



## Safety Data Sheet

Sigma Z Grinding Wheels  
05/01/2021

### Section 1. Identification

**Product name:** Sigma Z Grinding Wheel

**Recommended use:** Abrasive wheels used for grinding different types of metals.

**Restrictions on use:** No Restrictions, use as intended.

**Manufacturer name:** Rex-Cut Abrasives, Inc.  
**Address:** 960 Airport Road  
Fall River, MA 02720

**Contact Information:** Tel: 508-678-1985  
Fax: 508-678-8501  
Email: [www.rexcut.com](http://www.rexcut.com)

**Emergency phone number:** 508-678-1985

**Date of preparation:** February 4, 2021

### Section 2. Hazard(s) Identification

**Hazard classification:** Sigma Green products are considered non-hazardous under  
OSHA CHS 29 CRF 1910.1200

**Label elements:** Not applicable

**Pictograms:** Not applicable

**Precautionary statements:**

Always wear appropriate safety gear when using this product. (*See section 8 for Personal Protective Equipment*)  
Refer to ANSI B7.1, *Safety Requirements for the Use, Care and Protection of Abrasive Grinding Wheels*.  
Do not handle until all safety precautions have been read and understood.

**Supplemental labeling:** 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. This dust may present a fire or dust explosion hazard and may present a serious health hazard.

**Section 3. Composition / Information on Ingredients**

Chemical name	CAS No.	Concentration
Zirconium Oxide	1314-23-4	65 – 80%
Resin Coated Fiberglass	65997-17-3	5 %
Chromic Oxide	1308-38-9	2%
Titanium Dioxide	13463-67-7	0.3%
Phenolic abrasive binder**	N/A	20 -22%
Carbon Black	1333-86-4	0.01 – 0.04%
Alkali Aluminum Fluorides**	60304-36-1/15096-52-1	0-5%

\*\*Substance is a compound and/or mixture

The specific identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**Section 4. First-Aid Measures**

**Eyes:** Remove contact lenses if present and easy to do. Flush eyes thoroughly with large amounts of water, holding eyelids open. If irritation persists, seek medical attention.

**Skin:** Wash skin with soap and water. If irritation or other symptoms develop, seek medical attention.

**Ingestion:** Do not induce vomiting. Rinse mouth with water. Seek medical attention if large amount is swallowed or if you feel unwell.

**Inhalation:** Move person to fresh air. If breathing is difficult, have qualified personnel administer oxygen. Seek medical attention if irritation or other symptoms persist.

**Most important symptoms/effects, acute and delayed:** Dust may cause eye and respiratory irritation. Prolonged inhalation of high concentration of dust may cause adverse effects on the lungs. 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 should not be required.

**Section 5. Fire-Fighting Measures**

**Suitable (and unsuitable) extinguishing media:** Use any media that is suitable for the surrounding fire. Do not use water on fires involving metals dusts. Use an appropriate dry powder.

**Specific hazards arising from the chemical:** This product is not flammable or 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.

**Special protective equipment and precautions for fire-fighters:** Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

## Section 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. (See section 8 for *Personal Protective Equipment*)

**Methods and materials for containment and cleaning up:** Carefully collect dry material, avoiding the creation of airborne dust. Place in a suitable container for disposal.

## Section 7. Handling and Storage

**Precautions for safe handling:**

- Check all wheels for cracks and or other damage before mounting.
- Never exceed the maximum operating speed of the abrasive wheel.
- Always check mounting flanges for equal and correct diameter.
- Run wheel at operating speed, with guard in place, for at least one minute before use.
- Wheels must always be properly guarded.
- Always wear appropriate safety gear.
- Do not use wheels that have been dropped or otherwise damaged.
- Do not use excessive pressure when mounting wheels between flanges.
- Do not use heavy side grinding pressure on any Type 1 straight sided wheel.
- Do not mount more than one wheel on a single arbor.

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.

**Conditions for safe storage, including any incompatibilities:** Sigma Green products should be stored in a dry area in rooms not subject to extreme temperature changes.

**Section 8. Exposure Controls / Personal Protection**

**Exposure guidelines:**

Zirconium Oxide (as zirconium compounds)	5 mg/m <sup>3</sup> TWA (respirable) OSHA PEL 5 mg/m <sup>3</sup> TWA ACGIH TLV 10 mg/m <sup>3</sup> STEL (as Zr) ACGIH TLV
Chromic Oxide	0.5mg/m <sup>3</sup> TWA (total dust) OSHA PEL 0.5mg/m <sup>3</sup> TWA (total dust) ACGIH TLV
Titanium Dioxide	15 mg/ m <sup>3</sup> TWA (total dust) OSHA PEL 10 mg/m <sup>3</sup> TWA ACGIH TLV 5 mg/m <sup>3</sup> TWA (respirable) CMRG
Resin Coated Fiberglass	5 mg/m <sup>3</sup> TWA (respirable) OSHA PEL 15 mg/m <sup>3</sup> TWA (total dust) OSHA PEL 5 mg/m <sup>3</sup> TWA (Inhalable) ACGIH TLV 1 f/cc TWA (respirable fraction) ACGIH TLV
Alkali Aluminum Fluorides	2.5 mg/m <sup>3</sup> TWA (respirable) OSHA PEL 10 mg/m <sup>3</sup> TWA (total dust) ACGIH PEL
Carbon Black	3 mg/ m <sup>3</sup> TWA (Inhale Fraction) ACGH TLV 3.5mg/ m <sup>3</sup> TWA (total dust) OSHA PEL
Phenolic Resin Binder** Resin Coated Fiberglass	Not Established Not Established

**SOURCE OF EXPOSURE LIMIT DATA**

ACGIH: American Conference of Government Industrial Hygienist

CMRC: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and health Administration

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

**Appropriate engineering controls:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

**Personal Protective Equipment:**

**Respiratory protection:** Not necessary unless workplace concentrations of hazardous constituents exceed the exposure limits. If the exposure levels are excessive and irritation or other symptoms are experienced, an approved respirator should be worn. 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. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134 and ANSI Z88.2 or other applicable regulations and standards and good Industrial Hygiene practice.

**Skin protection:** Protective gloves recommended to avoid skin abrasion when handling grinding wheels. Wear protective clothing as required to avoid skin contact when handling.

**Eye protection:** Use safety glasses with side shields or goggles.

**Other:** Hearing protection recommended if operation is noisy.



## Section 9. Physical and Chemical Properties

**Appearance:** Solid Article

**Color:** Green

**Odor:** Slight odor may be noticed when in use.

<b>Odor threshold:</b> Not available	<b>pH:</b> Not applicable
<b>Melting point/freezing point:</b> Not available	<b>Boiling point:</b> Not applicable
<b>Flash point:</b> Not flammable	<b>Evaporation rate:</b> Not applicable
<b>Flammability (solid, gas):</b> Not flammable	
<b>Flammable limits: LEL:</b> Not applicable	<b>UEL:</b> Not applicable
<b>Vapor pressure:</b> Not applicable	<b>Vapor density:</b> Not applicable
<b>Relative density:</b> Not available	<b>Solubility in Water:</b> Insoluble
<b>Partition coefficient: n-octanol/water:</b> Not applicable	<b>Auto-ignition temperature:</b> Not applicable
<b>Decomposition temperature:</b> Not available	

## Section 10. Stability and Reactivity

**Reactivity:** Not reactive under normal conditions of use and storage.

**Chemical stability:** Stable

**Possibility of hazardous reactions:** None known.

**Conditions to avoid:** None known. .

**Incompatible materials:** None known.

**Hazardous decomposition products:** None known. Dust from grinding could contain potentially hazardous components of the base material being ground or coatings applied to the base material.

## Section 11. Toxicological Information

### Acute effects of exposure:

**Inhalation:** Breathing dust may cause irritation to the nose, throat and upper respiratory tract.

**Skin contact:** May cause abrasive skin irritation.

**Eye contact:** May cause abrasive irritation and injury.

**Ingestion:** Not toxic. Swallowing may cause gastrointestinal disturbances or obstruction.

**Carcinogenicity:** This product contains titanium dioxide. Titanium dioxide is listed by IARC as a group 2B carcinogen (suspected human carcinogen).

This product contains carbon black. Carbon black is listed by IARC as a group 2B carcinogen (suspected human carcinogen)

Cancer of the lungs has been associated with titanium dioxide.

No exposure to titanium dioxide or carbon black is anticipated during normal use of Sigma Z products using the standard precautions outlined in this document.

No other components are listed as carcinogens or suspected carcinogens by OSHA, NPT, ACGIH or IARC.

**Chronic Health Effects:** Prolonged inhalation of respirable dust may cause adverse lung effects, including cancer. 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.

**Sensitization:** No data available for the product. Not expected to be a skin sensitizer based on human experience.

**Germ cell mutagenicity:** This product is not expected to present a risk of genetic damage.

**Reproductive Toxicity:** No specific data is available; however, this product is not expected to present a risk of adverse reproductive or developmental toxicity.

**Acute toxicity values:**

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

Chromic Oxide: No acute toxicity data available

Titanium Dioxide: LD50 Oral rat > 5000 mg/kg; LC50 Inhalation rat > 6.82 mg/L/4hr

Alkali Aluminum Fluorides: LD50 Oral rat > 5000 mg/kg

Carbon Black: LD50 Dermal rat > 2000mg/kg LD50 ingest rabbit 8000 mg/kg

Phenolic abrasive binder: No acute toxicity data available

Fiberglass: No acute toxicity data available

## Section 12. Ecological Information

No adverse effects on aquatic organisms are expected. However, consideration must be given to potential environment effects of the base material being processed.

**Ecotoxicity values:**

Aluminum oxide: NOEC 96 hr Salmo trutta >100 mg/L; NOEC 48 hr daphnia magna >100 mg/L; NOEC 72 hr

Zirconium Dioxide: LL50 96 hr Danio rerio >1000 mg/L; NOEC 48 hr daphnia magna > 100 mg/L

Fiberglass: LC50 96 hr Danio rerio >1000 mg/L; EC50 72 hr daphnia magna >1000 mg/L; EC50 72 hr

Titanium Dioxide: : EC50 72 hr Pseudokirchnerella subcapitata 61 mg/L

Phenolic abrasive binder: No data available.

Alkali Aluminum Fluorides: No acute toxicity data available

Chromic Oxide: No data available

**Persistence and degradability:** Biodegradation is not applicable to inorganic substances.

**Bioaccumulative potential:** No data available.

**Mobility in soil:** No data available.

**Other adverse effects:** None known.

## Section 13. Disposal Considerations

Dispose in accordance with all local, state and national 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.

**Section 14. Transport Information**

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
<b>DOT</b>	None	Not Regulated	None	None	
<b>TDG</b>	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.

**Section 15. Regulatory Information**

**Safety, health, and environmental regulations specific for the product in question:**

**EPA SARA 313:** This product contains the following chemicals regulated under SARA Title III, section 313:  
None

**California Proposition 65**



WARNING: This product can expose you to chemicals including titanium dioxide, which is known to the State of California to cause cancer. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Titanium Dioxide	CAS No. 13463-67-7	**Carcinogen
Carbon Black	CAS No. 1333-86-4	**Carcinogen

\*\*WARNING

**EPA TSCA Inventory:** This product meets the definition of an article and is exempt from the TSCA inventory requirements.

**Section 16. Other Information**

**SDS Revision History:** New SDS

**Date of preparation:** May 1 2020

**Date of last revision:** None

**DISCLAIMER**

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Rex-Cut Abrasives, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.