BhorBond® EPCH (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® EPCH (Part B)

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Epoxy Saturant

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 1	H314
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

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,Very toxic to aquatic life with long lasting effects.

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 : 2-piperazin-1-ylethylamine; Amides, from tall-oil fatty acids and tetraethylenepentamine; 2,4,6-Tri(dimethylaminomethyl)phenol
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
H410 - Very toxic to aquatic life with long lasting effects
Precautionary statements (GHS UN) : P260 - Do not breathe dusts or mists.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapours.
P264 - Wash hands hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
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+P352 - IF ON SKIN: Wash with plenty of soap and water.
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.
P321 - Specific treatment (see supplemental first aid instruction on this label).
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.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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
2-piperazin-1-ylethylamine	CAS-No.: 140-31-8	40 – 80	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Amides, from tall-oil fatty acids and tetraethylenepentamine	CAS-No.: 68155-17-9	10 – 30	Skin Corr. 1C, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2,4,6-Tri(dimethylaminomethyl)phenol	CAS-No.: 90-72-2	1 – 3	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Eye Dam. 1, H318
3,4,5-Trihydroxybenzoic acid	CAS-No.: 149-91-7	1 – 3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

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.
Packages and containers:	:	Laminated HDPE Woven Sack with HM-HDPE Liner or Fiber Drums with HM-HDPE Liner or Multi-ply Paper Bags with HM-HDPE Liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

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	:	Transparent.
Odour	:	Slight ammoniacal.
Odour threshold	:	Not available
Melting point	:	Not available
Freezing point	:	Not available
Boiling point	:	> 200 °C
Flammability	:	Not flammable
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	> 200 °C
Auto-ignition temperature	:	Not available
Decomposition temperature	:	> 200 °C
pH	:	≈ 13 at 20 °C
pH solution	:	Not available
Viscosity, kinematic (calculated value) (40 °C)	:	Not available
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	Not available
Vapour pressure at 50°C	:	Not available
Density	:	0.94 – 0.95 g/cm³
Relative density	:	Not available
Relative vapour density at 20°C	:	Not available
Solubility	:	Not available
Viscosity, dynamic	:	< 100 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 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 (Based on available data, the classification criteria are not met)

BhorBond® EPCH (Part B)	
ATE UN (oral)	500 mg/kg bodyweight
ATE UN (dermal)	1100 mg/kg bodyweight
Unknown acute toxicity (GHS UN)Unknown acute toxicity (GHS UN)	33% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 33% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 116% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

2-piperazin-1-ylethylamine (140-31-8)	
LD50 oral rat	≈ 2097 mg/kg bodyweight Animal: rat, Animal sex: male
LD50 oral	1470 mg/kg
LD50 dermal rabbit	866 mg/kg bodyweight Animal: rabbit, Animal sex: male
LD50 dermal	880 mg/kg

2,4,6-Tri(dimethylaminomethyl)phenol (90-72-2)	
LD50 oral rat	1200 mg/kg (Source: NLM_CIP)
LD50 dermal rat	1280 mg/kg (Source: NLM_CIP)

3,4,5-Trihydroxybenzoic acid (149-91-7)	
LD50 dermal rabbit	5000 mg/kg Source: HSDB

Skin corrosion/irritation : Causes severe skin burns.
pH: ≈ 13
Serious eye damage/irritation : Assumed to cause serious eye damage
pH: ≈ 13
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

3,4,5-Trihydroxybenzoic acid (149-91-7)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

2,4,6-Tri(dimethylaminomethyl)phenol (90-72-2)	
NOAEL (oral, rat, 90 days)	15 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Guideline: EU Method B.26 (Sub-Chronic Oral Toxicity Test: Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

BhorBond® EPCH (Part B)	
Viscosity, kinematic	105.263 – 106.383 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) : Very toxic to aquatic life.

Classification procedure (Hazardous to the aquatic environment, short–term (acute)) : Calculation method

Hazardous to the aquatic environment, long–term (chronic) : Very toxic to aquatic life with long lasting effects.

Classification procedure (Hazardous to the aquatic environment, long–term (chronic)) : Calculation method

2-piperazin-1-ylethylamine (140-31-8)	
LC50 - Fish [1]	2190 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	> 1000 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static] Source: IUCLID)
EC50 - Crustacea [1]	58 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 1000 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)

Amides, from tall-oil fatty acids and tetraethylenepentamine (68155-17-9)	
EC50 96h - Algae [1]	0.211 mg/l Source: EPISUITE

2,4,6-Tri(dimethylaminomethyl)phenol (90-72-2)	
LC50 - Fish [1]	447.821 mg/l
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	46.7 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	25.5 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
EC50 96h - Algae [1]	34.812 mg/l Source: ECOSAR

3,4,5-Trihydroxybenzoic acid (149-91-7)	
LC50 - Fish [1]	1259 mg/l Source: ECOSAR
EC50 96h - Algae [1]	8623 mg/l Source: ECOSAR

12.2. Persistence and degradability

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

2-piperazin-1-ylethylamine (140-31-8)	
Persistence and degradability	Not rapidly degradable

Amides, from tall-oil fatty acids and tetraethylenepentamine (68155-17-9)	
Persistence and degradability	Rapidly degradable

2,4,6-Tri(dimethylaminomethyl)phenol (90-72-2)	
Persistence and degradability	Rapidly degradable

3,4,5-Trihydroxybenzoic acid (149-91-7)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

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

2-piperazin-1-ylethylamine (140-31-8)	
BCF - Fish [1]	(no bioaccumulation expected)
Partition coefficient n-octanol/water (Log Pow)	-1.48 (at 20 °C (at pH >11)

Amides, from tall-oil fatty acids and tetraethylenepentamine (68155-17-9)	
Partition coefficient n-octanol/water (Log Pow)	4.42 Source: EPISUITE, estimate

2,4,6-Tri(dimethylaminomethyl)phenol (90-72-2)	
Partition coefficient n-octanol/water (Log Pow)	0.77

12.4. Mobility in soil

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

Amides, from tall-oil fatty acids and tetraethylenepentamine (68155-17-9)	
Mobility in soil	1555

12.5. Other adverse effects

Ozone : Not classified (Based on available data, the classification criteria are not met)
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

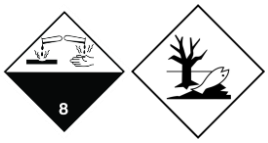
13.1. Disposal methods

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

UN RTDG	IMDG	IATA
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
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 Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
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.