEL (metal and inorganic compounds) 0.1 mg/m ³ TWA OSHA PEL (organic compounds) 2 mg/m ³ TWA ACGIH TLV (metal, inorganic compounds and oxides) 0.1 mg/m ³ TWA, 0.2 STEL ACGIH TLV (organic compounds)
Zinc (as zinc oxide)	5 mg/m ³ TWA (respirable), 15 mg/m ³ (total dust) OSHA PEL 2 mg/m ³ TWA (respirable), 10 mg/m ³ (respirable) STEL ACGIH TLV
Zirconium	5 mg/m ³ TWA OSHA PEL (zirconium compounds) 5 mg/m ³ TWA , 10 mg/m ³ STEL ACGIH TLV (as metal and compounds)

Note: Consider also components from base materials and coatings.

Lead, Cadmium, and Arsenic have action levels as set by OSHA. Refer to 29 CFR 1910.1025, 29 CFR 1910.1018, and 29 CFR 1910.1029 for action levels and information about specific requirements when working with Lead Cadmium, and Arsenic.

Appropriate engineering controls: Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Individual protection measures, such as personal protective equipment:

Respiratory protection: Use NIOSH approved respirator if exposure limits are exceeded or where dust exposures are excessive. Consider the potential for exposure to components of the coatings or base material being ground in selecting proper respiratory protection. Refer to OSHA's specific standards for lead, cadmium, etc. where appropriate. Selection of respiratory protection depends on the contaminant type, form and concentration. Select and use respirators in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Cloth or leather gloves recommended.

Eye protection: Safety goggles or face shield over safety glasses with side shields.

Other: Protective clothing as needed to prevent contamination of personal clothing. Hearing protection may be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Yellow-Red solid brushes.

Odor: No Odor

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: 1200-2200°F	Boiling Point: Not applicable
Flash point: Non-Combustible	Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not applicable	Vapor density:
Relative density: 7	Solubility(ies): Not soluble
Partition coefficient: n-octanol/water: Not applicable	Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable	Viscosity: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive

Chemical stability: Stable

Possibility of hazardous reactions: None known.

Conditions to avoid: None known

Incompatible materials: None known

Hazardous decomposition products: Dust from grinding or brushing could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being ground or brushed or coatings applied to the base material. Thermal decomposition may release metal fumes, copper compounds, lead oxides, and lead and chromium compounds.

11. TOXICOLOGICAL INFORMATION

Inhalation, skin, eyes. Product as shipped does not present an inhalation hazard; however subsequent operations may create dusts or fumes which could be inhaled.

Routes of exposure:

Ingestion: None expected under normal use conditions. May be harmful if swallowed. Prolonged ingestion of silver may cause skin discoloration. See repeat exposure for chronic effects from ingredients of this product.

Inhalation: Dust may cause respiratory irritation. May be harmful by inhalation. Prolonged inhalation may cause lung damage. May cause allergic respiratory reaction (sensitization). Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, chest pain, fatigue and muscle pain. Symptoms generally resolve in 24-48 hours. See repeat exposure for chronic effects from ingredients of this product.

Eye: Dust may cause eye irritation. Dust particles or filings may cause abrasive injury to the eyes. See repeat exposure for chronic effects from ingredients of this product.

Skin: None expected under normal use conditions. Rubbing brush across the skin may cause mechanical irritation or abrasions. May cause allergic skin reaction (sensitization). See repeat exposure for chronic effects from ingredients of this product.

Sensitization: This material is not known to cause sensitization.

Chronic: Repeated exposure may cause allergic skin and respiratory reaction (sensitization and asthma). May cause adverse effects in the central nervous system, blood, kidneys, liver, and lungs. Prolonged or repeated exposure to beryllium fumes may cause chronic beryllium lung disease. Overexposure to metal fumes may cause pulmonary edema and methemoglobinemia. Inhalation of dust may cause pulmonary fibrosis. A greater hazard, in most cases, is the exposure to the dust/fumes from the material or paint/coatings being ground or brushed. Most of the dust generated during grinding and brushing is from the base material being processed and the potential hazard from this exposure must be evaluated.

Carcinogenicity: This product contains the following ingredients that are listed OSHA carcinogens: Nickel, Lead, Cobalt, Beryllium, Cadmium, and Arsenic. The following ingredients are listed as IARC carcinogens: Nickel (Group 1), Lead (Group 2A), Cobalt (Group 2A), Beryllium (Group 1), Cadmium (Group 1), Arsenic (Group 1), and Carbon Black (Group 2B). The following ingredients are listed as NTP carcinogens: Nickel (Reasonably anticipated), Lead (Reasonably Anticipated), Beryllium (Known), Cadmium (Known), and Arsenic (Known). None of the other components of this product are listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

Reproductive Toxicity: Contains lead. May cause damage to fertility or the unborn child.

Germ Cell Mutagenicity: Not expected to be a mutagen

Numerical measures of toxicity:

Arsenic: Oral rat LD50 – 763 mg/kg

Cadmium: Oral rat LD50 – 1330 mg/kg; Inhalation rabbit LC50 – 8 mg/L/4 hr

Cobalt: Oral rat LD50 – 6170 mg/kg; Inhalation rat LC50 – >10 mg/L/1 hr

Manganese: Oral rat LD50 – 9 g/kg

Silicon: Oral rat LD50 – 3160 mg/kg

Nickel: Oral rat LD50 – >9000 mg/kg

Tellurium: Oral rat LD50 – 83 mg/kg; Inhalation rat LC50 – >2420 mg/m³/4 hr

Sulfur dioxide: Inhalation rat LC50 – 2500 ppm/1 hr

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Cobalt: LC50 Brachydanio rario 96 hr – >100 mg/L
Copper: LC50 Pimephales promelas 96 hr – 0.0068 – 0.0156 mg/L; EC50 daphnia magna 48 hr – 0.03 mg/L
Nickel: LC50 Cyprinus carpio 96 hr – 1.3 mg/L; EC50 daphnia magna 48 hr – 1 mg/L
Lead: LC50 Cyprinus carpio 96 hr – 0.44 mg/L; EC50 daphnia magna 48 hr – 600 ug/L
Cadmium: LC50 Pimephales promelas 96 hr – 0.0004-0.003 mg/L; EC50 daphnia magna 48 hr – 0.0244 mg/L
This product contains ingredients that are toxic to aquatic organisms with long-lasting effects. Avoid Environmental releases.

Persistence and degradability: Biodegradation is not applicable to inorganic compounds.

Bioaccumulative potential: No data available

Mobility in soil: Not applicable.

Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable local, state/provincial and federal regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations. Possible US EPA Waste numbers that might apply to this material: D006, D007, D008, and D011.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	
TDG	None	Not Regulated	None	None	

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None identified.

15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Categories: Acute Health, Chronic Health

SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (Toxic Chemical Release Reporting): Aluminum (7429-90-5), Antimony (7440-36-0), Arsenic (7440-38-2), Beryllium (7440-41-7), Cadmium (7440-43-9), Chromium (7440-47-3), Cobalt (7440-48-4), Copper (7440-50-8), Lead (7439-92-1, Manganese (7439-95-5), Nickel (7440-02-0), Silver (7440-22-4)

California Proposition 65: WARNING! You create dust when you cut, sand, brush, drill or grind materials such as wood, paint, cement, masonry or metal. This dust often contains chemicals known to cause cancer, birth defects or other reproductive harm. This product contains the following chemicals known to the state of California to cause cancer and/or reproductive harm: Arsenic (cancer), Beryllium (cancer), Cadmium (cancer, male reproductive, Developmental), Cobalt (cancer), Lead (cancer, male and female reproductive, developmental), and Nickel (cancer).

US EPA TSCA: All the components are listed on the TSCA inventory.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 0 Instability = 0

HMIS Rating: Health = 1 Flammability = 0 Physical Hazard = 0
*Chronic health hazard

Date Previous Revision: 3/31/15

Date This Revision: 9/21/15

Revision Summary:

12/14/12: Section 8: Exposure Limits; Comprehensive Review

3/31/15: Changed all sections. Updated format to GHS.

9/21/15: New formulation. All sections revised.

The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of this product are not within the control of United Abrasives, Inc., it is the user's obligation to assure safe use of this product.