

SECTION 1. IDENTIFICATION

GHS product identifier Boron Carbide
Other means of identification Boron Carbide, Reaction Bonded Boron Carbide
Product Type Solid
Supplier's details CoorsTek, Inc.
 14143 Denver West Parkway, Suite 400
 Golden, CO 80401
 Phone: +1 303 271 7100
 Fax: +1 303 271 7009
Emergency telephone number (with hours of operation) +1 303 271 7100
 8am-5pm MDT (M-F)

SECTION 2. HAZARDS IDENTIFICATION

OSHA/HCS status While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture Not classified

GHS LABEL ELEMENTS

Signal word No signal word

Hazard statements No known significant effects or critical hazards

PRECAUTIONARY STATEMENTS

Prevention Not applicable

Response Not applicable

Storage Not applicable

Disposal Not applicable

Hazards not otherwise classified None known

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/mixture Mixture

Other means of identification Boron Carbide, Reaction Bonded Boron Carbide

CAS NUMBER/OTHER IDENTIFIERS

CAS number Not applicable

Product code Not available

INGREDIENT NAME	%	CAS NUMBER
Boron carbide	75 - 100	12069-32-8
Aluminum Oxide	5 - 10	1344-28-1

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES
**DESCRIPTION OF NECESSARY
FIRST AID MEASURES**

- Eye contact** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
- Ingestion** Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

SECTION 4. FIRST AID MEASURES, CONTINUED**MOST IMPORTANT SYMPTOMS/EFFECTS,
ACUTE AND DELAYED****Potential acute health effects**

Eye contact No known significant effects or critical hazards

Inhalation No known significant effects or critical hazards

Skin contact No known significant effects or critical hazards

Ingestion No known significant effects or critical hazards

Over-exposure signs/symptoms

Eye contact No known significant effects or critical hazards

Inhalation No known significant effects or critical hazards

Skin contact No known significant effects or critical hazards

Ingestion No known significant effects or critical hazards

**INDICATION OF IMMEDIATE MEDICAL
ATTENTION AND SPECIAL TREATMENT
NEEDED, IF NECESSARY**

Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.
See toxicological information (Section 11)

SECTION 5. FIRE-FIGHTING MEASURES**EXTINGUISHING MEDIA**

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known
Specific hazards arising from the chemical	No specific fire or explosion hazard
Hazardous thermal decomposition products	Decomposition products may include the following materials: carbon dioxide, carbon monoxide metal oxide/oxides
Special protective actions for firefighters	No special protection is required.
Special protective equipment for firefighters	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6. ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS,
PROTECTIVE EQUIPMENT &
EMERGENCY PROCEDURES**

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

**METHODS & MATERIALS FOR
CONTAINMENT AND CLEANING UP**

Spill	Move containers from spill area. Prevent entry into sewers, water courses, basements, or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
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SECTION 7. HANDLING AND STORAGE**PRECAUTIONS FOR SAFE HANDLING**

Protective measures	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. See Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Do not store in unlabeled containers. Store in a cool, dry location. Any dust generated during handling or processing should be removed by wet mopping or vacuuming.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**CONTROL PARAMETERS**

Occupational exposure limits	None
Appropriate engineering controls	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

INDIVIDUAL PROTECTION MEASURES

Hygiene measures	Wash hands, forearms, and face thoroughly after handling chemical products, and before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side shields.

SKIN PROTECTION

Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION, CONTINUED

Other skin protection Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE**

Physical state Solid

Color Black

Odor Not available

Odor threshold Not available

pH Not applicable

Melting point >1800° C (>3272° F)

Boiling point >1800° C (>3272° F)

Flash point Not available

Evaporation rate Not available

Flammability (solid, gas) Material does not burn.

Lower and upper explosive (flammable) limits Not available

Vapor pressure Not applicable

Vapor density Not applicable

Relative density 3.7

Solubility Insoluble in the following materials: cold water and hot water

Partition coefficient: n- octanol/water Not applicable

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES, CONTINUED

Auto-ignition temperature Not available
Decomposition temperature Not available
Viscosity Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity No specific test data related to reactivity available for this product or its ingredients.
Chemical stability The product is stable.
Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid None known
Incompatible materials Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity No data available
Irritation/Corrosion No data available
Sensitization No data available
Mutagenicity No data available
Carcinogenicity

NAME	OSHA	IARC	NTP	ACGIH	EPA	NIOSH
Aluminum oxide	-	-	-	A4	-	-

Reproductive toxicity No data available
Teratogenicity No data available
Specific target organ toxicity (single exposure) No data available
Specific target organ toxicity (repeated exposure) No data available

SECTION 11. TOXICOLOGICAL INFORMATION, CONTINUED

Aspiration hazard No data available

Information on the likely routes of exposure Inhalation

POTENTIAL ACUTE HEALTH EFFECTS

Eye contact No known significant effects or critical hazards

Inhalation No known significant effects or critical hazards

Skin contact No known significant effects or critical hazards

Ingestion No known significant effects or critical hazards

**SYMPTOMS RELATED TO THE PHYSICAL,
CHEMICAL AND TOXICOLOGICAL
CHARACTERISTICS**

Eye contact No known significant effects or critical hazards

Inhalation No known significant effects or critical hazards

Skin contact No known significant effects or critical hazards

Ingestion No known significant effects or critical hazards

**DELAYED AND IMMEDIATE EFFECTS AND
ALSO CHRONIC EFFECTS FROM SHORT
AND LONG TERM EXPOSURE**

Short term exposure No known significant effects or critical hazards

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects No known significant effects or critical hazards

Long term exposure No known significant effects or critical hazards

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects No known significant effects or critical hazards

Potential chronic healthy effects No known significant effects or critical hazards

General No known significant effects or critical hazards

Carcinogenicity No known significant effects or critical hazards

SECTION 11. TOXICOLOGICAL INFORMATION, CONTINUED

Mutagenicity	No known significant effects or critical hazards
Teratogenicity	No known significant effects or critical hazards
Developmental effects	No known significant effects or critical hazards
Fertility effects	No known significant effects or critical hazards

NUMERICAL MEASURE OF TOXICITY

Acute toxicity estimates	There is no data available.
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SECTION 12. ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and degradability	No data available
Bioaccumulative potential	No data available
MOBILITY IN SOIL	
Soil/water partition coefficient (K_{oc})	No data available
Other adverse effects	No known significant effects or critical hazards

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.
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SECTION 14. TRANSPORT INFORMATION

	DOT	IMDG	IATA
UN Number	Not regulated	Not regulated	Not regulated
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No	No	No
Additional information	-	-	-

Special precautions for user **Transport within users' premises:** Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15. REGULATORY INFORMATION

U.S. Federal regulations **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) Not listed

Clean Air Act Section 602
Class I Substances Not listed
Class II Substances Not listed

DEA List I Chemicals (Precursor Chemicals) Not listed

DEA List II Chemicals (Essential Chemicals) Not listed

SARA 302/304 Composition/information on ingredients: no products were found

SARA 304 RQ Not applicable

SARA 311/312 Classification: Not applicable

SARA 313

	PRODUCT	CAS NUMBER	%
Form R - Reporting requirements	Aluminium oxide	1344-28-1	≥ 5 - ≤ 10
Supplier notification	Aluminium oxide	1344-28-1	≥ 5 - ≤ 10

SECTION 15. REGULATORY INFORMATION, CONTINUED

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

STATE REGULATIONS

Massachusetts	The following components are listed: Aluminum oxide
New York	None of the components are listed.
New Jersey	The following components are listed: Aluminum oxide
Pennsylvania	The following components are listed: Aluminum oxide
California Prop. 65	No products were found.

SECTION 16. OTHER INFORMATION

Date of issue mm/dd/yyyy	12/30/2012
Version	2
Prepared by	KMK Regulatory Services Inc.

Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.