

1. IDENTIFICATION

Product Identity / Trade Name: Vitrified Grinding Wheels, Including Surface Grinding Wheels (Type 1) and Mounted Points.

Product Use: Abrasive materials used for cutting and grinding of metals, concrete, masonry and building materials.

Restriction on Use: Use only as directed

Manufacturer: United Abrasives, Inc.
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Date of Preparation: March 31, 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 Oxide | 1344-28-1 | 0-100 |
| and/or Silicon Carbide | 409-21-2 | 0-100 |

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

4. FIRST-AID MEASURES

Ingestion: If grinding dust is swallowed, seek medical attention.

Inhalation: If overexposed to grinding dust, remove victim to fresh air and get medical attention.

Eye Contact: Flush eyes thoroughly with water, holding open eyelids. Get medical attention if irritation 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: Eye and skin contact with grinding dust may cause mechanical irritation.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is generally not required.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use any media that is appropriate for the surrounding fire.

Specific hazards arising from the chemical: This product is not combustible, however, consideration must be given to the potential fire or explosion hazards from the base material being processed. Many materials create flammable or explosive dusts or turnings when machined or ground.

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: Wear appropriate respirator and protective clothing as needed to avoid eye contact and inhalation of dust.

Environmental precautions: Avoid release into the environmental. Report releases as required by local, state and federal authorities.

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: Avoid breathing dust. Use with adequate ventilation. Avoid eye and skin contact with grinding dust. Wear suitable gloves, eye protection and appropriate protective clothing according to the operation. Wash thoroughly after handling. Consider potential exposure to components of the base materials or coatings being ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

| | |
|-----------------|--|
| Aluminum Oxide | 5 mg/m ³ ACGIH TLV (respirable fraction) (as Al metal) 15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction) |
| Silicon Carbide | 3 mg/m ³ TWA ACGIH TLV (respirable fraction) 10 mg/m ³ TWA ACGIH TLV (inhalable fraction) 15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction) |

Note: Consider also components of base materials and coatings being ground.

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the exposure limits.

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.): Black, gray, brown, green or reddish colored solid wheel.
Odor: No Odor

| | |
|---|--|
| Odor threshold: Not applicable | pH: Not applicable |
| Melting point/freezing point: Not applicable | Boiling Point: Not applicable |
| Flash point: Not applicable | Evaporation rate: Not applicable |
| Flammability (solid, gas): Not combustible | |
| Flammable limits: LEL: Not applicable | UEL: Not applicable |
| Vapor pressure: Not applicable | Vapor density: |
| Relative density: Not applicable | 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 could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being ground or coatings applied to the base material.

11. TOXICOLOGICAL INFORMATION

Routes of exposure:

Inhalation: Dust may cause respiratory irritation.

Ingestion: None expected under normal use conditions. Swallowing large pieces may cause obstruction of the gastrointestinal tract.

Skin contact: None expected under normal use conditions. Rubbing product across the skin may cause mechanical irritation or abrasions.

Eye contact: Dust may cause eye irritation. Dust particles may cause abrasive injury to the eyes.

Chronic effects from short- and long-term exposure: Long-term overexposure to respirable dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Chronic effects may be aggravated by smoking. Prolonged exposure to elevated noise levels during operations may affect hearing. A greater hazard, in most cases, is the exposure to the dust/fumes from the material or paint/coatings being ground. Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated.

Numerical measures of toxicity: This product and its components are not acutely toxic.

Aluminum Oxide: LD50 Oral rat >5,000 mg/kg, Inhalation rat LC50 >7.6 mg/L/1 hr

Silicon Carbide: Oral rat LD50 >2000 mg/kg, Dermal rat LD50 >2000 mg/kg

Carcinogenicity: None of the components are listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Aluminum Oxide: 96 hr LC50 Pimephales promelas 35 mg/L
Silicon Carbide: No data available

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

Bioaccumulative potential: No data available

Mobility in soil: No data available.

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.

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: Not Applicable (manufactured articles)

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): None

California Proposition 65: WARNING! You create dust when you cut, sand, 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.

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 0 Instability = 0
HMIS Rating: Health = 1 Flammability = 0 Physical Hazard = 0

Date Previous Revision: 5/23/12

Date This Revision: 3/31/15

Revision Summary:

5/23/12: Section 3 Components; Section 5 Removed Flammable Limits; Section 8 Exposure Limits; Comprehensive Review

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

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.