



WSDS-044 Flexible Honing Brush With Zirconium

Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Cross Flex

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

Use of the substance/mixture : Cleaning, Deburring and Finishing Metal Components

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: Hazards 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 may present a greater hazard 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.

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

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SECTION 3 : Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Aluminum oxide (AL2O3)	(CAS No) 1344-28-1	74	Not classified
Zirconium Dioxide (ZrO2)	(CAS No) 1314-23-4	22	Not classified
Silicon Dioxide (SiO2)	(CAS No) 7631-86-9	0.5	Not classified
Titanium Dioxide (TiO2)	(CAS No) 13463-67-7	1.0	Not classified
Iron Oxide (Fe2O3)	(CAS No) 1309-37-1	0.2	Not classified
Epoxy Resin	None	2 - 5	Not classified

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- General Measures : Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting, or welding may produce potentially hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes.
- First-aid measures after inhalation : Inhalation of excessive fume or dust concentrations may result in respiratory tract irritation. Move person to fresh air until recovered.
- First-aid measures after skin contact : Wash dust from skin with soap and water. Launder contaminated clothing before reuse.
- First-aid measures after eye contact : Flush eyes thoroughly with water, holding open eyelids. Get medical attention if irritation occurs and persists.
- First-aid measures after ingestion : If dust is swallowed, seek medical attention.

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

- Symptoms/injuries. : Use may generate dust that may cause eye and respiratory tract irritation. Dust may be harmful by inhalation and ingestion.

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 any media that is appropriate for the 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 face, self-contained breathing apparatus and full protective clothing when necessary.
- Hazardous Combustion Products : 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 trunings when brushed, machined or ground.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Minimize generation of dust. Use appropriate protective equipment to avoid inhalation and eye contact if dust is generated.

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 : 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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry location. See section 10 for more information on incompatible materials.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminium Oxide (1344-28-1)	
ACGIH	TWA(respirable fraction):1 mg/m ³
OSHA	TWA(as total dust):15 mg/m ³ ; TWA(respirable fraction):5 mg/m ³

Titanium Dioxide (13463-67-7)		
ACGIH	ACGIH TWA (mg/m ³)	TWA:10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	TWA(as total dust):15 g/m ³

Silicon dioxide (7631-86-9)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	6 mg/m ³
USA IDLH	US IDLH (mg/m ³)	3000 mg/m ³

Zirconium Dioxide (1314-23-4)		
ACGIH	ACGIH TWA (mg/m ³) ACGIH STEL (mg/m ³)	TWA: 5 mg/m ³ STEL: 10 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³) OSHA PEL (STEL) (mg/m ³)	TWA: 5 mg/m ³ (vacated) STEL : 10 mg/m ³

Iron Oxide (1309-37-1)	
ACGIH	TWA(respirable fraction):1 mg/m ³
OSHA	TWA(as total dust):15 mg/m ³ ; TWA(respirable fraction):5 mg/m ³

Epoxy resin	
ACGIH	Not applicable
OSHA	Not applicable

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Note: Consideration should be given to the base material and coating that are being worked upon.

8.2. Exposure controls

Appropriate engineering controls:

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

Respiratory Protection:

Use an 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 local regulations for specific standards where appropriate. Selection of respiratory protection depends on the contaminant type, form and concentration. Select and use respirators in accordance with applicable regulations and good industrial hygiene practice.

Hand protection:

The use of cloth or leather gloves is recommended.

Eye Protection:

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

Hearing Protection:

Hearing protection may be required.

Skin and body protection:

The use of protective clothing should be used as needed to prevent the contamination of personal clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Characteristic	Value
Appearance	Gray-black solid brushes
Form	Solid in various forms
Color	Gray-Black
Odor	Odorless
Odor Threshold	Not determined
pH	N/A
Melting Point	2050°C
Boiling Point	3250K
Flash Point	N/A
Evaporation Rate	N/A
Flammability	No data
Upper Flammable Limit	No data
Lower Flammable Limit	No data
Vapor Pressure	No data
Vapor Density	N/A
Specific Gravity	No data
Solubility in H ₂ O	Insoluble
Partition Coefficient (n-octanol/water)	Not determined
Auto-Ignition Temperature	No data
Decomposition Temperature	No data
Viscosity	N/A

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable. Rust may occur.

10.3. Possibility of hazardous reactions

Will not occur.

10.4. Conditions to avoid

Avoid creating or accumulating fines or dust.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

Dust from brushing and grinding could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being brushed or coatings applied to the base material.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Aluminum oxide (1344-28-1)

LD50 oral rat	> 5000 mg/kg
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Iron oxide (Fe₂O₃) (1309-37-1)

LD50 oral rat	> 10000 mg/kg
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Titanium dioxide (13463-67-7)

IARC group	2B - Possibly carcinogenic to humans
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In OSHA Hazard Communication Carcinogen list	Yes
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LD50 oral rat	> 10000 mg/kg
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Zirconium dioxide (1314-23-4)

LD50 oral rat	LD50 > 5,110 mg/kg
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Inhalation-Dust/Mist (4 hours) rat	LC50 > 0.691 mg/l
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Silicon dioxide (7631-86-9)

LD50 oral rat	> 5000 mg/kg
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LD50 dermal rabbit	> 2000 mg/kg
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LC50 inhalation rat (mg/l)	> 2.2 mg/l (Exposure time: 1 h)
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Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

IARC has concluded that there was sufficient evidence of the carcinogenicity of crystalline silica to experimental animals, but that there was limited evidence of carcinogenicity of crystalline silica to humans.

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Silicon dioxide (7631-86-9)	
IARC group	3 - Not classifiable
	: Not classified
Reproductive toxicity	
Specific target organ toxicity (single exposure)	: Not classified
	: Not classified
Specific target organ toxicity (repeated exposure)	
	: Not classified
Aspiration hazard	
Symptoms/injuries after inhalation	: May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. May be harmful if inhaled. Exposure to respirable silica can cause silicosis, a fibrosis (scarring) of the lungs.
Symptoms/injuries after skin contact	: May cause skin irritation. May be harmful in contact with skin. There is evidence that silica can exacerbate scleroderma, an immune disorder of the skin.
Symptoms/injuries after eye contact	: May cause eye irritation. May cause abrasion of cornea.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
Chronic symptoms	: Silicosis can occur after many years of exposure to relatively low levels of airborne respirable silica.

SECTION 12: Ecological information

12.1. Toxicity

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Zirconium Dioxide 1314-23-4	The 15 d NOEC of zirconium dichloride oxide to Chlorella vulgaris was greater than 200 mg/L	The 96 h LL50 of zirconium dioxide to Danio rerio was greater than 100 mg/L.	-	The 48 h EC50 of zirconium dioxide to Daphnia magna was greater than 100 mg/L

Silicon dioxide (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

12.3. Bioaccumulative potential

Silicon dioxide (7631-86-9)

BCF fish 1	(no bioaccumulation expected)
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose of in accordance with Federal, State and Local 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.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not a dangerous good as defined in 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

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 313 - Emission Reporting	1.0 % (fibrous forms)
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Titanium dioxide (13463-67-7)

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

Silicon dioxide (7631-86-9)

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

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

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15.2. US State regulations

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

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	

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

Silicon dioxide (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 significance risk level (NSRL)
No	No	No	No	

Silicon dioxide (7631-86-9)

U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
 U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
 U.S. - Massachusetts - Right To Know List
 U.S. - Minnesota - Hazardous Substance List
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
 U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
 U.S. - Pennsylvania - RTK (Right to Know) List
 U.S. - Texas - Effects Screening Levels - Long Term
 U.S. - Texas - Effects Screening Levels - Short Term

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Zirconium Dioxide 1314-23-4		X	

SECTION 16: Other information

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