

ABRASIVES

- Abrasive disc
- Abrasive belt
- Grinding wheel
- Sand, Metal or Glass Shot

Hazard Description:

Abrasives are not usually considered hazardous because of their solid form. However, when abrasives are used in grinding, cutting and sanding, small particles of the abrasive and its binder can chip off. In addition, the material upon which the abrasive work is being performed can and usually does contribute to the airborne particle contamination.

An example of an exposure of this kind occurs during the grinding of stainless steel. Nickel and chromium, which are known carcinogens, are given off during this type of work. These particles could be hazardous to you if inhaled or if these particles get into your eyes. As a result, ventilation, equipment shielding and personal protective equipment (goggles, face shields, gloves, and dust respirators) are recommended, and good personal hygiene techniques should be followed.

Chromium is irritating and corrosive to the body, causing coughing, headache, chest pains, fever, and weight loss. Chromium fume is also a cancer causing agent. Nickel causes eye, nose and throat irritation.

Some beams and steel pilings are coated with an anti-corrosive coating, fireproofing or insulating material, such as asbestos, which may pose a health hazard when removed through abrasive work.

Lead dust, created during the abrasive work on paint containing lead, poses a serious inhalation hazard and an ingestion hazard. This substance affects the nervous system and blood. Symptoms of lead poisoning include: headache, nausea, abdominal spasms and constipation. Ventilation, respiratory protection and good personal hygiene is strongly recommended when performing this type of work.

Silica is found in some abrasives. Prolonged exposure to dusts containing silica can result in silicosis, a lung condition characterized by shortness of breath.

MSDS's may not be available for the abrasives used in your workplace. If you would like to see an MSDS for a specific abrasive, ask your supervisor to attempt to obtain one for your reference.

1. IDENTIFICATION

Product Identity / Trade Name: Coated Abrasives - Resin over Resin, Cotton Cloth, Fiber, Polyester Backing or Paper (Dry Wall Sheets, Cloth or Paper Sheets, Flap Wheels, Flap Discs, Discs, PSA Cloth Discs, Paper Stearate Discs, Shop Rolls, Abrasive Belts, Fiber Floor Sanding Products)

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

Restriction on Use: Use only as directed

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

Internet: www.unitedabrasives.com

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

Date of Preparation: March 31, 2015

2. HAZARD(S) IDENTIFICATION

As sold, this product is a manufactured article. During processing, dust generated has the following hazards:

Classification:

Physical	Health
Not Hazardous	Specific Target Organ Toxicity – Repeated Exposure Category 1 (Respiratory tract, teeth and bones)

Labeling Elements:



Danger!

Hazard statement(s)

H372 Causes damage to respiratory tract, teeth and bones through prolonged or repeated exposure.

Precautionary statement(s)

P260 Do not breathe dust.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P314 Get medical attention if you feel unwell.
P501 Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Aluminum Oxide	1344-28-1	0-50
and/or Silicon Carbide	409-21-2	0-50
and/or Garnet	12178-41-5	0-30
and/or Zirconium Oxide	1314-23-4	0-30
Cured Phenolic or Urea Formaldehyde Resin	N/A	5-40
and/or Calcium Carbonate	1317-65-3	0-25
and/or Calcium Stearate	1592-23-0	5-10
and/or Calcium Sulfate	7778-18-9	0-5
and/or Zinc Stearate	557-05-1	0-10
and/or Cryolite (as fluorides)*	15096-52-3	0-15
and/or Potassium Fluoroborate	14075-53-7	5-0
and/or Flame Retardant	Proprietary	0-8
And/or Kaolin	1332-58-7	0-5
and/or Crystalline Silica, Quartz*	14808-60-7	0.1-1
Cotton or Polyester Cloth	N/A	15-55
and/or paper backing	N/A	20-65
and/or fibre	N/A	35-70

* Test data indicates that the crystalline silica in this product is inextricably bound in a manner that no exposure occurs during normal use and handling. Therefore this product is not classified as a carcinogen.

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

4. FIRST-AID MEASURES

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

Inhalation: If overexposed to sanding 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: May cause mechanical eye and skin irritation. Inhalation of dust may cause nose, throat and upper respiratory irritation. Exposure to dust generated from processing the base material or coatings may present additional health hazards.

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/explosion hazards from the base material being processed. Many materials create flammable/explosive dusts or turnings when sanded, 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 spills as required to 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: 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 sanded or ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

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

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)
Garnet	None Established
Zirconium Oxide (as Zr)	5 mg/m ³ TWA ACGIH TLV 10 mg/m ³ STEL ACGIH TLV 5 mg/m ³ TWA OSHA PEL
Cured Phenolic or Urea Formaldehyde Resin	None Established
Calcium Carbonate	15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction)
Calcium Stearate	None Established
Calcium Sulfate	10 mg/m ³ TWA ACGIH TLV (inhalable) 15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction)
Zinc Stearate	10 mg/m ³ TWA ACGIH TLV 15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction)
Cryolite (as fluorides)	2.5 mg/m ³ TWA ACGIH TLV 2.5 mg/m ³ TWA OSHA PEL
Potassium Fluoroborate (as fluorides)	2.5 mg/m ³ TWA ACGIH TLV 2.5 mg/m ³ TWA OSHA PEL
Flame Retardant	None Established
Kaolin	2 mg/m ³ TWA ACGIH TLV (respirable) 15 mg/m ³ TWA OSHA PEL (total dust) 5 mg/m ³ TWA OSHA PEL (respirable fraction)
Cotton or Polyester Cloth	None Established
Crystalline Silica, Quartz	10 mg/m ³ (respirable) OSHA PEL % Silica + 2 30 mg/m ³ (total dust) OSHA PEL % Silica + 2

	0.025 mg/m ³ TWA ACGIH TLV
Paper Backing	None Established
Fiber	None Established

Note: Consider also components from base materials and coatings.

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below occupational applicable 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.): Cloth or paper coated with abrasive material in sheets, discs or on wheels.

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 sanding could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being sanded 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. Excessive inhalation of respirable crystalline silica dust may cause may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Test data indicates that the crystalline silica in this product is inextricably bound in a manner that no exposure occurs during normal use and handling. Prolonged overexposure to fluorides may cause a bone condition, fluorosis.

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 sanded. Most of the dust generated during sanding is from the base material being sanded and the potential hazard from this exposure must be evaluated.

Carcinogenicity: Crystalline silica quartz is listed as "Carcinogenic to Humans" (Group 1) by IARC and "Known to be a Human Carcinogen" by NTP. The crystalline silica is inextricably bound in a manner that no exposure occurs during normal use and handling. None of the other components are listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

Numerical measures of toxicity:

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

Garnet: No toxicity data available

Zirconium Oxide: Oral rat LD50 > 5000 mg/kg, Inhalation rat LC50 > 4.3 mg/L/4 hr.

Calcium Carbonate: No toxicity data available

Calcium Stearate: No toxicity data available

Calcium Sulfate: Oral rat LD50>1581 mg/kg, Inhalation rat LC50 >3.26 mg/L/4 hr

Zinc Stearate: LD50 oral rat > 1581 mg/kg, LC50 inhalation rat > 3.26 mg/L

Cryolite: LD50 oral rat > 10000 mg/kg, LC50 inhalation rat > 200 mg/L, LD50 dermal rabbit > 2000 mg/kg

Potassium Fluoroborate: Oral rat LD50 >2000 mg/kg, Inhalation rat LC50 >5.3 mg/L/4 hr

Kaolin: Oral rat LD50 >5000 mg/kg

Crystalline Silica, Quartz: No toxicity data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Aluminum Oxide: 96 hr LC50 Pimephales promelas 35 mg/L

Silicon Carbide: No data available

Garnet: No data available

Zirconium Oxide: 96 hr LC50 Danio rerio >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50

Calcium Carbonate: No data available

Calcium Stearate: No data available

Calcium Sulfate: 96 hr LC50 Pimephales promelas >1970 mg/L, 48 hr EC50 daphnia magna >79 mg/L, 72 hr

EC50 Pseudokirchnerella subcapitata >79 mg/L

Zinc Stearate: No data available

Cryolite: Danio rerio LC50 > 100 mg/L/96hr

Potassium Fluoroborate: 96 hr LC50 Leuciscus idus 760 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr

EC50 Pseudokirchnerella subcapitata >100 mg/L

Kaolin: No data available

Crystalline Silica, Quartz: 72 hr LC50 carp >10,000 mg/L

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):

Components	C.A.S. #	WT %
Zinc Stearate (as zinc compounds)	557-05-1	0-10

(Only in 9x11 Sheets - No Load Stearate, Fileboard Sheets - No Load, PSA Paper Discs - Stearate and Premium and Hook and Loop Paper Discs - Premium)

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: 12/01/09

Date This Revision: 3/31/15

Revision Summary:

12/01/09: 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.



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity / Trade Name: Grinding and Cutting Wheels, Resinoid (Type 1, Type 27, Type 28, Type 29),
Cup Wheels (Type 11) Cones and Plugs (Type 16, Type 17 and Type 18),
Mounted Points

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

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

Internet: www.unitedabrasives.com

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

MSDS Date of Preparation: September 22, 2015

2. HAZARDS IDENTIFICATION

This product is a black, brown or reddish colored solid wheel with no odor.

EMERGENCY OVERVIEW

Dust may cause eye and respiratory irritation. Dust particles may cause abrasive injury to the eyes.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS #	%
Aluminum Oxide	1344-28-1	0-95
Silicon Carbide	409-21-2	0-95
Zirconium Oxide	1314-23-4	0-80
Cured Phenolic Resin	N/A	1-30
Nitrile Compounds	N/A	1-20
Fluoride Compounds	N/A	1-20
Iron Pyrite	12068-85-8	0-20
Woven Fiberglass	N/A	0-15
Calcium Compounds	N/A	0-15
Sulfur	7704-34-9	0-15
Calcium Oxide	1305-78-8	1-10
Cryolite	15096-52-3	1-10
Cured Epoxy Resin	N/A	1-10
Titanium Dioxide	13463-67-7	0-5
Calcium Carbonate	1317-65-3	0-5
Aluminum Potassium fluoride	14484-69-6	0-5
Iron Oxide	1309-37-1	0-5
Graphite	7782-42-5	0-5
Potassium Fluoroborate	14075-53-7	0-5

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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use any media that is appropriate for the surrounding fire.

Special Firefighting Procedures: None needed.

Unusual Fire and Explosion Hazards: 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 machined or ground.

Hazardous Combustion Products: None known.

6. ACCIDENTAL RELEASE MEASURES

Pick up, sweep up or vacuum and place in a container for disposal. Minimize generation of dust. Notify authorities as required by local, state and federal regulations.

7. HANDLING AND STORAGE

Recommended Work Practices: Use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling and use, especially before eating, drinking or smoking. Refer to ANSI B7.1, Safety Requirements for the Use, Care and Protection of Abrasive Wheels for additional information. 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.

Storage: Store in accordance with ANSI B7.1. Protect abrasive wheels from damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Hazardous Component	OSHA PEL	ACGIH TLV
Aluminum Oxide	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (total dust)	1 mg/m ³ (respirable) (as Al metal)
Silicon Carbide	None Established	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)
Zirconium Oxide (as zirconium compounds)	5 mg/m ³	5 mg/m ³ 10 mg/m ³ STEL
Cured Phenolic Resin	None Established	None Established
Nitrile Compounds	None Established	None Established
Fluoride Compounds	2.5 mg/m ³	2.5 mg/m ³
Iron Pyrite	None Established	None Established
Woven Fiberglass	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (total dust)	5 mg/m ³ (Inhalable) 1 f/cc
Calcium Compounds	None Established	None Established
Sulfur	None Established	None Established
Calcium Oxide	5 mg/m ³	2 mg/m ³
Cryolite (as fluorides)	2.5 mg/m ³	2.5 mg/m ³
Cured epoxy resin	None Established	None Established
Titanium Dioxide	15 mg/m ³ (total dust)	10 mg/m ³

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Resinoid Bonded Abrasives

Calcium Carbonate	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (total dust)	None Established
Aluminum Potassium Fluoride (as Al metal)	5 mg/m ³ (Respirable fraction) 15 mg/m ³ (total dust)	1 mg/m ³ (respirable)
Aluminum Potassium Fluoride (as fluorides)	2.5 mg/m ³	2.5 mg/m ³
Iron Oxide	10 mg/m ³ (fume)	5 mg/m ³ (respirable)
Graphite	15 mppcf	2 mg/m ³ (respirable)
Potassium Fluoroborate (as fluorides)	2.5 mg/m ³	2.5 mg/m ³

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

Ventilation: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the TLVs.

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.

Gloves: 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

Boiling Point: Not Applicable

Solubility in Water: Insoluble

Specific Gravity: Not Applicable

Melting Point: Not Applicable

Flammable Limits: LEL: Not Applicable

Appearance and Odor: Black, brown or reddish colored solid wheel with no odor.

Vapor Pressure: (mm Hg) Not Applicable

Vapor Density: (Air = 1) Not Applicable

Evaporation Rate: Not Applicable

Flash Point: Non-Combustible

UEL: Not Applicable

10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: 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.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

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

Inhalation: Dust may cause respiratory irritation.

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

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

Sensitization: This material is not known to cause sensitization.

Chronic: 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 overexposure to fluorides may cause a bone condition, fluorosis. 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.

Carcinogenicity: Titanium Dioxide is listed by IARC as a group 2B Carcinogen (suspected human carcinogen). None of the other components is listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

Medical Conditions Aggravated by Exposure: Employees with pre-existing respiratory disease may be at risk from exposure.

Acute Toxicity Values:

This product and its components are not acutely toxic. The only acute toxicity data available for the components are listed below.

Aluminum Oxide: Oral rat LD50 >5,000 mg/kg

Cryolite: Oral rat LD50 >5,000 mg/kg

12. ECOLOGICAL INFORMATION

No ecological data is available for this product. No hazards to the environment are expected from this product. However, consideration must be given to potential environment effects of the base material being processed.

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

DOT Hazardous Materials Description:

Proper Shipping Name: Not Regulated

UN Number: None

Hazard Class/Packing Group: None

Labels Required: None

15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Categories: Not Applicable (manufactured articles)

SARA Section 313: Some products contain 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.

Canadian WHMIS Classification: Not a controlled product. This product meets the definition of a "manufactured article" under the WHMIS regulations. This product has been classified under the CPR and this MSDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Hazard Rating: Health: 1

Fire: 0
Reactivity: 0

Date Previous Revision: 12/1/09

Date This Revision: 9/22/15

Revision Summary: Section 3 Updated Composition, Section 8 Updated exposure limits, Section 11 Updated Acute toxicity values.

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.

1. IDENTIFICATION

Product Identity / Trade Name: Carbon Steel Wire Brushes

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

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

Internet: www.unitedabrasives.com

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

Date of Preparation: March 31, 2015

2. HAZARD(S) IDENTIFICATION

As sold, this product is a manufactured article. During use, dust generated has the following hazards:

Classification:

Physical	Health
Not Hazardous	Specific Target Organ Toxicity – Repeat Exposure Category 2 (brain and central nervous system)

Hazards not otherwise classified: None

Symbol(s)



Signal word
Warning

Hazard statement(s)

H373 May cause damage to brain and central nervous system through prolonged or repeated exposure.

Precautionary statement(s)

P260 Do not breath dust or fume.
P314 Get medical attention if you feel unwell.
P501 Dispose in accordance with local, regional and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Iron	7439-89-6	95-99
Manganese	7439-96-5	1.7 max
Chromium	7440-47-3	1.5 max
Silicon	7440-21-3	1.6 max

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

4. FIRST-AID MEASURES

Ingestion: If dust is swallowed, seek medical attention.

Inhalation: If overexposed to 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 dust may cause mechanical irritation. Prolonged overexposure to manganese compounds may cause headache, apathy, muscle weakness and neurological effects such as euphoria, impulsiveness and insomnia.

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 protective clothing as needed to avoid eye and skin contact.

Environmental precautions: Avoid release into the environment. 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: 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.

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:

Iron (as iron oxide dust or fume)	10 mg/m ³ TWA OSHA PEL (as fume) 5 mg/m ³ TWA ACGIH TLV (respirable fraction)
Manganese	0.02 mg/m ³ TWA ACGIH TLV (respirable) 0.1 mg/m ³ TWA ACGIH TLV (inhalable) 5 mg/m ³ Ceiling OSHA PEL
Chromium	0.5 mg/m ³ TWA OSHA PEL 0.5 mg/m ³ TWA ACGIH TLV
Silicon	5 mg/m ³ TWA OSHA PEL (respirable fraction) 15 mg/m ³ TWA OSHA PEL (total dust)

Note: Consider also components from base materials and coatings.

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below occupational applicable 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.): Carbon steel wire brush.

Odor: No Odor

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: Not applicable	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: 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 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.

11. TOXICOLOGICAL INFORMATION

Routes of exposure:

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

Inhalation: Dust may cause respiratory irritation.

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

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

Sensitization: Chromium can cause skin and/or respiratory sensitization.

Chronic: Long-term overexposure to dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Skin and/or respiratory sensitization may also occur. Chronic effects may be aggravated by smoking. Chronic exposure to manganese may cause brain or nervous system damage. 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 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: None of the components are listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

Numerical measures of toxicity:

Iron: Oral rat LD50 98.6 g/kg, Inhalation LC50 > 5 mg/kg

Manganese: Oral rat LD50 > 2000 mg/kg, Inhalation rat LC50 > 5.14 mg/L

Chromium: Oral rat LD50 > 5000 mg/kg, Inhalation rat LC50 > 2.08 mg/L, Dermal rabbit LD50 > 5000 mg/kg

Silicon: Oral rat LD50 > 5000 mg/kg, Inhalation rat LC50 > 5.41 mg/L, Dermal rabbit LD50 > 5000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Iron: 96 hr LC50 Oncorhynchus mykiss 8.65 mg/L

Manganese: 96 hr LC50 oncorhynchus mykiss > 3.6 mg/L; 48 hr EC50 daphnia magna > 1.6 mg/L; 72 hr EC50 desmodesmus subspicatus 4.5 mg/L

Chromium: No data available

Silicon: 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
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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):

Components	C.A.S. #	WT %
Manganese	7439-96-5	≤1.7
Chromium	7440-47-3	≤1.5

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
 *Chronic health hazard

Date Previous Revision: 06/26/12

Date This Revision: 3/31/15

Revision Summary:

06/26/12: Periodic MSDS review: No changes.

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.



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.
185 Boston Post Road
North Windham, CT 06256

Internet: www.unitedabrasives.com

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

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 environment. 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/m3 ACGIH TLV (respirable fraction) (as Al metal) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Silicon Carbide	3 mg/m3 TWA ACGIH TLV (respirable fraction) 10 mg/m3 TWA ACGIH TLV (inhalable fraction) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 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.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity / Trade Name: Carbide Blades

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

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

Internet: www.unitedabrasives.com

Information Phone: (860) 456-7131

Emergency Phone: (860) 456-7131

SDS Date of Preparation: September 22, 2015

2. HAZARDS IDENTIFICATION

This product is a gun-metal gray solid with no odor.

EMERGENCY OVERVIEW

Dust may cause eye and respiratory irritation. Dust particles or filings may cause abrasive injury to the eyes. Chromium and nickel can cause skin and/or respiratory sensitization. Prolonged inhalation of respirable dust may cause lung damage. Fine dust generated by grinding may be spontaneously combustible or create a fire or explosion hazard.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS #	%
Tungsten carbide	12070-12-1	Balance
Tantalum carbide	12070-06-3	0-20
Niobium carbide	12069-94-2	0-20
Titanium carbide	12070-08-5	0-20
Titanium nitride	25583-20-4	0-5
Vanadium carbide	12070-10-9	0-5
Cobalt	7440-48-4	0-30
Nickel	7440-02-0	0-30
Chromium	7440-47-3	0-5

4. FIRST AID MEASURES

Ingestion: If dust is swallowed, seek medical attention.

Inhalation: If overexposed to 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use any media that is appropriate for the surrounding fire.

Special Firefighting Procedures: None needed.

Unusual Fire and Explosion Hazards: Fine dusts created during grinding or processing may be spontaneously combustible or create a fire or dust explosion hazard. Many materials create flammable/explosive dusts or turnings when machined.

Hazardous Combustion Products: None known.

6. ACCIDENTAL RELEASE MEASURES

Eliminate all sources of ignition. Pick up, sweep up or vacuum and place in a container for disposal. If dust is vacuumed, use explosion-proof equipment. Minimize generation of dust. Notify authorities as required by local, state and federal regulations.

7. HANDLING AND STORAGE

Recommended Work Practices: 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 machined. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

Dust generated during machining or processing may spontaneously combust or create a fire or dust explosion hazard. Use good housekeeping to prevent the accumulation of dusts around the workplace.

Storage: Store in a dry location.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Hazardous Component	OSHA PEL	ACGIH TLV
Tungsten carbide (as tungsten)	None Established	5 mg/m ³ TWA 10 mg/m ³ STEL
Tantalum carbide (as tantalum)	5 mg/m ³ TWA	None Established
Niobium carbide	None Established	None Established
Titanium carbide	None Established	None Established
Titanium nitride	None Established	None Established
Vanadium carbide	None Established	None Established
Cobalt	0.1 mg/m ³ TWA (as dust or fume)	0.02 mg/m ³ TWA
Nickel	1 mg/m ³ TWA	0.2 mg/m ³ TWA (inhalable)
Chromium	0.5 mg/m ³ TWA	0.5 mg/m ³ TWA

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

Ventilation: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the TLVs.

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 brushed or machined 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.

Gloves: Avoid skin contact with dust. Follow facility requirements regarding glove use to avoid safety hazard..

Eye Protection: Safety goggles or 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

Boiling Point: Not Applicable

Solubility in Water: Insoluble

Specific Gravity: 11.0-15.5

Melting Point: Not Applicable

Appearance and Odor: Gun-metal-gray solid, no odor.

Flash Point: Non-Combustible

Vapor Pressure: (mm Hg) Not Applicable

Vapor Density: (Air = 1) Not Applicable

Evaporation Rate: Not Applicable

Flash Point: Non-Combustible

Flammable Limits: LEL: Not Applicable

UEL: Not Applicable

10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: None known.

Hazardous Decomposition Products: Dust from machining could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being machined or coatings applied to the base material.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

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

Inhalation: Dust may cause respiratory irritation.

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

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

Sensitization: Chromium and nickel can cause skin and/or respiratory sensitization.

Chronic: Long-term overexposure to dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Skin and/or respiratory sensitization may also occur. 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 machined. Most of the dust generated during machining is from the base material being processed and the potential hazard from this exposure must be evaluated.

Carcinogenicity: Nickel is listed as a Category 2B Possible human carcinogen by IARC and a Reasonably Anticipated to be a Human Carcinogen by NTP. None of the other components is listed as a carcinogen or potential carcinogen by OSHA, NTP, ACGIH, or IARC.

Medical Conditions Aggravated by Exposure: Employees with pre-existing respiratory disease may be at risk from exposure.

Acute Toxicity Values:

This product and its components are not acutely toxic.

Cobalt: Oral rat LD50 – 6171 mg/kg

12. ECOLOGICAL INFORMATION

No ecological data is available for this product. Dust generated may be hazardous to the environment.

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

DOT Hazardous Materials Description:

Proper Shipping Name: Not Regulated

UN Number: None

Hazard Class/Packing Group: None

Labels Required: None

15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Categories: Not Applicable in solid form. Dust generated from machining – Acute Health and 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):

Nickel	7440-02-0	30% max
Chromium	7440-47-3	5% max.

California Proposition 65: WARNING You create dust when you machine materials such as metal. This dust often contains chemicals known to cause cancer, birth defects or other reproductive harm.

Canadian WHMIS Classification: Not a controlled product. This product meets the definition of a "manufactured article" under the WHMIS regulations.

This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Hazard Rating: Health: 1
Fire: 0
Reactivity: 0

Date Previous Revision: 08/03/09

Date This Revision: 9/22/15

Revision Summary: Section 8: Exposure Limits; Comprehensive Review.

The preceding information is believed to be correct and current as of the date of preparation of this 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.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity / Trade Name: Diamond Wheels

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

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

Internet: www.unitedabrasives.com

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

SDS Date of Preparation: September 22, 2015

2. HAZARDS IDENTIFICATION

This product is a gray solid wheel with no odor.

EMERGENCY OVERVIEW

Dust may cause irritation or abrasive injury to the eyes. Inhalation of dust may cause respiratory irritation. Nickel, chromium and cobalt can cause skin irritation and skin and/or respiratory sensitization.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS #	%
Nickel	7440-02-0	2-9
Cobalt	7440-48-4	0-3
Copper	7440-50-8	5-8
Iron	7439-89-6	0-7
Tin	7440-31-5	2-5
Diamond	7782-40-3	0-3
Steel	12597-69-2	68-90

4. FIRST AID MEASURES

Ingestion: If dust is swallowed, seek medical attention.

Inhalation: If overexposed to 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use media appropriate for the surrounding fire.

Special Firefighting Procedures: None needed.

Unusual Fire and Explosion Hazards: None known

Hazardous Combustion Products: None known

6. ACCIDENTAL RELEASE MEASURES

Pick up, sweep up or vacuum and place in a container for disposal. Minimize generation of dust. Notify authorities as required by local, state and federal regulations.

7. HANDLING AND STORAGE

Recommended Work Practices: Avoid breathing dust. Avoid eye or skin contact. Do not ingest 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 ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

In normal power machining operations, the material being removed will fly off the cutting tool with considerable force. The potential for serious injury exists for both the operator and others in the work area (possibly 50 feet or more from the cutting tool). To protect against this hazard, before rotating the cutting tool, 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.

Storage: Store in accordance with manufacturing instructions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Hazardous Component	OSHA PEL	ACGIH TLV
Nickel	1 mg/m ³	1.5 mg/m ³ (inhalable fraction)
Cobalt	0.1 mg/m ³ (as dust or fume)	0.02 mg/m ³
Copper (as dust)	1 mg/m ³	1 mg/m ³
Iron (as iron oxide)	10 mg/m ³ (fume)	5 mg/m ³ (respirable)
Tin (as metal)	2 mg/m ³	2 mg/m ³
Diamond	None Established	None Established
Steel	None Established	None Established

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

Ventilation: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the TLVs.

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.

Gloves: 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

Boiling Point: Not Applicable
Solubility in Water: Insoluble
Specific Gravity: Not Applicable
Melting Point: Not Applicable
Flammable Limits: LEL: Not Applicable UEL: Not Applicable
Vapor Pressure: (mm Hg) Not Applicable
Vapor Density: (Air = 1) Not Applicable
Evaporation Rate: Not Applicable
Flash Point: Non-Combustible

Appearance and Odor: Gray solid wheel with no odor.

10. STABILITY AND REACTIVITY

Stability: Stable
Incompatibility: Strong oxidizers and acids.
Hazardous Decomposition Products: Dust from machining could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being processes or coatings applied to the base material.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Ingestion: None expected under normal use conditions. Swallowing large pieces may cause obstruction of the gastrointestinal tract.
Inhalation: Dust may cause respiratory irritation.
Eye: Dust may cause eye irritation. Dust particles may cause abrasive injury to the eyes.
Skin: Rubbing product across the skin may cause mechanical irritation or abrasions. Nickel exposure can cause an allergic dermatitis called "nickel itch". Cobalt exposure can cause skin irritation and skin sensitization.
Sensitization: Nickel and cobalt can cause skin and/or respiratory sensitization.
Chronic: Long-term overexposure to respirable dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Skin and/or respiratory sensitization may also occur. 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 processed. Most of the dust generated during machining is from the base material being machined and the potential hazard from this exposure must be evaluated.
Carcinogenicity: Nickel and cobalt are classified as group 2B carcinogens by IARC. Nickel is listed by NTP as reasonably anticipated to be a carcinogen.
Medical Conditions Aggravated by Exposure: Employees with pre-existing respiratory disease may be at risk from exposure.

Acute Toxicity Values:

This product and its components are not acutely toxic. The only acute toxicity data available for the components are listed below.

Cobalt: LD50 oral rat: 6,171 mg/kg
Iron: LD50 oral rat: 30 g/kg
Diamond: LD50 oral mouse: 10 g/kg

12. ECOLOGICAL INFORMATION

No ecological data is available for this product. No hazards to the environment are expected from this product. However, consideration must be given to potential environment effects of the base material being processed.

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

DOT Hazardous Materials Description:

Proper Shipping Name: Not Regulated

UN Number: None

Hazard Class/Packing Group: None

Labels Required: None

15. REGULATORY INFORMATION

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

SARA Section 313: Some products contain 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):

Cobalt	7440-48-7	3% max.
Copper	7440-50-8	8% max.
Nickel	7440-02-0	9% max.

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.

Canadian WHMIS Classification: Not a controlled product. This product meets the definition of a "manufactured article" under the WHMIS regulations.

This product has been classified under the CPR and this SDS discloses information elements required by the CPR.

16. OTHER INFORMATION

NFPA Hazard Rating: Health: 1
Fire: 0
Reactivity: 0

Date of Last Revision: 11/30/09

Date This Revision: 9/22/15

Revision Summary: Comprehensive Review

The preceding information is believed to be correct and current as of the date of preparation of this 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.



1. IDENTIFICATION

Product Identity / Trade Name: Non-woven Products (Nylon Brushes and Surface Cleaning Belts and Discs)

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

Restriction on Use: Use only as directed

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

Internet: www.unitedabrasives.com

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

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

Mixtures:

Chemical name	CAS No.	Concentration
Aluminum Oxide	1344-28-1	0-75
Silicon Carbide	409-21-2	0-75
Cured Resins	N/A	0-60
Nylon/Polyester Fibers	N/A	5-60
Cubitron	66402-68-4	0-25
Titanium Dioxide*	13463-67-7	0-5
Potassium Tetrafluoroborate	14075-53-7	0-2

*The titanium dioxide in this product is inextricably bound in a manner that no exposure occurs during normal use and handling. Therefore this product is not classified as a carcinogen.

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

4. FIRST-AID MEASURES

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

Inhalation: If overexposed to sanding 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: Dust may cause mechanical eye and skin irritation. Dust may cause nose, throat and upper respiratory tract 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/explosion hazards from the base material being processed. Many materials create flammable/explosive dusts or turnings when sanded, 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 protective clothing as needed to avoid eye and skin contact.

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: 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 ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Aluminum Oxide	5 mg/m3 ACGIH TLV (respirable fraction) (as Al metal) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Silicon Carbide	3 mg/m3 TWA ACGIH TLV (respirable fraction) 10 mg/m3 TWA ACGIH TLV (inhalable fraction) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Cured Resins	None Established
Nylon/Polyester Fibers	None Established
Cubitron	None Established
Titanium Dioxide	10 mg/m3 TWA ACGIH TLV 15 mg/m3 TWA OSHA PEL (total dust)
Aluminum Potassium Fluoride (as Al metal)	5 mg/m3 ACGIH TLV (respirable fraction) (as Al metal) 15 mg/m3 TWA OSHA PEL (total dust) 5 mg/m3 TWA OSHA PEL (respirable fraction)
Potassium Fluoroborate (as fluorides)	2.5 mg/m3 TWA ACGIH TLV 2.5 mg/m3 TWA OSHA PEL

Note: Consider also components from base materials and coatings.

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below occupational applicable 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.): Nonwoven fibrous articles impregnated with abrasive particles which are bonded together with cured resins.

Odor: No Odor

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: Not applicable	Boil 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 sanding could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being sanded or coatings applied to the base material.

11. TOXICOLOGICAL INFORMATION

Routes of exposure:

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

Inhalation: Dust may cause respiratory irritation.

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

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

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 sanded. Most of the dust generated during sanding is from the base material being sanded and the potential hazard from this exposure must be evaluated.

Carcinogenicity: Titanium Dioxide is listed by IARC as a group 2B Carcinogen (suspected human carcinogen). None of the other components is listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC. The titanium dioxide is encapsulated in a polymer matrix so no inhalable exposure occurs during use or disposal.

Numerical measures of toxicity: This product and its components are not acutely toxic. No data available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: 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: 12/14/12

Date This Revision: 3/31/15

Revision Summary:

12/14/12: 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.



Safety Data Sheet

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Document Group:	28-3787-0	Version Number:	3.04
Issue Date:	03/24/14	Supersedes Date:	06/01/12

SECTION 1: Identification

1.1. Product identifier

3M™ Abrasive Products, Scotch-Brite™ Rapid Cut Unitized Wheels, C CRS+, XCRS+, Roloc™

1.2. Recommended use and restrictions on use

Recommended use

Abrasive Product

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Abrasive Systems Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

2.3. Hazards not otherwise classified

None.

36% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	40 - 70
Filler	1317-65-3	1 - 5
Magnesium Oxide	1309-48-4	1 - 5
Inorganic Fluoride	14075-53-7	1 - 5
Cured Resin	Mixture	15 - 35
Nylon Fiber	Mixture	5 - 10
Cloth Scrim	Mixture	0.1 - 5
Attachment	Mixture	0 - 10

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

No need for first aid is anticipated.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters

No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Observe precautions from other sections.

6.2. Environmental precautions

Not applicable.

6.3. Methods and material for containment and cleaning up

Not applicable.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Do not use in a confined area with minimal air exchange. Damaged product can break apart during use and cause serious injury to face or eyes. Check product for damage such as cracks or nicks prior to use. Replace if damaged. Always wear eye and face protection when working at sanding or grinding operations or when near such operations. Combustible dust may form by action of this product on another material (substrate). Dust generated from the substrate during use of this product may be explosive if in sufficient concentration with an ignition source. Dust deposits should not be allowed to accumulate on surfaces because of the potential for secondary explosions.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Magnesium Oxide	1309-48-4	Amer Conf of Gov. Indust. Hyg.	TWA(inhalable fraction):10 mg/m3	
Magnesium Oxide	1309-48-4	US Dept of Labor - OSHA	TWA(as total particulates):15 mg/m3	
Filler	1317-65-3	US Dept of Labor - OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	Chemical Manufacturer Rec Guid	TWA:1 fiber/cc	
Aluminum Oxide Mineral (non-fibrous)	1344-28-1	US Dept of Labor - OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Aluminum, insoluble compounds	1344-28-1	Amer Conf of Gov. Indust. Hyg.	TWA(respirable fraction):1 mg/m3	

Amer Conf of Gov. Indust. Hyg. : American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid : Chemical Manufacturer's Recommended Guidelines

US Dept of Labor - OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit
 CEL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide local exhaust at process emission sources to control exposure near the source and to prevent the escape of dust into the work area. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

8.2.2. Personal protective equipment (PPE)

Eye/face protection

To minimize the risk of injury to face and eyes, always wear eye and face protection when working at sanding or grinding operations or when near such operations. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Safety Glasses with side shields

Skin/hand protection

Wear appropriate gloves to minimize risk of injury to skin from contact with dust or physical abrasion from grinding or sanding.

Respiratory protection

Assess exposure concentrations of all materials involved in the work process. Consider material being abraded when determining the appropriate respiratory protection. Select and use appropriate respirators to prevent inhalation overexposure. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Odor, Color, Grade:	Solid Abrasive Product
Odor threshold	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Vapor Density	<i>Not Applicable</i>

Specific Gravity	Not Applicable
Solubility In Water	Not Applicable
Solubility- non-water	Not Applicable
Autoignition temperature	Not Applicable
Decomposition temperature	Not Applicable
Viscosity	Not Applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

Under recommended usage conditions, hazardous decomposition products are not expected. Hazardous decomposition products may occur as a result of oxidation, heating, or reaction with another material.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

Eye Contact:

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

No health effects are expected.

Additional Information:

This document covers only the 3M product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Aluminum Oxide Mineral (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Oxide Mineral (non-fibrous)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminum Oxide Mineral (non-fibrous)	Ingestion	Rat	LD50 > 5,000 mg/kg
Magnesium Oxide	Ingestion	Rat	LD50 3,870 mg/kg
Filler	Dermal	Rat	LD50 > 2,000 mg/kg
Filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3.0 mg/l
Filler	Ingestion	Rat	LD50 6,450 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Rabbit	No significant irritation
Magnesium Oxide		No significant irritation
Filler	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Rabbit	No significant irritation
Filler	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value

Respiratory Sensitization

Name	Species	Value

Germ Cell Mutagenicity

Name	Route	Value
Aluminum Oxide Mineral (non-fibrous)	In Vitro	Not mutagenic
Magnesium Oxide	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminum Oxide Mineral (non-fibrous)	Inhalation	Rat	Not carcinogenic
Magnesium Oxide	Not Specified	Human and animal	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Filler	Ingestion	Not toxic to development	Rat	NOAEL 625 mg/kg/day	prematng & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Magnesium Oxide	Inhalation	respiratory system	All data are negative	Human	NOAEL Not available	
Filler	Inhalation	respiratory system	All data are negative	Rat	NOAEL 0.812 mg/l	90 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Aluminum Oxide Mineral (non-fibrous)	Inhalation	pneumoconiosis pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Inorganic Fluoride	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification		HHA	
Filler	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. The substrate that was abraded must be considered as a factor in the disposal method for this product. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

Not regulated per U.S. DOT, IATA or IMO.

*These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and **not the packaging, labeling, or marking requirements**. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.*

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 0 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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