Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity	2213-A
Alternate Names	Epoxy Adhesive for Composite Pipe Bonding
Unique Formula Identifier	

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended Uses and Uses Advised Against	See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name	Swancor Highpolymer Co., Ltd. No. 9, Gongye S. 6th Rd., Nantou City, Nantou County 540028, Taiwan (R.O.C.)
Customer Service:	+886-49-225-5420

1.4. Emergency telephone number

Emergency **24 hour Emergency Telephone No.**	+886-49-225-5420

Section 2. Hazard identification of the product

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin corrosion/irritation category 2;H315	Causes skin irritation.
Serious eye damage / eye irritation, category 2;H319	Causes serious eye irritation.
Skin sensitizer category 1;H317	May cause an allergic skin reaction.
Aquatic toxicity (chronic), category 2;H411	Toxic to aquatic life with long lasting effects.

2.2. Label elements

According to REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006

Warning

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.

P273 Avoid release to the environment.
P391 Collect spillage.
P261 Avoid breathing dust, fume, gas, mist, vapors, spray.
P280 Wear protective gloves, eye protection, and face protection.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P333+313 If skin irritation or a rash occurs: Get medical advice or attention.

2.3. Other hazards

This product contains no PBT/vPvB chemicals.
This product contains no endocrine disrupting chemicals.

Section 3. Composition/information on ingredients

3.2. Mixtures

If the product contains substances that present a hazard according to Regulation (EC) No. 1272/2008 [CLP/GHS], they are listed below.

Ingredient/Chemical Designations	Weight %	EC No. 1272/2008 Classification*	Notes
Diglycidyl ether of bisphenol A CAS Number: 25068-38-6 EC No. 500-033-5 Index No.: 603-074-00-8 REACH #: 01-2119456619-26-x	25 - 50	Serious eye damage / eye irritation, category 2;H319: C ≥ 5 % Skin corrosion/irritation category 2;H315: C ≥ 5 % Skin sensitizer category 1;H317 Aquatic toxicity (chronic), category 2;H411	Chronic M-Factor: 1
Bisphenol F epoxy resin CAS Number: 28064-14-4 EC No. 608-164-0 Index No.: REACH #:	25 - 50	Skin corrosion/irritation category 2;H315 Serious eye damage / eye irritation, category 2;H319 Skin sensitizer category 1;H317 Aquatic toxicity (chronic), category 2;H411	Chronic M-Factor: 1
Barium sulfate CAS Number: 7727-43-7 EC No. 231-784-4 Index No.: REACH #: 01-2119491274-35-x	10 - 25	Not Classified	Acute M-Factor: 1
Calcium carbonate CAS Number: 471-34-1 EC No. 207-439-9 Index No.: REACH #: 01-2119486795-18-x	10 - 25	Not Classified	Acute M-Factor: 1
Amorphous silica, hydrophobic CAS Number: 67762-90-7 EC No. 614-122-2 Index No.: REACH #:	1 - 5	Not Classified	

Reference EC No. 1272/2008 1.1.3.1. Notes relating to the identification, classification and labelling of substances (Table 3.1).
*PBT/vPvB - PBT-substance or vPvB-substance.
The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eye Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart

and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
Treat symptomatically. See section 2 for further details.

Inhalation

Eye Causes serious eye irritation.

Skin May cause an allergic skin reaction. Causes skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation or a rash occurs: Get medical advice or attention. If eye irritation persists: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO , powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Carbon monoxide, carbon dioxide, aldehydes, and various compounds from incomplete combustion.

Avoid breathing dust, fume, gas, mist, vapors, spray.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area.

Wear SCBA during clean-up immediately after fire. No smoking.
At higher temperature vapors can cause pressure buildup in sealed containers. Use water to cool containers exposed to fire. Self-contained respirator equipment and full protective clothing required when smoke or fumes are generated. Electrical grounding not recommended.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).
Avoid breathing dust, fume, gas, mist, vapors, spray. Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
Avoid release to the environment. Collect spillage. Dispose of contents or container in accordance with local and national regulations.

6.3. Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.
Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite.
Place in closed containers outside buildings and dispose of according to the Waste Regulations.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

Section 7. Handling and storage

7.1. Precautions for safe handling

Handle containers carefully to prevent damage and spillage.

Wear protective gloves, eye protection, and face protection.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials: Strong acids, strong bases. Amines and mercaptains may initiate possible hazardous polymerization.

7.3. Specific end use(s)

No available information

Section 8. Exposure controls / personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
471-34-1	Calcium carbonate	ACGIH	No Established Limit
DNEL Local Exposure	6.36 mg/m		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		
7727-43-7	Barium sulfate	ACGIH	TWA: 10 mg/m
DNEL Local Exposure	10 mg/m		
DNEL Systematic Exposure	10 mg/m		
National	No Established Limit		
25068-38-6	Diglycidyl ether of bisphenol A	ACGIH	No Established Limit
DNEL Local Exposure	No Established Limit		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		
28064-14-4	Bisphenol F epoxy resin	ACGIH	No Established Limit
DNEL Local Exposure	No Established Limit		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		
67762-90-7	Amorphous silica, hydrophobic	ACGIH	No Established Limit
DNEL Local Exposure	No Established Limit		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		

8.2. Exposure controls

Respiratory If workers are exposed to concentrations above the exposure limit they must use

	the appropriate, certified respirators.
Eyes	Protective safety glasses recommended
Skin	Avoid skin contact. Use chemical resistant gloves classified under Standard EN 374: Protective gloves against chemicals and micro-organisms. Recommended: Viton or Nitrile gloves. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/ specifications provided by the glove supplier. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Paste
Color	Black
Odor	No available information
Melting point / freezing point	No available information
Initial boiling point and boiling range	No available information
Flammability (solid, gas)	No available information
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** No available

	information **Upper Explosive Limit:** No available information
Flash Point	200℃, Test method: (Close cup)
Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	No available information
Viscosity (cSt)	600,000~1,000,000 cps at 25℃
Solubility in Water	No available information
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	<10Pa at 20℃
Relative Density	1.55~1.75g/cm3 at 25℃
Vapor Density	No available information
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information
Explosive properties	No available information

9.2. Other information

No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity

Hazardous polymerization may occur if product is not handled as per instructions.

10.2. Chemical stability

This product requires another product to react at room temperature. Mix and use product in accordance with directions for safety. Excessive heat and fume generation can occur if improperly handled. Not sensitive to mechanical impact.

10.3. Possibility of hazardous reactions

No available information

10.4. Conditions to avoid

Avoid high temperatures and contact with incompatible material

10.5. Incompatible materials

Strong acids, strong bases. Amines and mercaptains may initiate possible hazardous polymerization.

10.6. Hazardous decomposition products

Carbon monoxide, carbon dioxide, aldehydes, and various compounds from incomplete combustion.

Section 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Based on the properties of the epoxy constituents and considering toxicological data on similar preparations this preparation may be an irritant and a skin and respiratory sensitizer. Low molecular weight epoxy constituents are irritating to eyes, mucous membranes and skin. Repeated skin contact may lead to irritation and sensitization, possibly with cross-sensitization to other epoxies. Skin contact with the preparation and exposure to spray mist and vapor should be avoided.

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Calcium carbonate - (471-34-1)	>2,000.00, Rat - Category: 5	>2,000.00, Rat - Category: 5	No data available.	No data available.	No data available.
Barium sulfate - (7727-43-7)	3,000.00, Mouse - Category: 5	No data available.	No data available.	No data available.	No data available.
Diglycidyl ether of bisphenol A - (25068-38-6)	> 2,000.00, Rat - Category: NA	No data available.	No data available.	No data available.	No data available.
Bisphenol F epoxy resin - (28064-14-4)	No data available.	No data available.	No data available.	No data available.	No data available.
Amorphous silica, hydrophobic - (67762-90-7)	No data available.	No data available.	No data available.	No data available.	No data available.

Classification	Category	Hazard Description
Acute toxicity (oral)	---	---

Acute toxicity (dermal)	---	---
Acute toxicity (inhalation)	---	---
Skin corrosion/irritation	2	Causes skin irritation.
Serious eye damage/irritation	2	Causes serious eye irritation.
Respiratory sensitization	---	---
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	---	---
Carcinogenicity	---	---
Reproductive toxicity	---	---
STOT-single exposure	---	---
STOT-repeated exposure	---	---
Aspiration hazard	---	---

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

This product contains no endocrine disrupting chemicals.

Section 12. Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L	3hr IC50 Bacteria mg/L	Biodegradability %
Calcium carbonate - (471-34-1)	>100.00, Oncorhynchus mykiss	>100.00, Daphnia magna	No data available.	>1,000.00	90.00
Barium sulfate - (7727-43-7)	59,000.00, Poecilia sphenops	32.00, Daphnia magna	No data available.	---	---
Diglycidyl ether of bisphenol A - (25068-38-6)	No data available.	2.00, Daphnia magna	No data available.	---	ca. 5.00
Bisphenol F epoxy resin - (28064-14-4)	No data available.	No data available.	No data available.	---	---

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L	3hr IC50 Bacteria mg/L	Biodegradability %
Amorphous silica, hydrophobic - (67762-90-7)	No data available.	No data available.	No data available.	---	Not readily biodegradable

12.2. Persistence and degradability
There is no data available on the preparation itself.
12.3. Bioaccumulative potential
No available information
12.4. Mobility in soil
No available information
12.5. Results of PBT and vPvB assessment
This product contains no PBT/vPvB chemicals.
12.6 Endocrine disrupting properties
This product contains no endocrine disrupting chemicals.

12.7. Other adverse effects
No available information

Section 13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

	ADR/RID	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN3082	UN3082	UN3082
14.2. UN proper shipping name	Environmentally hazardous substances, liquid, n.o.s. (Phenol Novolak Epoxy Resin)	Environmentally hazardous substances, liquid, n.o.s. (Phenol Novolak Epoxy Resin)	Environmentally hazardous substances, liquid, n.o.s. (Phenol Novolak Epoxy Resin)
14.3. Transport hazard class(es)	**DOT Hazard Class:** 9 **Sub Class:** Not Applicable	**IMDG:** 9 **Sub Class:** Not Applicable	**Air class:** 9 **Sub Class:** Not Applicable
14.4. Packing group	III	III	III

14.5. Environmental hazards

Marine Pollutant: Yes; (Diglycidyl ether of bisphenol A)

14.6. Special precautions for user

No available information

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not Applicable

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Legislation

REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). REGULATION (EC) 1272/2008 on the classification, labeling and packaging of substances and mixtures (CLP).

National Legislation

None noted.

SVHC Ingredient: Not Applicable

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain

dangerous substances, mixtures and articles: Not Applicable

15.2. Chemical Safety Assessment
No Chemical Safety Assessment has been carried out.

Section 16. Other information

Revision Date 29/1/2024

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - International Carriage of Dangerous Goods by Road (Accord Dangereux Routier)
CAS - Chemical Abstract Service
CLP - Classification Labeling and Packaging
DOT - Department of Transportation
EC50 - European Commission
EC50 - Half maximal effective concentration
ErC50 - The concentration of test substance which results in a 50 percent reduction in growth rate (ErC50) relative to the control within 72hrs exposure.
GHS - Globally Harmonized System
IARC - International Agency for Research on Cancer

IATA - International Civil Aviation Organization
IC50 - The amount of a substance suspended in the air required to kills 50% of a test animals during a predetermined observation period.
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IMO - International Maritime Organization
LC50 - Is the Lethal Concentration of a substance at which 50% of test animals die.
LD50 - Is the Lethal Dose at which 50% of the animals will be expected to die.
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent, Bioaccumulative and Toxic Chemicals
PEL - Permissible Exposure Limit
REACH - Registration, Evaluation, Authorization and Restriction of Chemicals
RID - Regulations concerning the international carriage of dangerous goods by rail)
STEL - Short Term Exposure Limit
TWA - Time Weighted Average
vPvB - Very Persistent and very Bio-accumulative
WGK - Water Hazard Class

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin corrosion/irritation category 2;H315	Calculation method
Serious eye damage / eye irritation, category 2;H319	Calculation method
Skin sensitizer category 1;H317	Calculation method
Aquatic toxicity (chronic), category 2;H411	Calculation method

End of Document

Section 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Identity SWANCOR 2213-B
Alternate Names Epoxy Adhesive for Composite Pipe Bonding
Unique Formula Identifier

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended Uses and Uses Advised Against See Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name Swancor Highpolymer Co., Ltd.
No. 9, Gongye S. 6th Rd.,
Nantou City, Nantou County 540028,
Taiwan (R.O.C.)
Customer Service: +886-49-225-5420

1.4. Emergency telephone number

Emergency
24 hour Emergency Telephone No. +886-49-225-5420

Section 2. Hazard identification of the product

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin corrosion/irritation category 1B;H314	Causes severe skin burns and eye damage.
Serious eye damage / eye irritation, category 1;H318	Causes serious eye damage.
Skin sensitizer category 1;H317	May cause an allergic skin reaction.
Aquatic toxicity (chronic), category 3;H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

According to REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006

Danger

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

P260 Do not breathe dust, fume, mist, vapors or spray.
P273 Avoid release to the environment.
P301+310 IF SWALLOWED: Immediately call a POISON CENTER, doctor or physician.
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+352 IF ON SKIN: Wash with plenty of soap and water.
P312 Call a POISON CENTER, doctor or physician if you feel unwell.

2.3. Other hazards

This product contains no PBT/vPvB chemicals.
This product contains no endocrine disrupting chemicals.

Section 3. Composition/information on ingredients

3.2. Mixtures

If the product contains substances that present a hazard according to Regulation (EC) No. 1272/2008 [CLP/GHS], they are listed below.

Ingredient/Chemical Designations	Weight %	EC No. 1272/2008 Classification*	Notes
Triethylene tetramine CAS Number: 112-24-3 EC No. 203-950-6 Index No.: 612-059-00-5 REACH #:	50 - 75	Acute toxicity(dermal), category 4;H312 Skin corrosion/irritation category 1B;H314 Skin sensitizer category 1;H317 Aquatic toxicity (chronic), category 3;H412	Chronic M-Factor: 1
Barium sulfate CAS Number: 7727-43-7 EC No. 231-784-4 Index No.: REACH #: 01-2119491274-35-x	25 - 50	Not Classified	Acute M-Factor: 1
Calcium carbonate CAS Number: 471-34-1 EC No. 207-439-9 Index No.: REACH #: 01-2119486795-18-x	10 - 25	Not Classified	Acute M-Factor: 1
Amorphous silica, hydrophobic CAS Number: 67762-90-7 EC No. 614-122-2 Index No.: REACH #:	5 - 10	Not Classified	

Reference EC No. 1272/2008 1.1.3.1. Notes relating to the identification, classification and labelling of substances (Table 3.1).
*PBT/vPvB - PBT-substance or vPvB-substance.
The full texts of the phrases are shown in Section 16.

Section 4. First aid measures

4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious, place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

Eye Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Overview No specific symptom data available.
Treat symptomatically. See section 2 for further details.
Inhalation
Eye Causes serious eye damage.
Skin May be harmful in contact with skin. May cause an allergic skin reaction. Causes severe skin burns and eye damage.
Ingestion May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. IF SWALLOWED: Immediately call a POISON CENTER, doctor or physician. IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove, take off immediately all contaminated clothing. Rinse skin with water, shower. IF INHALED: Call a poison center or doctor or physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER, doctor or physician. Call a POISON CENTER, doctor or physician if you feel unwell. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If skin irritation or a rash occurs: Get medical advice or attention. Remove person to fresh air and keep comfortable for breathing. Take off contaminated clothing and wash it before reuse. Wash contaminated clothing before reuse.

Section 5. Fire-fighting measures

5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO , powder, water spray.
Unsuitable extinguishing media: Do not use; water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Do not breathe dust, fume, mist, vapors or spray.

5.3. Advice for fire-fighters

As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

Section 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).
Do not breathe dust, fume, mist, vapors or spray. Wash thoroughly after handling.
Contaminated work clothing should not be allowed out of the workplace.

6.2. Environmental precautions

Do not allow spills to enter drains or waterways.
Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.
Avoid release to the environment. Dispose of contents or container in accordance with local and national regulations.

6.3. Methods and material for containment and cleaning up

Ventilate the area and avoid breathing vapors. Take the personal protective measures listed in section 8.
Contain and absorb spillage with non-combustible materials e.g. sand, earth, and vermiculite.
Place in closed containers outside buildings and dispose of according to the Waste Regulations.

6.4 Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

Section 7. Handling and storage

7.1. Precautions for safe handling
Handle containers carefully to prevent damage and spillage.
Wear protective gloves, protective clothing, eye protection, face protection.

7.2. Conditions for safe storage, including any incompatibilities
Incompatible materials: No available information
Store locked up.

7.3. Specific end use(s)
No available information

Section 8. Exposure controls / personal protection

8.1. Control parameters

Exposure

CAS No.	Ingredient	Source	Value
112-24-3	Triethylene tetramine	ACGIH	No Established Limit
DNEL Local Exposure	No Established Limit		
DNEL Systematic Exposure	1 mg/m		
National	No Established Limit		
471-34-1	Calcium carbonate	ACGIH	No Established Limit
DNEL Local Exposure	6.36 mg/m		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		
7727-43-7	Barium sulfate	ACGIH	TWA: 10 mg/m
DNEL Local Exposure	10 mg/m		
DNEL Systematic Exposure	10 mg/m		
National	No Established Limit		
67762-90-7	Amorphous silica, hydrophobic	ACGIH	No Established Limit
DNEL Local Exposure	No Established Limit		
DNEL Systematic Exposure	No Established Limit		
National	No Established Limit		

8.2. Exposure controls

Respiratory	If workers are exposed to concentrations above the exposure limit they must use the appropriate, certified respirators.
Eyes	Wear safety glasses with side shields to protect the eyes. An eye wash station is suggested as a good workplace practice.
Skin	Avoid skin contact. Use chemical resistant gloves classified under Standard EN 374: Protective gloves against chemicals and micro-organisms. Recommended: Viton or Nitrile gloves. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/ specifications provided by the glove supplier. Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.
Engineering Controls	Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits suitable respiratory protection must be worn.
Other Work Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details.

Section 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State	Paste
Color	White
Odor	No available information

Melting point / freezing point	No available information
Initial boiling point and boiling range	No available information
Flammability (solid, gas)	No available information
Upper/lower flammability or explosive limits	**Lower Explosive Limit:** No available information **Upper Explosive Limit:** No available information
Flash Point	>100℃, Test method: (Close cup)
Auto-ignition temperature	No available information
Decomposition temperature	No available information
pH	No available information
Viscosity (cSt)	100,000~400,000cps at 20℃
Solubility in Water	No available information
Partition coefficient n-octanol/water (Log Kow)	No available information
Vapor pressure (Pa)	No available information
Relative Density	1.20~1.40g/cm3 at 20℃
Vapor Density	No available information
Evaporation rate (Ether = 1)	No available information
Oxidising properties	No available information
Explosive properties	No available information

9.2. Other information
No other relevant information.

Section 10. Stability and reactivity

10.1. Reactivity
Hazardous Polymerization will not occur.
10.2. Chemical stability
Stable under normal circumstances.
10.3. Possibility of hazardous reactions
No available information
10.4. Conditions to avoid
Avoid high temperatures and contact with incompatible material
10.5. Incompatible materials
No available information
10.6. Hazardous decomposition products
No hazardous decomposition data available.

Section 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapour LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Triethylene tetramine - (112-24-3)	1,861.90, Rat - Category: NA	1,465.40, Rabbit - Category: 4	No data available.	No data available.	No data available.
Calcium carbonate - (471-34-1)	>2,000.00, Rat - Category: 5	>2,000.00, Rat - Category: 5	No data available.	No data available.	No data available.
Barium sulfate - (7727-43-7)	3,000.00, Mouse - Category: 5	No data available.	No data available.	No data available.	No data available.
Amorphous silica, hydrophobic - (67762-90-7)	No data available.	No data available.	No data available.	No data available.	No data available.

Classification	Category	Hazard Description
Acute toxicity (oral)	5	May be harmful if swallowed.
Acute toxicity (dermal)	5	May be harmful in contact with skin.
Acute toxicity (inhalation)	---	---
Skin corrosion/irritation	1B	Causes severe skin burns and eye damage.
Serious eye damage/irritation	1	Causes serious eye damage.
Respiratory sensitization	---	---
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity	---	---
Carcinogenicity	---	---
Reproductive toxicity	---	---
STOT-single exposure	---	---

STOT-repeated exposure	---	---
Aspiration hazard	---	---

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

This product contains no endocrine disrupting chemicals.

Section 12. Ecological information

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/L	48 hr EC50 crustacea, mg/L	ErC50 algae, mg/L	3hr IC50 Bacteria mg/L	Biodegradability %
Triethylene tetramine - (112-24-3)	No data available.	No data available.	No data available.	---	---
Calcium carbonate - (471-34-1)	>100.00, Oncorhynchus mykiss	>100.00, Daphnia magna	No data available.	>1,000.00	90.00
Barium sulfate - (7727-43-7)	59,000.00, Poecilia sphenops	32.00, Daphnia magna	No data available.	---	---
Amorphous silica, hydrophobic - (67762-90-7)	No data available.	No data available.	No data available.	---	Not readily biodegradable

12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

No available information

12.4. Mobility in soil

No available information

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6 Endocrine disrupting properties

This product contains no endocrine disrupting chemicals.

12.7. Other adverse effects
No available information

Section 13. Disposal considerations

13.1. Waste treatment methods
Observe all federal, state and local regulations when disposing of this substance.

Section 14. Transport information

	ADR/RID	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN2735	UN2735	UN2735
14.2. UN proper shipping name	Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s. (Triethyleentetramine)	Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s. (Triethyleentetramine)	Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s. (Triethyleentetramine)
14.3. Transport hazard class(es)	**DOT Hazard Class:** 8 **Sub Class:**	**IMDG:** 8 **Sub Class:**	**Air class:** 8 **Sub Class:**
14.4. Packing group	III	III	III

14.5. Environmental hazards

Marine Pollutant: ;
14.6. Special precautions for user
No available information
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not Applicable

Section 15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Legislation
REGULATION (EU) 2020/878 amending Regulations EU 2015/830 and (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). REGULATION (EC) 1272/2008 on the classification, labeling and packaging of substances and mixtures (CLP).

National Legislation
None noted.

SVHC Ingredient: Not Applicable

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles: Not Applicable

15.2. Chemical Safety Assessment
No Chemical Safety Assessment has been carried out.

Section 16. Other information

Revision Date 30/1/2024

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

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.

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - International Carriage of Dangerous Goods by Road (Accord Dangereux Routier)
CAS - Chemical Abstract Service
CLP - Classification Labeling and Packaging
DOT - Department of Transportation
EC50 - European Commission
EC50 - Half maximal effective concentration
ErC50 - The concentration of test substance which results in a 50 percent reduction in growth rate (ErC50) relative to the control within 72hrs exposure.
GHS - Globally Harmonized System
IARC - International Agency for Research on Cancer
IATA - International Civil Aviation Organization
IC50 - The amount of a substance suspended in the air required to kills 50% of a test animals during a predetermined observation period.
ICAO - International Civil Aviation Organization
IMDG - International Maritime Dangerous Goods
IMO - International Maritime Organization
LC50 - Is the Lethal Concentration of a substance at which 50% of test animals die.
LD50 - Is the Lethal Dose at which 50% of the animals will be expected to die.
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety and Health Administration
PBT - Persistent, Bioaccumulative and Toxic Chemicals
PEL - Permissible Exposure Limit
REACH - Registration, Evaluation, Authorization and Restriction of Chemicals
RID - Regulations concerning the international carriage of dangerous goods by rail)
STEL - Short Term Exposure Limit
TWA - Time Weighted Average
vPvB - Very Persistent and very Bio-accumulative
WGK - Water Hazard Class

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin corrosion/irritation category 1B;H314	Calculation method
Serious eye damage / eye irritation, category 1;H318	Calculation method
Skin sensitizer category 1;H317	Calculation method
Aquatic toxicity (chronic), category 3;H412	Calculation method

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