



# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

Safety Data Sheet

## SECTION 1: Identification

### 1.1. Identification

Product names : Tiger (AO), Tiger Inox, Tiger Zirc, Tiger Ceramic, Tiger Aluminum, Tiger Roughneck, Wolverine, Tiger, Ultra Cut, Vortec Pro

### 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 defined as not hazardous according to 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 classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### 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:

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

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		
Silica		7631-86-9		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.

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

		OSHA	TWA(as total dust):15 mg/m <sup>3</sup> ; TWA(respirable fraction):5 mg/m <sup>3</sup>
		ACGIH	TWA(respirable fraction):1 mg/m <sup>3</sup>
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m <sup>3</sup>
		Chemical Manufacturer Recommended Guidelines	TWA(as respirable dust): 5mg/m <sup>3</sup>
		OSHA	TWA(as total dust):15 g/m <sup>3</sup>
Inorganic Fluoride	15096-52-3	ACGIH	TWA(as F):2.5 mg/m <sup>3</sup>
		OSHA	TWA(as dust):2.5 mg/m <sup>3</sup> ; TWA(as F):2.5 mg/m <sup>3</sup>
Silica	7631-86-9	Chemical Manufacturer Recommended Guidelines	TWA(as respirable dust):3 mg/m <sup>3</sup>
		OSHA	TWA concentration: 0.8 mg/m <sup>3</sup> ; TWA:20 millions of particles/cu. ft.
		IDLH	3000 mg/m <sup>3</sup>
		NIOSH	6 mg/m <sup>3</sup> (TWA)
Woven Fiberglass	N/A	Manufacturer determined	TWA(as dust):10 mg/m <sup>3</sup>

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

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

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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 available
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.

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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
Silica	7631-86-9	Grp. 2B: Possible human carcinogen	

##### 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.

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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
Silica	Dermal	Rabbit	LD50 > 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
Silica	Rabbit	No significant irritation

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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
Silica	Rabbit	No significant irritation

### Skin Sensitization

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing
Silica	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
Silica	In Vitro	Not mutagenic



# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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
Silica	Not Specified	Mouse	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
Silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL: 509 mg/kg/day	1 generation
		Not toxic to male reproduction	Rat	NOAEL: 497 mg/kg/day	1 generation
		Not toxic to development	Rat	NOAEL: 1,350 mg/kg/day	during organogenesis

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 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
Silica	Inhalation	respiratory system silicosis	All data are negative	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])

#### Silica (7631-86-9)

LC50 fish 1	5000 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
EC50 Daphnia 1	7600 mg/l (Exposure time: 48 h - Species: Ceriodaphnia dubia)

### 12.2. Persistence and degradability

No additional information available

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### 12.3. Bioaccumulative potential

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

Silica (7631-86-9)	
BCF fish 1	(no bioaccumulation expected)

### 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 (FeS <sub>2</sub> ) (12068-85-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### Sulfur (7704-34-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### Iron oxide (Fe<sub>2</sub>O<sub>3</sub>) (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

### Silica (7631-86-9)

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	

### Silica (7631-86-9)

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 (Fe<sub>2</sub>O<sub>3</sub>) (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

# WSDS-030 Resinoid Bonded Grinding and Cut Off Wheels with Aluminum Oxide and Zirconia

## Safety Data Sheet

### Silica (7631-86-9)

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

## 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*