BhorBond® CSA (Part B)

Safety Data Sheet

according to the United Nations GHS (Rev. 10, 2023)
Issue date: 4/30/2025 Revision date: 4/30/2025 Version: 1.0

SECTION 1: Identification

1.1. GHS Product identifier

Product form : Mixture
Product name : BhorBond® CSA (Part B)

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

Supplier
The Bhor Chemical & Plastics Pvt. Ltd.
Plot No. 1/2/3, Survey No. 6/1/1,
Vilholi Shiwar, Mumbai Nashik Highway,
Vilholi, Nashik – 422010, Maharashtra, India.
T +919323211362

1.5. Emergency phone number

Emergency number : +919323211362

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 4	H302
Acute toxicity (dermal), Category 4	H312
Skin corrosion/irritation, Category 1A	H314
Skin sensitisation, Category 1	H317

Full text of H-statements: see section 16

Adverse physicochemical, human health and environmental effects : Harmful in contact with skin,Harmful if swallowed,Causes severe skin burns and eye damage,May cause an allergic skin reaction.

2.2. GHS Label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS UN) :

Signal word (GHS UN) : Danger
Hazardous ingredients : 1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl-; Triethylenetetramine
Hazard statements (GHS UN) : H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction

Precautionary statements (GHS UN) : P260 - Do not breathe dusts or mists.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.
P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P317 - IF SWALLOWED: Get medical help.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P361+P354 - IF ON SKIN: Take off immediately all contaminated clothing.

Immediately rinse with water for several minutes.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P316 - Get emergency medical help immediately.
P317 - Get medical help.
P330 - Rinse mouth.
P333+P317 - If skin irritation or rash occurs: Get medical help.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P363 - Wash contaminated clothing before reuse.
P405 - Store locked up.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Cardanol	CAS-No.: 37330-39-5	10 – 70	Not classified
1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl-	CAS-No.: 25513-64-8	10 – 25	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Skin Sens. 1A, H317
Triethylenetetramine	CAS-No.: 112-24-3	1 – 5	Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Quartz	CAS-No.: 14808-60-7	0 – 1	Not classified

Full text of H-statements: see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Call a physician immediately. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Obtain medical attention if breathing difficulty persists.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately. Seek medical attention if ill effect or irritation develops.

First-aid measures after eye contact : Rinse immediately with plenty of water. Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately. Seek medical attention if ill effect or irritation develops.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after skin contact : Harmful in contact with skin. Burns. May cause an allergic skin reaction.

Symptoms/effects after eye contact : Serious damage to eyes.
Symptoms/effects after ingestion : Harmful if swallowed. Burns.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released. Thermal decomposition can lead to the release of irritating gases and vapours.

5.3. Special protective actions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate unnecessary personnel.
Personal Precautions, Protective Equipment and Emergency Procedures : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Prevention Measures for Secondary Accidents : Avoid release to the environment.

6.1.1. For non-emergency personnel

Protective equipment : Wear personal protective equipment. Wear suitable protective clothing. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Ventilate spillage area. Avoid contact with skin, eyes and clothing. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and materials for containment and cleaning up

For containment : Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel). Collect spillage.
Methods for cleaning up : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Provide good ventilation in process area to prevent formation of vapour. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use. Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Quartz (14808-60-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Silica crystaline (Quartz)
IOEL TWA	0.05 mg/m³ (respirable dust)
Remark	(Year of adoption 2003)
Regulatory reference	SCOEL Recommendations
USA - ACGIH - Occupational Exposure Limits	
Local name	Silica, crystalline, quartz
ACGIH OEL TWA	0.025 mg/m³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pulm fibrosis; lung cancer. Notations: A2 (Suspected Human Carcinogen)
ACGIH chemical category	Suspected Human Carcinogen
Regulatory reference	ACGIH 2025

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

Other information : Do not eat, drink or smoke during use.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment:

Wear protective gloves. Wear protective clothing. Wear foot protection. Wear a mask.

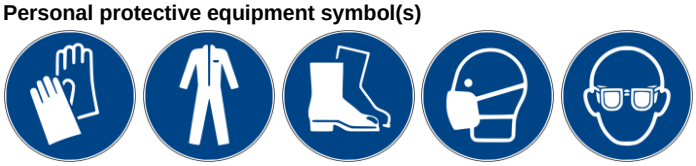
Hand protection : Impermeable protective gloves. protective gloves

Eye protection : Chemical goggles or safety glasses. Safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Wear suitable respiratory equipment in case of insufficient ventilation

Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Amber.
Odour	:	Slight ammoniacal.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	> 200 °C
Flammability	:	Not applicable
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 200 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	> 200 °C
pH	:	Not available
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	500 – 1304.348 mm^2/s
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	0.92 – 1 g/cm^3
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Solubility	:	Not available
Viscosity, dynamic	:	500 – 1200 cP
Particle size	:	Not applicable

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Provide earth leakage path in storage and working area to prevent the build-up of static charge.

10.5. Incompatible materials

Strong acids, strong alkalis, and strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide, water, and obnoxious toxic fumes of nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Harmful in contact with skin.

Acute toxicity (inhalation) : Not classified

BhorBond® CSA (Part B)	
ATE UN (oral)	566.964 mg/kg bodyweight
ATE UN (dermal)	1465.4 mg/kg bodyweight
Unknown acute toxicity (GHS UN)Unknown acute toxicity (GHS UN)	70% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 95% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 100% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
LD50 oral rat	910 mg/kg bodyweight Animal: rat, Animal sex: male

Triethylenetetramine (112-24-3)	
LD50 oral rat	1716.2 mg/kg (Source: ECHA_API)
LD50 dermal rabbit	1465.4 mg/kg (Source: ECHA_API)

Skin corrosion/irritation : Causes severe skin burns.

Serious eye damage/irritation : Assumed to cause serious eye damage

Respiratory or skin sensitization : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
LOAEL (oral, rat, 90 days)	60 mg/kg bodyweight Animal: rat
NOAEL (oral, rat, 90 days)	10 mg/kg bodyweight Animal: rat

Aspiration hazard : Not classified

BhorBond® CSA (Part B)	
Viscosity, kinematic	500 – 1304.348 mm²/s

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short–term (acute) : Not classified

Hazardous to the aquatic environment, long–term (chronic) : Not classified

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
LC50 - Fish [1]	46.123 mg/l Source: EPISUITE

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
EC50 72h - Algae [1]	43.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	1.644 mg/l Source: EPISUITE
LOEC (chronic)	1.02 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	1.02 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 10.9 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '30 d'

Triethylenetetramine (112-24-3)	
LC50 - Fish [1]	570 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static] Source: IUCLID)
LC50 - Fish [2]	495 mg/l (Exposure time: 96 h - Species: Pimephales promelas Source: IUCLID)
EC50 - Crustacea [1]	31.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 72h - Algae [1]	2.5 mg/l (Species: Desmodesmus subspicatus)
EC50 72h - Algae [2]	20 mg/l (Species: Pseudokirchneriella subcapitata)
EC50 96h - Algae [1]	3.7 mg/l (Species: Pseudokirchneriella subcapitata)

12.2. Persistence and degradability

BhorBond® CSA (Part B)	
Persistence and degradability	Rapidly degradable

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
Persistence and degradability	Rapidly degradable

Triethylenetetramine (112-24-3)	
Persistence and degradability	Rapidly degradable

Quartz (14808-60-7)	
Persistence and degradability	Rapidly degradable

Cardanol (37330-39-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

BhorBond® CSA (Part B)	
Bioaccumulative potential	No additional information available

1,6-Hexanediamine, 2,2,4(or 2,4,4)-trimethyl- (25513-64-8)	
Partition coefficient n-octanol/water (Log Pow)	-0.3 (at 25 °C (at pH 7.5)

Triethylenetetramine (112-24-3)	
BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	-1.4

12.4. Mobility in soil

BhorBond® CSA (Part B)	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available
Effect on the ozone layer : No additional information available.
Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations : Dispose of in a safe manner in accordance with local/national regulations.
Ecological waste information : Avoid release to the environment.

SECTION 14: Transport information

In accordance with UN RTDG / IMDG / IATA /

UN RTDG	IMDG	IATA
14.1. UN number		
2327	2327	2327
14.2. UN Proper Shipping Name		
TRIMETHYLHEXAMETHYLENEDIAMINES	TRIMETHYLHEXAMETHYLENEDIAMINES	Trimethylhexamethylenediamines
14.3. Transport hazard class(es)		
8	8	8
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

UN RTDG

Limited quantities (UN RTDG) : 5L
Excepted quantities (UN RTDG) : E1
Packing instruction (UN RTDG) : P001, IBC03, LP01
Portable tank and bulk container special instructions (UN RTDG) : T4
Portable tank and bulk container special provisions (UN RTDG) : TP1

IMDG

Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1

EmS-No. (Fire)	:	F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	:	S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG)	:	A
Segregation (IMDG)	:	SG35
Properties and observations (IMDG)	:	Colourless, slightly hygroscopic, combustible liquids. Miscible with water. Irritating to skin, eyes and mucous membranes.

IATA

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y841
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	852
PCA max net quantity (IATA)	:	5L
CAO packing instructions (IATA)	:	856
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A803
ERG code (IATA)	:	8L

14.7. Transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

No additional information available

SECTION 16: Other information

Issue date	:	4/30/2025
Revision date	:	4/30/2025
Other information	:	None.

Full text of H-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1A	Skin sensitisation, category 1A
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H412	Harmful to aquatic life with long lasting effects

Safety Data Sheet (SDS), UN

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.