SAFETY DATA SHEET

Product name: HammerHead Point Repair Silicate Resin, Component B

Date: 09/21/2019

SECTION 1 - IDENTIFICATION

Product name: HammerHead Point Repair Silicate Resin, Component B
Intended Use of the Product: Urea-silicate grout
Recommended use: One component of a two-component reaction resin to form a urea-silicate grout for use in pipeline repair

Supplier Information:
HAMMERHEAD TRENCHLESS
500 South C.P. Avenue
Lake Mills, WI 53551 USA

Customer Information Phone: 920-648-4848

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: (Environmental Management) 800-510-8510

SECTION 2 - HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Skin corrosion / irritation	2	H315	Causes skin irritation
Skin sensitization	1	H317	May cause an allergic skin reaction
Serious eye damage / Eye irritation	2A	H319	Causes serious eye irritation
Respiratory sensitization	1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
Specific target organ toxicity (single exposure); Respiratory tract irritation	3	H335	May cause respiratory irritation
Specific target organ toxicity (repeated exposure)	2	H373	May cause damage to organs through prolonged or repeated exposure

Label elements
Hazard pictograms



GHS 07 GHS 08

Signal word: DANGER

Precautionary statements
Prevention

P261	Avoid breathing mist/vapors/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation wear respiratory protection.
Response	
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/soap/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON/CENTER/doctor.
Storage	
P405	Store locked up.
Disposal	
P501	Dispose of contents/ container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment, PBT: Not applicable, vPvB: Not applicable.
Other hazards not contributing to the Classification: None.
Unknown Acute Toxicity (GHS-US): Not available.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	EC #	Concentration, %
Diphenylmethanediisocyanate, isomers, and homologues	9016-87-9	---	60-100

A range of concentration as prescribed by the Controlled Products Regulations has been used where necessary, due to varying composition. Full text of H-phrases: see Section 16.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures
General advice: Never give anything by mouth to an unconscious person. If you feel unwell, seek medication advice (show the label if possible).
Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact: Remove contaminated clothing. Rinse off affected area with water and soap. Obtain medical attention if irritation develops or persists.
Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Immediately call a doctor/physician.
Ingestion: Rinse mouth. Do not induce vomiting. If spontaneous vomiting occurs, have victim lean forward with head positioned between legs to avoid breathing in of vomit, rinse mouth and have victim drink plenty of water. Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
General advice: Irritation can be serious. May cause allergic skin reaction and allergic respiratory reaction with asthma like symptoms and difficulty breathing.
Inhalation: Causes irritation to the respiratory tract. May cause allergy like asthma symptoms and breathing difficulties if inhaled.
Skin contact: Causes skin irritation. May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation.
Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic symptoms: Repeated and prolonged inhalation may damage lungs.

Indication of any immediate medical attention and special treatment needed
If exposed or concerned, get medical advice and attention.
Notes to physician: Symptomatic treatment, no special antidote known. For pulmonary edema prophylaxis:

dexamethasone aerosol.

SECTION 5 - FIREFIGHTING MEASURES

Suitable extinguishing media: Dry extinguishing agents, carbon dioxide, water sprays.
Unsuitable extinguishing media: None.

Special hazards arising from the substance or mixture
Fire Hazard: Not a flammable liquid but will burn if in fire.
Explosion Hazard: Product is not explosive.
Reactivity: One component of a two-component reaction resin to form a urea-silicate grout.

Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Firefighters should wear full protective gear.
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, nitrogen oxide, hydrocyanic acid, diphenylmethane-4,4'-diisocyanate.

Reference to Other Sections: Refer to Section 9 for flammability properties.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Do not get in eyes or on skin. As in all spills, minimize material from entering water systems.
For Non-Emergency Personnel
Protective Equipment: Use appropriate Personal Protective Equipment (PPE).
Emergency Procedures: Evacuate danger area.
For Emergency Personnel
Protective Equipment: Equip clean-up crew with proper protection.
Emergency Procedures: In the event of a spill or leak of material apply absorbent and scoop up material. As in all spills, minimize material from entering water systems.
Environmental Precautions
Avoid release to the environment.
Methods and Materials for Containment and Cleaning Up
For Containment: Absorb with liquid-binding material such as sand, diatomite, sawdust, universal absorbents.
Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely.
Reference to Other Sections
See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for Safe Handling
Additional Hazards When Processed: Good housekeeping is needed during storage, transfer, handling, and use of this material. Never add material to this product unless instructed by HammerHead.
Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

Conditions for safe storage: Store in a cool, dry place. Material is alkaline so avoid acids.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters
Exposure Controls
Appropriate Engineering Controls and Hygienic Measures: Emergency eye wash stations and safety showers

should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Keep away from foodstuffs, beverages and fee. Wash hands before breaks and at the end of work. Immediately remove all soiled and contaminated clothing.

Personal Protective Equipment: Gloves. Protective clothing. Safety glasses. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves (nitrile rubber, NGR or fluorocarbon rubber, Viton).

Eye Protection: Safety glasses or chemical goggles as appropriate to prevent eye contact.

Skin protection and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use NIOSH-approved respirator "dust mask" in dusty conditions or whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid
Color	Clear brown liquid
Odor	None
Odor Threshold	Not applicable
pH	Not applicable
Melting point/range	Not applicable
Freezing point	Not applicable
Boiling point (760 mmHg)	Not applicable
Flash point	>170°C (>338°F)
Evaporation Rate (Butyl Acetate =1)	Not applicable
Flammability (solid, gas)	Not applicable
Lower Flammable Limit	Not applicable
Upper Flammable Limit	Not applicable
Vapor Pressure	Not applicable
Relative Vapor Density at 20°C	Not applicable
Relative Density	1.2 g/cm3 (10.0 lbs/gal)
Solubility	Not miscible
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Viscosity	140 mPas at 20°C (68°F)
Explosion Data – Sensitivity to Mechanical Impact	Not applicable
Explosion Data – Sensitivity to Static Discharge	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: One component of a two-component reaction resin to form a urea-silicate grout.

Chemical stability: Stable under recommended handling and storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Hazardous reactions will not occur.

Conditions to avoid: Use of product in extremely high or low temperatures will affect set times.

Incompatible materials: Water leaking into unclosed containers or unbunged drums can react with the material and react to form a polyurea and release carbon dioxide that can build-up pressure and rupture the container or drum of closed.

Hazardous decomposition products: None.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute toxicity: Not toxic based on mixture ingredients
LD50 and LC50 Data: Oral >15,000 mg/kg (rat), Dermal >5000 mg/kg (rabbit), Inhalation 4 hr 490 mg/l (rat).
Skin Corrosion/Irritation: Causes skin irritation.
Serious Eye Damage/Irritation: Causes serious eye irritation.
Respiratory or Skin Sensitization: May cause asthma like symptoms or breathing difficulties if inhaled. Sensitization possible through inhalation and through skin contact.
Germ Cell Mutagenicity: Not classified.
Teratogenicity: No, based on mixture ingredients.
Carcinogenicity: No, based on mixture ingredients.
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: No, based on mixture ingredients.
Specific Target Organ Toxicity (Single Exposure): Not classified.
Aspiration Hazard: Not classified.
Symptoms/Injuries After Inhalation: Irritation to the respiratory tract.
Symptoms/Injuries After Skin Contact: Causes skin irritation.
Symptoms/Injuries After Eye Contact: Causes serious eye irritation. May lead to eye damage if not treated.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: Repeated and prolonged inhalation may damage lungs.

Information on Toxicological Effects – Ingredient(s)

LD50 and LC50 Data: Not available.

Note: The products in question have been evaluated against the Hazardous Products Regulations (WHMIS 2015) and no additional classifications, ingredient disclosure or exposure limits are required for those regulations.

SECTION 12 - ECOLOGICAL INFORMATION

Aquatic Toxicity: PMDI - EC50/4 hours >1000 mg/l (daphnia, OECD Guideline 202). EC50/72 hours >1640 mg/l (desmodesmus subspicatus, OECD Guideline 201). LC50/96 hours (danio rerio, OECD Guideline 203). NOEC/21 days >10 mg/l (daphnia, OECD Guideline 211)
Persistence and Degradability: Not available
Bioaccumulative Potential: Not available
Mobility in Soil: Not available
Other Adverse Effects: Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal methods: If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted Incinerator or other thermal destruction device.

SECTION 14 - TRANSPORT INFORMATION

Land transport, DOT	Not regulated
Sea transport, IMDG	Not regulated
Air transport, IATA/ICAO	Not regulated

In Accordance with TDG Not regulated

National Motor Freight Classification
NMFC Name: Chemicals, NOI **NMFC Number:** 43940 Sub2 Class: 85

Tariff Classification Number: 3909.50.1000

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations
HammerHead Point Repair Silicate Resin, Component B, one component of a two-component reaction resin to form a urea-silicate grout.
SARA Section 311/312 Hazard Classes: Immediate (acute) health hazard
US State Regulations: Not Available
Canadian Regulations
HammerHead Point Repair Silicate Resin, Component B
Class D Division 2 Subdivision A – Very toxic material causing other toxic effects.
Class D Division 2 Subdivision B – Toxic material causing other toxic effects.
Diphenylmethanediisocyanate, isomers and homologues CAS 9016-87-9
Listed on the Canadian DSL (Domestic Substances List) inventory.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

NFPA rating	Health: 1	Fire: 1	Reactivity: 0	Special: 0

SECTION 16 - OTHER INFORMATION

Other information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and the Hazardous Products Regulations (WHMIS 2015).

GHS Full Text Phrases: Based on individual ingredients and when the two components are mixed to form the urea-silicate grout. Refer to Section 2: Hazardous Identification for the Substance or Mixture.

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure.

Revision
Latest revision date: 09/21/2021 Footer Revision 05/01/2019 Emergency Contact Update
Date of previous revision: 05/01/2019 Emergency Contact Update

HAMMERHEAD TRENCHLESS urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate

expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The data set forth in this sheet are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. HammerHead Trenchless makes no warranty with respect to the accuracy of the information provided by their suppliers and disclaims all liability of reliance thereof. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

North America GHS US 2012 & Canada WHMIS 2015