WSDS-046 Industrial Resinoid Bonded Grinding Wheels with Aluminum Oxide, Zirconia, and Silicone Carbide

Safety Data Sheet

SECTION 1: Identification

1.1. Identification

Product names : **Industrial Resin Bonded Grinding Wheel**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial manufacturing for cutting and grinding of various materials.

1.3. Details of the supplier of the safety data sheet

Weiler Corporation
1 Weiler Drive
Cresco, PA 18326

1.4. Emergency telephone number

Emergency number : 570-595-7495

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

This product as manufactured is not classified as hazardous according to the OSHA Hazard Communication Standard 29 CFR 1910.1200. No exposure hazards are anticipated during normal product handling conditions. In most cases, the material(s) removed from the workpiece will be significantly greater than material released by the product. Based upon the materials that are contained within the working portion of this product it is possible that some dust particles from this product may be generated. The following safety data is presented for potential exposure hazards as associated with the dust particles that are related to this product. Based on this, no labeling is required for the product as manufactured.

Classification (GHS-US)

Not classified

2.2. Label elements

GHS-US labeling

Not applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Chemical Characterization

The product contains the following ingredients which are classified according to Regulation (EC) Nr. 1272/2008 or for which a community occupational exposure limit value exists:

Substance	EC-N°	CAS-N°	REACH Registration N°	Conc. %	Classification acc. to Regulation (EC) N° 1272/2008 (CLP)	
					Hazard classes/ hazard categories	Hazard statements
Aluminium Oxide Mineral (non-fibrous)		1344-28-1		0 - 95		
Silicon Carbide		409-21-2		0 - 95		
Zirconium Oxide		1314-23-4		0 - 50		
Cured Resin		N/A		0 - 30		
Inorganic Fluoride		15096-52-3		0 - 30		
Iron Pyrite		12068-85-8		0 - 20		
Calcium Compounds		N/A		0 - 15		
Sulphur Compounds		N/A		0 - 15		
Woven Fiberglass		N/A		0 - 15		
Iron Oxide		1309-37-1		0 - 5		
Titanium Dioxide		13463-67-7		0 - 5		

N/A: Not applicable.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim from source of exposure to fresh air. If breathing is difficult administer oxygen. Seek medical attention.

First-aid measures after skin contact : Wash with soap and water. Seek medical advice if skin irritation develops or persists.

First-aid measures after eye contact : Flush with plenty of water for at least 15 minutes. Seek medical advice if irritation develops or persists.

First-aid measures after ingestion : Seek medical attention.

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

Symptoms/injuries after inhalation : Dusts may cause coughing, shortness of breath. Prolonged breathing of dusts may affect breathing capacity.

Symptoms/injuries after skin contact : Dusts may cause irritation. May cause abrasions.

Symptoms/injuries after eye contact : Dust may irritate or damage the eyes without protection.

Symptoms/injuries after ingestion : None under normal use.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : None.

5.2. Special hazards arising from the substance or mixture

Fire hazard : None known.

Explosion hazard : None known.

5.3. Advice for firefighters

Protection during firefighting : Firefighters should wear full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

None.

6.3. Methods and material for containment and cleaning up

For containment : No special measures required.

Methods for cleaning up : No special measures required.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. 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. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. 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

Storage conditions : Store in a dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits:

Ingredient	C.A.S. No.	Agency	Limit type
Aluminium Oxide	1344-28-1	Chemical Manufacturer Recommended Guidelines	TWA:1 fibre/cc
		OSHA	TWA(as total dust):15 mg/m^3; TWA(respirable fraction):5 mg/m^3
		ACGIH	TWA(respirable fraction):1 mg/m^3
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m^3
		Chemical Manufacturer Recommended Guidelines	TWA(as respirable dust): 5mg/m^3
		OSHA	TWA(as total dust):15 g/m^3

Inorganic Fluoride	15096-52-3	ACGIH	TWA(as F):2.5 mg/m^3
		OSHA	TWA(as dust):2.5 mg/m^3; TWA(as F):2.5 mg/m^3
Woven Fiberglass	N/A	Manufacturer determined	TWA(as dust):10 mg/m^3

TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1 Engineering controls

Provide appropriate local exhaust ventilation for sanding, grinding, 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.

Warning: Excessive operating speed or generation of extreme heat may result in harmful emissions. Use local exhaust ventilation. 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 face piece or full face piece air-purifying respirator suitable for particulates.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Solid abrasive
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Vapor pressure	:	No data available
Relative density	:	No data available
Relative vapor density at 20 °C	:	No data avalable

Solubility	:	No data available
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

None known. Refer to section 5.2 for hazardous decomposition products during combustion.

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 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:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Generic: GLASS FILAMENTS	65997-17-3	Anticipated human carcinogen	National Toxicology Program Carcinogens
Generic: GLASS FILAMENTS	65997-17-3	Grp. 2B: Possible human carcinogen	International Agency for Research on Carcinogens
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carcinogen	International Agency for Research on Carcinogens

Additional Information:
This document covers only the Weiler Corporation product. For complete assessment, when determining the degree of hazard, the material being abraded must also be considered.
This product contains titanium dioxide. Cancer of the lungs has been observed in rats that inhaled high levels of titanium dioxide. No exposure to inhaled titanium dioxide is expected during the normal handling and use of this product. Titanium dioxide was not detected when air sampling was conducted during simulated use of similar products containing titanium dioxide. Therefore, the health effects associated with titanium dioxide are not expected during the normal use of this product.

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
Aluminium Oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
	Ingestion	Rat	LD50 > 5,000 mg/kg
Inorganic Fluoride	Dermal	Rabbit	LD50 > 2,100 mg/kg
	Inhalation-Dust/Mist (4 hours)	Rat	LC50 4.5 mg/l
	Ingestion	Rat	LD50 5,000 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
	Ingestion	Rat	LD50 > 10,000 mg/kg
Fiberglass	Dermal		LD50 estimated to be > 5,000 mg/kg
	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
	Ingestion	Rat	LD50 > 5,110 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Aluminium Oxide	Rabbit	No significant irritation
Inorganic Fluoride		Minimal irritation
Titanium Dioxide	Rabbit	No significant irritation
Fiberglass		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Aluminium Oxide	Rabbit	No significant irritation
Inorganic Fluoride		Moderate irritant
Titanium Dioxide	Rabbit	No significant irritation
Fiberglass		No significant irritation

Skin Sensitization

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing

Germ Cell Mutagenicity

Name	Species	Value
Aluminium Oxide	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Fiberglass	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Species	Species	Value
Aluminium Oxide	Inhalation	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
Fiberglass	Inhalation	Multiple animal species	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

No additional information available

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Aluminium Oxide	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	
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL: 0.010 mg/l	2 years
		pulmonary fibrosis	All data are negative	Human	NOAEL: Not available	occupational exposure
Fiberglass	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL: Not available	occupational exposure

SECTION 12: Ecological information

12.1. Toxicity

Sulfur (7704-34-9)	
LC50 fish 1	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
LC50 fish 2	< 14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Zirconium oxide (1314-23-4)	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

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 the incineration processes.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not a dangerous good in sense of transport regulations

SECTION 15: Regulatory information

15.1. US Federal regulations

Aluminum oxide (1344-28-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (fibrous forms)

Silicon carbide (409-21-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zirconium oxide (1314-23-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Trisodium hexafluoroaluminate (15096-52-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Iron sulfide (FeS2) (12068-85-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Sulfur (7704-34-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Iron oxide (Fe2O3) (1309-37-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Titanium dioxide (13463-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State regulations

Titanium dioxide (13463-67-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

Aluminum oxide (1344-28-1)
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Silicon carbide (409-21-2)
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Zirconium oxide (1314-23-4)
U.S. - Massachusetts - Right To Know List

Trisodium hexafluoroaluminate (15096-52-3)
U.S. - New Jersey - Right to Know Hazardous Substance List

Sulfur (7704-34-9)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Iron oxide (Fe2O3) (1309-37-1)
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Titanium dioxide (13463-67-7)
U.S. - Massachusetts - Right To Know List U.S. - Minnesota - Hazardous Substance List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

Note: Iron oxide, titanium dioxide and silica are not added but are materials that may naturally occur in trace amounts within some of the substances listed. Third-party laboratory tests have shown that any residual amount of respirable silica generated when grinding to be well below the OSHA permissible exposure limits.

SECTION 16: Other information

Full text of H-phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 2	Carcinogenicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H315	Causes skin irritation
H332	Harmful if inhaled
H351	Suspected of causing cancer
H372	Causes damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product