



SAFETY DATA SHEET

Following Regulation 1910.1200

SDS Number: MK210 Date of first issue: 23 March 2003 Date of last revision: 21 February 2022

1 - Identification of product

a - Product identifier used on the label

Tradenames: BTU BLOCK ADHESIVE

b - Other means of identification

INORGANIC ADHESIVE

c - Recommended use of the chemical and restrictions on use

Refractory Binding

d - Name, address, and telephone number

Morgan Advanced Materials 2730 Industrial Parkway Elkhart, IN 46516 Telephone: 574-296-3500	Morgan Advanced Materials P. O. Box 923; Dept. 300 Augusta, GA 30903-0923 Telephone: 706-796-4200
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e - Emergency Phone Number

For Product Stewardship and Emergency Information:
Hotline - 1-800-722-5681
Fax - 706-560-4054

For additional SDSs and to confirm this is the most current SDS for the product, visit our web page www.morganthermalceramics.com or send a request to MT.NorthAmerica@morganplc.com

2 - Hazard Identification

a - Classification of the chemical in accordance with paragraph (d) of §1910.1200

b - Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200

Under OSHA HCS 2012, this product is classified as Category 2 crossive to skin, eyes and respiratory sytem.

Hazard Pictograms



Signal Words

Danger

Hazard Statements

Harmful if swallowed

Causes severe skin burns and eye damage

May cause respiratory irritation

Precaution Statements

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/ face protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

Wash contaminated clothing before reuse.

Dispose of contents/container in accordance with local requirements

Emergency Overview

Harmful if swallowed or inhaled. Causes severe irritation to eyes, skin and respirarble track.

c - Describe any hazards not otherwise classified that have been identified during the classification process

d - Mixture Rule

Not applicable.

3 - Composition / Information On Ingredients

a - Composition table

COMPONENTS	CAS NUMBER	% BY WEIGHT
Water	7732-18-5	55 - 75
Sodium Silicate	1344-09-8	25 - 45

b - Common Name

(See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines)

d - Impurities and Stabilizing Additives

Not applicable.

4 - First-Aid measures

a - Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion

Eyes

Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY.

Skin

Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing and shoes before reuse. GET MEDICAL ATTENTION IMMEDIATELY.

Respiratory Tract

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer Basic Life Support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

Gastrointestinal

Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

c - Indication of immediate medical attention and special treatment needed, if necessary

5 - Fire-fighting measures

a - Suitable (and unsuitable) extinguishing media and

Use extinguishing media suitable for type of surrounding fire

c - Special Protective Equipment and Precautions for Firefighters

b - Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Sodium oxides, silicon oxides

6 - Accidental Release Measures

a - Personal precautions, protective equipment, and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

b - Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7 - Handling and storage

a - Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Avoid breathing aerosol mist. Wash thoroughly after handling.

b - Conditions for safe storage, including any incompatibilities

Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances.

c - empty containers

Product packaging may contain residue. Do not reuse.

8 - Risk Management Measures / Exposures Controls / Personal Protection

a - OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available

EXPOSURE GUIDELINES			
MAJOR COMPONENT	OSHA PEL	ACGIH TLV	MANUFACTURER'S REG
Sodium Silicate	Not Established	Not Established*	2 mg/m ³ (ceiling)
*Sodium Silicate Liquid Siliceous (all grades): 2 mg/m ³ (Ceiling (as NaOH)), Occupational Exposure Limit based on data from manufacturer).			
OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL): Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions. Check which exposure levels apply to your facility and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection.			

b - Appropriate Engineering Controls

Ventilation: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

c - Individual protection measures, such as personal protective equipment

PPE - Skin

CLOTHING

Wear protective clothing to minimize skin contact. Wear appropriate heat resistant clothing when potential exists for contact with liquids above 120°F (49°C).

GLOVES

Wear appropriate chemical resistant gloves.

PROTECTIVE MATERIAL TYPES

Butyl rubber, natural rubber, neoprene, nitrile.

PPE - Eye

Wear safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

PPE – Respiratory

A NIOSH approved respirator with N95 (dust, fume, mist) filters may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. A half facepiece air-purifying respirator may be used in concentrations up to 10X the acceptable exposure level and a full facepiece air-purifying respirator may be used in concentrations up to 50X the acceptable exposure level. Supplied air should be used when the level is expected to be above 50X the acceptable level, or when there is a potential for uncontrolled release. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

9 - Physical and chemical properties

a - Appearance	Liquid, clear to opaque; slippery to the touch; odorless, faint odor, soapy odor
b - Odor	Not applicable
c - Odor Threshold	Not applicable
e - pH	11 to 13
d - Melting Point	Not applicable
f - Initial Boiling Point/Range	214-216°F (101-102°C)
g - Flashpoint	Not applicable
h - Evaporation Rate	Not applicable
i - Flammability	Not applicable
j - Upper/Lower Flammability or Explosive Limits	Not applicable
k - VAPOR PRESSURE	Not applicable
l - VAPOR DENSITY	Not applicable
m - Solubility	100%
n - Relative Density	1.32 - 1.61
o - Partition Coefficient: n-Octanol/water	Not applicable
p - Auto-ignition temperature	Not applicable
q - Decomposition Temperature	Not applicable
r - Viscosity	Not applicable

10 - Stability and Reactivity

a - Reactivity

Not known.

b - Chemical Stability

Prolonged storage above 140°F (60°C). Contact with acids will cause gelling and evolution of heat.

c - Possibility of Hazardous Reaction

None

d - Conditions to Avoid

Prolonged storage above 140° F (60° C). Contact with acids will cause gelling and evolution of heat.

e - Incompatible Materials

Not known

f - Hazardous decomposition products

Hydrogen gas

11 - Toxicological information

a - TOXICOKINETICS, METABOLISM AND DISTRIBUTION

Inhalation may cause irritation of the respiratory tract, possibly with coughing, choking and pain either immediately or more often within 72 hours. Depending on the concentration and duration of exposure, repeated or prolonged exposure may cause inflammatory changes in the nose, sinuses and bronchial regions. Direct skin contact may cause irritation. Repeated or prolonged contact may result in dermatitis. Direct contact to eyes may cause severe irritation, pain and burns, possibly severe. The degree of injury depends on the concentration and duration of contact. The full extent of the injury may not be immediately apparent. Repeated or prolonged contact may result in conjunctivitis. Ingestion may cause irritation of the esophagus and gastrointestinal tract.

b - Acute Toxicity

Sodium Silicate:
Oral Rat LD50: 1960 mg/kg
Skin Rabbit LD50: >4640 mg/kg
Standard Draize Test: Skin Rabbit - 500 mg / 24 Hr severe; Eye Rabbit – 10 mg / 24 Hr severe.

c - Epidemiology

d - Toxicology

Frequent ingestion over extended periods of time of gram quantities of silicates is associated with the formation kidney stones and other siliceous urinary calculi in humans. When tested for primary eye irritation potential according to OECD Guidelines, Section 405, this material produced corneal, iridal and conjunctival irritation.

Some eye irritation was still present 14 days after treatment, although the average primary irritation score had declined from 19.7 after 1 day to 4.0 after 14 days. When tested for primary skin irritation potential, this material produced irritation with a primary irritation index of 3 to abraded skin and 0 to intact skin. Human experience confirms that irritation occurs when this material gets on clothes at the collar, cuffs or other areas where abrasion may occur.

The acute oral toxicity of this product has not been tested. When sodium silicates were tested on a 100% solids basis, their single dose acute oral LD50 in rats ranged from 1500 mg/kg to 3200 mg/kg. The acute oral lethality resulted from nonspecific causes. This product contains approximately 37.5% sodium silicate.

Subchronic Data: In a study of rats fed sodium silicate in drinking water for three months, at 200, 600 and 1800 ppm, changes were reported in the blood chemistry of some animals, but no specific changes to the organs of the animals due to sodium silicate administration were observed in any of the dosage groups. Another study reported adverse effects to the kidneys of dogs fed sodium silicate in their diet at 2.4g/kg/day for 4 weeks, whereas rats fed the same dosage did not develop any treatment-related effects. Decreased numbers of births and survival to weaning was reported for rats fed sodium silicate in their drinking water at 600 and 1200 ppm.

International Agency for Research on Cancer and National Toxicology Program

Not applicable.

12 - Ecological information

No data available.

c - Bioaccumulative potential

No information for the product.

d - Mobility in soil

No information for the product.

e - Other adverse effects (such as hazardous to the ozone layer)

No information available for the product.

13 - Disposal Considerations

Waste Management and Disposal

Contact a licensed disposal professional wastesposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Additional information

Empty containers should be recycled or disposed of through an approved waste management facility.

14 - Transport information

a - UN number.

Hazard Class: Not Regulated United Nations (UN) Number: Not Applicable
Labels: Not Applicable North America (NA) Number: Not Applicable
Placards: Not Applicable Bill of Lading: Product Name

b - UN proper shipping name

Not applicable.

c - Transport hazard class(es)

Not applicable.

d - Packing group, if applicable

Not applicable.

e - Environmental hazards (e.g., Marine pollutant (Yes/No))

No.

f - Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

Not regulated.

g - Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises

Not applicable.

International

INTERNATIONAL

Canadian TDG Hazard Class & PIN: Not regulated

Not classified as dangerous goods under ADR (road), RID (train), IATA (air) or IMDG (ship).

15 - Regulatory information

15.1 - United States Regulations

UNITED STATES REGULATIONS

SARA Title III: This product does not contain any substances reportable under Sections 302, 304, 313 (40 CFR 372). Sections 311 and 312 apply.

OSHA: Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103.

TSCA: All substances contained in this product are listed in the TSCA Chemical Inventory

15.2 - International Regulations

INTERNATIONAL REGULATIONS

Canadian WHMIS: Not a controlled product

Canadian EPA: All substances in this product are listed, as required, on the Domestic Substance List (DSL).

16 - Other Information

initial statement

Devitrification

Product Stewardship Program

Morgan Thermal Ceramics www.morganthermalceramics.com

HMIS HAZARD RATING

TECHNICAL DATA SHEETS

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Revision Summary

Revision date updated.

MSDS prepared by

SDS Prepared By: MORGAN THERMAL CERAMICS ENVIRONMENTAL, HEALTH & SAFETY DEPARTMENT

Disclaimer

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgment; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, Morgan Thermal Ceramics does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.