

This Safety Data Sheet is compliant with the OSHA Hazard Communication Standard (29 CFR 1910.1200).

SECTION 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier**

Trade name: **CARBOGRIND ZIRMAX 370**
Synonym(s): Ceramic Grinding Media; Sintered Alumina Zirconia
Preparation/Revision date: 3 December 2018

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

Identified uses: Grinding media
Uses advised against: None known

1.3 Details of the supplier of the safety data sheetManufacturer / Supplier

Company name: CARBO Ceramics Inc.
Address: 575 N. Dairy Ashford Road, Suite 300
Houston, Texas 77079, USA
Customer service: 1-337-367-6151

1.4 Emergency telephone number

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

The substance has been assessed and / or tested for its physical, health and environmental hazards and the following classifications apply.

Classification according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification: Not Classified

2.2 Label elements

Hazard pictogram:	None
Signal word:	None
Hazard statement(s):	None
Precautionary statements:	
- Prevention:	None
- Response:	None
- Storage:	None
- Disposal:	None
Hazards Not Otherwise Classified:	None

2.3 Other hazards

While the use of this product as intended generally does not create respirable dusts, small amounts may form from transport or conveyance. Prolonged inhalation of insoluble, respirable (less than 10 micron) dusts can lead to pulmonary damage. Exposure to dust may cause irritation of eyes, nose, throat and mucous membranes. Prolonged contact with skin may cause irritation.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**3.1 Substance**

Chemical Name	Percent	CAS No.	Hazard Classification
Ceramic materials and wares, chemicals	100	66402-68-4	Not classified

Composition comments: This product meets the definition of Article under the OSHA Hazard Communication Standard 29 CFR 1910.1200(c).

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

Inhalation:	Remove to fresh air. Get medical attention if irritation or symptoms persist.
Skin contact:	Wash with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact: Rinse immediately with plenty of water, including under the eyelids, for at least 15 minutes. Get medical attention if irritation or symptoms persist.

Ingestion: Rinse mouth. Do not induce vomiting. Get medical attention.

Notes to Physician: None specified.

4.2 Most important symptoms and effects, both acute and delayed Exposure to dust may cause irritation of eyes, nose, throat and mucous membranes. Prolonged contact with skin may cause irritation. Use of the product as intended does not result in exposure to dust.

4.3 Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptoms as needed.

SECTION 5: FIRE FIGHTING MEASURES

General fire hazards This product is not flammable.

5.1 Extinguishing Media

Suitable extinguishing media: Not applicable

Unsuitable extinguishing media: Not applicable

5.2 Special hazards arising from the substance or mixture None known

5.3 Advice for firefighters

Special protective equipment for firefighters: Not applicable.

Special firefighting procedures: No relevant information found.

Special remarks on fire hazards: None

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid dust formation. Wear suitable protective clothing. Avoid contact with skin and eyes.

For emergency responders: Use personal protection recommended in Section 8 of the SDS.

6.2 Environmental Precautions None known

6.3 Methods and materials for containing and cleaning up Sweep up spilled substance and remove to safe place. Pick up and arrange for disposal without creating dust. Spilled material can reduce traction and may present a slip hazard. Collect and dispose of spillage as indicated in Section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling Avoid dust formation. Avoid breathing dust. Observe good industrial hygiene practices. Spilled material can reduce traction and may present a slip hazard.

7.2 Conditions for safe storage, including any incompatibilities Keep container tightly closed. Store in original containers in a cool and dry environment. Store in accordance with local, regional, national and international regulations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

United States. Occupational Exposure Limits

Component	CAS No.	OSHA PEL	ACGIH TLV	NIOSH
Ceramic materials and wares, chemicals	66402-68-4	None	None	None

Consult local authorities for acceptable exposure limits

8.2 Exposure Controls

8.2.1. Appropriate engineering controls Observe occupational exposure limits and prevent generation of dusts.

General Information:

Personal protective equipment should be chosen according to applicable standards and in consultation with the supplier of the personal protective equipment. Spilled material can reduce traction and may present a slip hazard.

8.2.2 Individual Protective Measures

Eye/face protection:

Wear safety glasses with side shields or goggles. Avoid wearing contact lenses while handling.

Skin protection:

- Hand protection: Wear protective gloves.
- Other: Minimize skin contact.

Respiratory protection:

In case of inadequate ventilation or risk of inhalation of dust, use a suitable air-purifying respirator with particle filter or dust mask (Type P2 or equivalent).

Thermal hazards:

Not applicable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	Solid spheres	Explosive properties	Not applicable
Color	Light gray to light tan	Explosive limit	Not applicable
Odor	Odorless	Vapor pressure	Not applicable
Odor threshold	Not applicable	Vapor density	Not applicable
pH	Not applicable	Evaporation rate	Not applicable
Melting/freezing point	4,000°F / 2,204°C (Estimated)	Relative density	≥ 3.75 (water = 1)
Boiling point, initial boiling point and boiling range	Not applicable	Partition coefficient (n-octanol/water)	No data available
Flash point	Not applicable	Solubility (water)	Insoluble in water
Auto-ignition temperature	Not applicable	Decomposition temperature	No data available
Flammability (solid, gas)	Not applicable	Bulk density	144 lb/ft ³ (2.30 g/cm ³)
Flammability limit-lower%	Not applicable	Viscosity	Not applicable
Flammability limit-upper%	Not applicable	VOC (weight %)	0 %
Oxidizing properties	Not applicable	Percent volatile	Not applicable

9.2 Other Information

No relevant additional information available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2 Chemical stability	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerization does not occur under normal conditions.
10.4 Conditions to avoid	None known
10.5 Incompatible materials	Strong oxidizers
10.6 Hazardous decompositions products	None known

SECTION 11: TOXICOLOGICAL INFORMATION**General information on likely routes of exposure**

Ingestion:	May cause discomfort if swallowed.
Inhalation:	While the use of this product as intended generally does not create respirable dusts, small amounts may form from transport or conveyance. Inhalation of dust may cause respiratory irritation. Prolonged inhalation of insoluble, respirable (less than 10 micron) dusts can lead to pulmonary damage. Use standard hygienic practices to minimize exposure to dusts that may form.
Skin contact:	Dust may irritate skin. Use of this product as intended does not result in exposure to dust.
Eye contact:	Dust may irritate eyes. Use of this product as intended does not result in exposure to dust.
Symptoms:	Exposure to dust may cause irritation of eyes, nose, throat and mucous membranes. Use of the product as intended does not result in exposure to dust.

11.1 Information on toxicological effects

Acute Toxicity:	No data were identified for this product.
Serious Eye Damage/Irritation:	No data were identified for this product.
Skin corrosion/Irritation:	No data were identified for this product.
Respiratory/Skin Sensitization:	No data were identified for this product.
Germ Cell Mutagenicity:	No data were identified for this product.
Carcinogenicity:	No data were identified for this product.
Reproductive Toxicity:	No data were identified for this product.
Developmental Effects:	No data were identified for this product.
STOT – Single Exposure:	No data were identified for this product.
STOT – Repeated Exposure:	While the use of this product as intended is not anticipated to create respirable dust, small amounts may form from transport or conveyance. Prolonged inhalation of respirable dust may lead to respiratory irritation.
Aspiration Hazard:	Not relevant based on physical form of the product.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity / Aquatic ecotoxicity	No data were identified for this product.
12.2 Persistence and degradability	Product is not biodegradable, has low solubility in water and is not expected to decompose in the environment.
12.3 Bioaccumulative potential	Product is not biodegradable, has low solubility in water and is not expected to accumulate in the environment.
12.4 Mobility	No data available.
12.5 Results of PBT and vPvB assessment	Not a PBT or vPvB material.
12.6 Other adverse effects	No data were identified for this product. Not classified for hazards to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Residual waste:	Dispose of in accordance with all applicable regulations.
Contaminated packaging:	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Disposal methods/information:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local, regional, national and international regulations.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number	Not applicable, not regulated as hazardous for transport.
14.2 UN proper shipping name	Not applicable, not regulated as hazardous for transport.
14.3 Transport hazard class(es)	Not applicable, not regulated as hazardous for transport.
14.4 Packing group	Not applicable, not regulated as hazardous for transport.
14.5 Environmental hazards	Not applicable, not regulated as hazardous for transport.
14.6 Special precautions for user	Not applicable, not regulated as hazardous for transport.
14.7 Transport in bulk according to Annex II MARPOL73/78 and the IBC Code	Not applicable, not regulated as hazardous for transport.

The transport regulation may vary based on the country of use. Check for the appropriate regulations in the country of transport or usage of this product.

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

USA Federal Regulations

29 CFR 1910.1200 Hazard Communication Standard (HCS): Not hazardous

TSCA - U.S. Inventory (TSCA 8b): Exempt/Compliant

Clean Water Act: Not listed

Clean Air Act – Hazardous Air Pollutants: Not listed

SARA Title III – Section 302, Extremely Hazardous Substances (EHS): Not listed

CERCLA - Hazardous substances: Not listed

Release of CERCLA hazardous substances in excess of any reportable quantity threshold to the environment requires notification to the National Response Center (1-800-424-8802 or 1-202-267-2675).

SARA Title III – 311/312, Hazard Classes:

Fire / Flammability: No

Reactivity: No

Release of Pressure: No

Acute Health Hazard: No

Chronic Health Hazard: No

SARA 313 – Toxic Chemicals Not listed

USA State Regulations

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under any State Regulations.

California Proposition 65: Not listed

SECTION 16: OTHER INFORMATION**List of abbreviations**

ACGIH	American Conference Of Governmental Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EC ₅₀	Effective Concentration (Half Maximal)
°F	Degrees Fahrenheit

List of abbreviations

g/cm ³	Grams Per Cubic Centimeter
IBC	International Bulk Chemical Code
ISO	International Organization for Standardization
Lb/ft ³	Pounds Per Cubic Foot
LC ₅₀	Lethal Concentration (median)
mg/L	Milligrams Per Liter
NIOSH	National Institute for Occupational Safety
NOEC	No Observed Effect Concentration
OECD	Organization for Economic Co-operations
OSHA	Occupational Safety and Health Administration (United States)
OSPAR	Oslo and Paris Conventions
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
VOC	Volatile Organic Compound
vPvB	Very Persistent and Very Bioaccumulative
MARPOL	Marine Pollution – International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978

SDS Revisions

SDS prepared on 3 December 2018

Disclaimer

This SDS has been prepared in accordance with the Hazard Communication Rule 29 CFR 1910.1200. Information herein is based on data considered to be accurate as of the date prepared. No warranty or representation, express or implied, is made as to the accuracy or completeness of this data and safety information. No responsibility can be assumed for any damage or injury resulting from abnormal use, failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.