

SECTION 1. IDENTIFICATION

GHS product identifier Boron Carbide

Other means of identification Boron Carbide, Reaction Bonded Boron Carbide

Product type Solid

Identified uses Not available

Supplier's details CoorsTek, Inc.
16000 Table Mountain Parkway Golden, CO 80403
Phone: +1 303 271 7000
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Emergency telephone number +1 303 271 7000
(with hours of operation) 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 Substance

Other means of identification Boron Carbide, Reaction Bonded Boron Carbide

CAS NUMBER/OTHER IDENTIFIERS

CAS number Not available

Product code Not available

Ingredient name	%	CAS Number
Boron carbide	60 - 100	12069-32-8

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

Special protective actions for fire-fighters No special protection is required.

Special protective equipment for fire-fighters Fire-fighters 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. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material.

For emergency responders If specialised 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.

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 also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities Store in accordance with local regulations. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
CONTROL PARAMETERS
Occupational exposure limits

Ingredient Name	Exposure Limits
Boron carbide	OSHA PEL (United States) TWA: 15 mg/m ³ Form: Inhalable dust. TWA: 5 mg/m ³ Form: Respirable dust ACGIH TLV (United States) TWA: 10 mg/m ³ Form: Inhalable dust. TWA: 3 mg/m ³ Form: Respirable dust

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, 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION CONTINUED**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.

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 Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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

Burning time Not available

Burning rate Not available

Evaporation rate Not available

Flammability (solid, gas) Material does not burn.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES CONTINUED

Lower and upper explosive (flammable) limits	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	3.7
Solubility	Negligible
Solubility in water	Not available
Partition coefficient: n- octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Volatility	0% (w/w)

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	No specific data
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
Carcinogenicity	No data available
Specific target organ toxicity (single exposure)	No data available
Specific target organ toxicity (repeated exposure)	No data available
Aspiration hazard	No data available
Information on the likely routes of exposure	Routes of entry anticipated: Inhalation Routes of entry not anticipated: Oral, Dermal

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

SECTION 11. TOXICOLOGICAL INFORMATION CONTINUED
**DELAYED AND IMMEDIATE EFFECTS
AND ALSO CHRONIC EFFECTS FROM
SHORT AND LONG TERM EXPOSURE**
SHORT TERM EXPOSURE

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects No known significant effects or critical hazards

LONG TERM EXPOSURE

Potential immediate effects No known significant effects or critical hazards

Potential delayed effects No known significant effects or critical hazards

POTENTIAL CHRONIC HEALTH EFFECTS

General No known significant effects or critical hazards

Carcinogenicity No known significant effects or critical hazards

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 MEASURES OF TOXICITY

Acute toxicity estimates No data available

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.

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 user's 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.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available

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 Not applicable

SARA 313 No products were found.

STATE REGULATIONS

Massachusetts None of the components are listed.

New York None of the components are listed.

New Jersey None of the components are listed.

Pennsylvania None of the components are listed.

California Prop. 65 No products were found.

SECTION 16. OTHER INFORMATION

HISTORY**Date of issue mm/dd/yyyy** 04/15/2015**Version** 1**Revised Section(s)** Not applicable**Prepared by** KMK Regulatory Services Inc.

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

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