



SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: EPOXY MAX 100 PART A

PRODUCT CODES: 100

MANUFACTURER: KRETETEK INDUSTRIES INC

STREET ADDRESS: 66 RIVER ROAD

CITY, STATE, ZIP: HUDSON NH 03051

INFORMATION PHONE: 855-573-8383

EMERGENCY PHONE: Chemtrec 800-424-9300

FAX PHONE: 855-573-8383

DATE REVISED: 5/1/23

Chemical Name or Class: Epoxy coating

SECTION 2: HAZARDS IDENTIFICATION

Hazard identification

GHS Classification:

Acute toxicity (inhalation: vapor) Category 3

Chronic aquatic toxicity Category 2

Serious eye damage/irritation Category 2A

Skin sensitization Category 1

Skin corrosion/irritation Category 2

Flammable liquids Category 4

GHS label elements:

Hazard symbols



Signal words: DANGER

Hazard statements:

H331 Toxic if inhaled

H411 Toxic to aquatic life with long lasting effects

H319 Causes serious eye irritation

H317 May cause an allergic skin reaction

H315 Causes skin irritation

H227 Flammable liquid

Precautionary statements:

Prevention

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P264 Wash hands and contact areas thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P272 Contaminated work clothing should not be allowed out of the workplace.

P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. no smoking

Response:

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310 Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment

P391 Collect spillage.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists, get medical attention / attention.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P370+P378 In case of fire: Use Suitable extinguishing media for extinction (Refer to Section 5)

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P405 Save by locking.

P403 Store in a well-ventilated place.

Disposal:

P501 Dispose of the contents and containers in accordance with waste-related laws.

SECTION 3: COMPOSITION ON INGREDIENTS

Composition/information on ingredients

1675-54-3	2,2-Bis(4'- glycidyoxyphenyl)propane	89-99%
121158-58-5	Dodecylphenol, branched	1-10%
100-51-6	Benzyl alcohol	1-10%
26761-45-5	Neodecanoic acid 2,3-epoxypropyl ester	1-10%

SECTION 4: FIRST AID MEASURES

Eye Contact: Flush exposed eyes with plenty of water for more than 15minutes. If irritation, pain, swelling, tears, or glaring happens, take medical assistant immediately. Do not rub your eyes. If you wear a contact lenses, remove them first.

Skin Contact: Remove exposed clothing and wash off exposed area with soap and water. If symptoms like irritation or pain occurs, take medical assistant immediately. Wash off with soap and water for more than 15 minutes. And take medical assistant immediately. If symptoms like redness or irritation occurs, take medical assistant immediately. Wash carefully after handling. Wear gloves while washing the patient and avoid contact with exposed clothes.

Inhalation: Avoid from exposure and move into an area with fresh air. If not breathing, perform the artificial respiration. If inhaled or swallowed, do not perform the inhalation phase of breathing. Perform the artificial respiration, using the pocket mask with one-way valves or other respiratory medical devices. If hard to breathe, administering oxygen. Remove contaminated clothing and shoes and isolate it. Take a medical assistant immediately.

Ingestion Contact: Induce vomiting. If unconscious, do not induce vomiting. In case of vomiting, keep head down under hip to prevent lung inhalation. If ingested large quantity, take medical assistant. Take proper medical assistant by symptoms. Must be considered that early removal of some ingested material by gastric lavage must be weighed against potential complications of bleeding or perforation. Flush mouth with water immediately.

Notes to Physician: There is no specific antidote and take an appropriate medical treatment.

SECTION 5: FIRE FIGHTING MEASURES

Suitable /Unsuitable extinguishing media

Suitable extinguishing media: Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.
(Unsuitable) extinguishing media: Avoid digestion using direct water.

Avoid use waterjet as fire extinguishing agent.
Avoid extinguishing fire with halogenating agent.
In case of fire: Spread large amount of the extinguishing agent as a mist form with staying against wind.
Stay away more than 800m to avoid tank explosion.
Use appropriate protective device depend on the situation.
Specific hazards arising from the chemical:
Pyrolysate: Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds
Irritating and highly toxic gases may produce during the combustion by pyrolysis or combustion itself.
Fire and Explosion danger : Risk of medium-sized fire.
Aqueous (Exclude water-soluble one) products does not have risk of fire or explosion hazard by itself.
Vapor may be released to the ignition source and ignited.
May form explosive mixture at or above ignition point
Container may explode when heating
Leakages may fire / explosion hazard and could be easily ignited by heat, sparks or flames.
Vapors may explode indoors, outdoors, and in drains
Special protective actions for fire-fighters
Personal Precautions, protective equipment: Gas mask or air respirator, heat resistant clothing, heat resistant helmet, heat resistant gloves, heat resistant boots
Emergency procedures: Use appropriate extinguishing agents to catch fire.
If there is no risk, moving containers away from fire.
Cooling containers with water long time after extinguish fire.
Block the area except for the fire-suppression personnel.
Protect others from access and prohibit access to dangerous areas.
Tell the fire department, location of the fire and the hazardous features.
Use an unmanned fire extinguishing device, in case of large-sized fire. If not, leave it to burn.
Avoid inhalation of the substance or combustion products.
Do not approach if the tank is on fire.

SECTION 6: RELEASE MEASURES

Personal Precautions, protective equipment, and emergency procedures
Personal Precautions, protective equipment: Gas mask for organic gases, other appropriate protective device / clothing / gloves.
Emergency procedures: Take an action to block the leakage if there is no risk.
Spray water to reduce amount of steam.
Do work with the personal protected devices such as gas mask for organic gases other appropriate protective devices / clothing / gloves.
Do not contact on bare skin
Environmental precautions:
Atmosphere: Do install the local ventilations and full ventilation system
Using local ventilation to Minimize the exposure to worker.
Soil: Trap spilled material at bottom in deep water pockets, excavated holding areas or within sandbag barriers.
Use absorbent to collect the appropriate container.
Under water: Use absorbent to collect the appropriate container.
Collect spilled material with mechanic devices
Methods and materials for containment and cleaning up:
Small spill : Absorb for use sand or other non-combustible material.
Move to appropriate container for disposal of spilled material collected.
Large spill : Prohibit access of unnecessary people, isolate hazard area to secure.
Notify to central and local government, when emissions are above regulation.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling : Keep or handle followed by Dangerous Goods Safety Management Act
Ground for preventing the static discharge.

Seal the container for minimizing the petroleum steam
Use local ventilations and a full ventilation system when handling
Wash carefully after handling.
Avoid contact with prohibited materials in mixture.
Do not handle until you read and understood all safety precautions.
Do not inhale vapor for long-term or repeatedly.
Avoid contact with heat, sparks, flames or other sources of ignition.
Do not take contaminated clothing away from the work area.
Storing with combustible substances such as stained clothes or paper may cause fire by spontaneous ignition. Thus, do not stack it, and keep it in a non-flammable container with cap filled with water and dispose it.
Conditions for safe storage, including any incompatibilities : Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.
Avoid direct sunlight while storing outdoor.
Storage temperature: 5 ~ 35 °C
Avoid strong oxidizing agents, acid.
Store at appropriate temperature according to the isolation location, freezing caution, high temperature body caution.
Storage temperature: 5 ~ 15 °C
Storage temperature: 15 ~ 25 °C
Storage temperature: 25 ~ 35 °C
Store in a cool, dry, well-ventilated area.
Check periodically for leaks
Store in accordance with all current law and regulations.
Store in original container only.
Prevent static electricity and do not store near heat sources.
Collect in an airtight container to dispose.
Store away from waterworks and sewers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

2,2-Bis(4'-glycidyoxyphenyl)propane:

ACGIH: NO DATA

Biological exposure indices: NO DATA

Dodecylphenol, branched:

ACGIH: NO DATA

Biological exposure indices: NO DATA

Benzyl alcohol

ACGIH: NO DATA

Biological exposure indices: NO DATA

Neodecanoic acid 2,3-epoxypropyl ester:

ACGIH: NO DATA

Biological exposure indices: NO DATA

Engineering Controls

Do install local ventilations and full ventilation system

Use local ventilation to minimize exposure to worker.

Personal Protective Equipment:

Respiratory protection : Respirators should be authorized OSHA - Occupational Safety and Health Agency

Use a personal protect respirator for organic solvents or higher level of capacity when workers are exposed to unsuitable respiratory working conditions, or longer period exposure than the standard level.

Consider warning properties before use.

Respiratory protection may be needed, with frequent use or heavy exposure.

Respiratory protection is ranked in order from minimum to maximum

If there is a possibility of direct contact or exposure to these substances, you should wear an authorized dust-proof mask or respirator for organic compounds.

Eye protection: Use the respirator for organic solvent or higher level.
Install washing facilities and emergency washing facilities close to workplace.
Let workers do wear the safety glasses in case hazard caused by mist may be expected.
If there is possibility of direct contact or exposure to these substances should wear authorized safety glasses or mask.
Hand protection: Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronicle and long period exposure.
Wear the chemical protective gloves
Wear appropriate protective gloves
If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for chemicals.
Skin protection: Work after wearing the impermeable protective apron made by rubber/PVC in case hazard caused by exposure or spill, wear the impermeable whole body protective clothing if needed.
Wear appropriate chemical protective clothing.
Wear cleanroom garment or appropriate protective clothing to prevent contamination
If there is a possibility of direct contact or exposure to the substance wear protective clothing for chemical substances.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid
Odor: Specific odor
Odor threshold: NO DATA
PH: NO DATA
Melting point/Freezing point (°C) : NO DATA
Initial Boiling Point/Boiling Ranges (°C) : 171°C
Flash point (°C) : 74
Evaporating Rate: NO DATA
Flammability (solid, gas) : NO DATA
Upper/Lower Flammability or explosive limits: NO DATA
Vapor pressure: NO DATA
Solubility: (Water)Insoluble
Vapor density: NO DATA
Specific gravity: 1.1 ± 0.3
Partition coefficient of n-octanol/water: NO DATA
Autoignition temperature (°C) : 425
Decomposition temperature (°C) : NO DATA
Viscosity: 120~130KU
Molecular weight: NO DATA

SECTION 10: HANDLING AND STORAGE

Chemical stability: NO DATA
Possibility of hazardous reactions: Do not contact with heat, spark, flame, or other flammable sources
Avoid contaminants and friction.
Conditions to avoid: Oxidation agent, metal and combustible materials.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Respiratory tracts: Adverse lung effects, Dyspnoea, Hypothermia, Vomiting
Oral: Vomiting, Diarrhea, Stomach pain, Irregular heartbeat
Skin: Irritation, Burn, Adverse nerve effects
Eye: Irritation, eye damage
Delayed and immediate effects and also chronic effects from short- and long-term exposure:
2,2-Bis(4'-glycidyoxyphenyl)propane:
Acute toxicity
Oral: LD50 15600 mg/kg Other (Other)

Dermal: LD50 20000 mg/kg Rabbit
Inhalation: LD50 20000 mg/kg Rabbit
Skin corrosion/irritation: weak stimulus (500mg, rabbit)
Serious eye damage/irritation: Severe irritation (2mg, rabbit)
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: Group 3
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Dodecylphenol, branched:
Acute toxicity
Oral: NO DATA
Dermal: NO DATA
Inhalation: NO DATA
Skin corrosion/irritation: NO DATA
Serious eye damage/irritation: NO DATA
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Benzyl alcohol:
Acute toxicity
Oral: LD50 = 1230 mg/kg Rat
Dermal: LD50 = 2000 mg/kg Rabbit
Inhalation: LD50 = 2000 mg/kg Rabbit
Skin corrosion/irritation: usually stimulus (100mg, 24H, rabbit)
Serious eye damage/irritation: non-irritating(rabbit)
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA

Aspiration hazard: NO DATA
Neodecanoic acid 2,3-epoxypropyl ester
Acute toxicity
Oral: LD50 > 10 mg/kg Rat
Dermal: LD50 = 4 mg/kg Rat
Inhalation: LD50 = 4 mg/kg Rat
Skin corrosion/irritation: Rabbit / Draize Test: middle-stimulated
Serious eye damage/irritation: eye irritation
Respiratory sensitization: NO DATA
Skin sensitization: Guinea pig / maximization test it (GLP) / skin: sensitization.
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: Reverse mutation test positive, negative in all. Rat / liver degeneration using DNA test: negative.
Reproductive toxicity: Reverse mutation test positive, negative in all. Rat / liver degeneration using DNA test: negative.
STOT-single exposure: NO DATA
STOT-repeated exposure: Rat / oral (100, 500, 1000, 5000, 10000 ppm for 5weeks) / OECD TG 407 (GLP): NOAEL = 1000ppm
Aspiration hazard: NO DATA

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
2,2-Bis(4'-glycidylloxyphenyl) propane
Fish: NO DATA
Crustaceans: NO DATA
Algae: NO DATA
Dodecylphenol, branched.
Fish: NO DATA
Crustaceans: NO DATA
Algae: NO DATA
Benzyl alcohol
Fish: LC50 = 10 mg/ℓ 96 hr
Crustaceans: NO DATA
Algae: NO DATA
Neodecanoic acid 2,3-epoxypropyl ester
Fish: LC50 = 10 mg/ℓ 96 hr
Crustaceans: NO DATA
Algae: NO DATA
Neodecanoic acid 2,3-epoxypropyl ester
Fish: 5 mg/ℓ 96 hr *Oncorhynchus mykiss*
Crustaceans: NO DATA
Algae: EC50 = 3.5 mg/ℓ 96 hr *Selenastrum capricornutum*
Persistence and degradability:
2,2-Bis(4'-glycidylloxyphenyl) propane
Persistence: NO DATA
Degradability: NO DATA
Dodecylphenol, branched.
Persistence: NO DATA
Degradability: NO DATA
Benzyl alcohol
Persistence: log Kow = 1.1

Degradability: NO DATA
Neodecanoic acid 2,3-epoxypropyl ester
Persistence: log Kow = 4.4 (20°C)
Degradability: NO DATA
Bioaccumulative potential
2,2-Bis(4'-glycidylloxyphenyl)propane
Bioaccumulative potential: NO DATA
Biodegradation : NO DATA
Dodecylphenol, branched
Bioaccumulative potential: NO DATA
Biodegradation : NO DATA
Benzyl alcohol
Bioaccumulative potential: NO DATA
Biodegradation : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)
Neodecanoic acid 2,3-epoxypropyl ester
Bioaccumulative potential: BCF = 148.8
Biodegradation : Biodegradability = 7 ~ 8 (%) 28 day (OECD TG 301D)
Mobility in soil: NO DATA
Other adverse effects: NO DATA

SECTION 13: WASTE DISPOSAL

Disposal methods: Disposal material should keep in the airtight container and consign according to Waste Material Management Act
Pre-treat with oil-water separation method when it is available.
Recycle the recyclable materials, such as organic solvents, and then incinerate the residue at high temperature.
To prevent environmental pollution, dispose it to a licensed waste disposal company.
Special precautions for disposal: Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems
Discard it followed by appropriate regulations.

SECTION 14: TRANSPORTATION INFORMATION

UN Number (IMDG CODE/IATA DGR): 3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. 2,2-Bis(4'-glycidylloxyphenyl)propane
Hazard class: 9
Packing group (IMDG CODE/IATA DGR): III
Marine pollutant: be applicable
Special precautions for user related to transport or transportation measures.
Local transport follows in accordance with Dangerous goods Safety Management
Package and transport follow in accordance with Department of Transportation
EMS FIRE SCHEDULE: F-A
EMS SPILLAGE SCHEDULE: S-F

SECTION 15: REGULATORY INFORMATION

2,2-Bis(4'-glycidylloxyphenyl)propane
Information of EU Classification: NO DATA
U.S. Federal regulations:
OSHA PROCESS SAFETY (29CFR1910.119): not applicable
CERCLA Section 103 (40CFR302.4): not applicable
EPCRA Section 302 (40CFR355.30): not applicable
EPCRA Section 304 (40CFR355.40): not applicable
EPCRA Section 313 (40CFR372.65): not applicable

Rotterdam Convention listed ingredients : NO DATA

Stockholm Convention listed ingredients : NO DATA

- Montreal Protocol listed ingredients : NO DATA

Dodecylphenol, branched: NO DATA

Benzyl alcohol: NO DATA

Neodecanoic acid 2,3-epoxypropyl ester: NO DATA

SECTION 16: DISCLAIMER

Disclaimer: the information contained herein is based on the data available and is believed to be accurate, however, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: EPOXY MAX 100 PART B

PRODUCT CODES: 100

MANUFACTURER: KRETETEK INDUSTRIES INC

STREET ADDRESS: 66 RIVER ROAD

CITY, STATE, ZIP: HUDSON NH 03051

INFORMATION PHONE: 855-573-8383

EMERGENCY PHONE: Chemtrec 800-424-9300

FAX PHONE: 855-573-8383

DATE REVISED: 5/1/23

Chemical Name or Class: Epoxy coating

SECTION 2: HAZARDS IDENTIFICATION

Hazard identification

GHS Classification:

Acute toxicity (oral) Category 4

Acute toxicity (dermal) Category 4

Acute toxicity (inhalation: vapor) Category 3

Acute Toxicity (Inhalation: dust / mist) Category 4

Reproductive toxicity Category 2

Germ cell mutagenicity Category 2

Serious eye damage/irritation Category 1

Chronic aquatic toxicity Category 3

Serious eye damage/irritation Category 2A

Skin sensitization Category 1

Skin corrosion/irritation Category 1

Skin corrosion/irritation Category 2

Flammable liquids Category 4

GHS label elements:

Hazard symbols



Signal words: DANGER

Hazard statements:

H302 Harmful if swallowed

H312 Harmful in contact with skin

H331 Toxic if inhaled

H332 Harmful if inhaled

H361 Suspected of damaging fertility or the unborn child

H341 Suspected of causing genetic defects

H318 Causes serious eye damage

H412 Harmful to aquatic life with long lasting effects

H319 Causes serious eye irritation

H317 May cause an allergic skin reaction

H314 Causes severe skin burns and eye damage

Precautionary statements:

Prevention

P264 Wash hands and contact areas thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P273 Avoid release to the environment.

P272 Contaminated work clothing should not be allowed out of the workplace.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. no smoking

Response:

P301+P312 If swallowed: If you feel unwell, get medical help.

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P321 Specific treatment

P362+P364 Take off contaminated clothing and wash before reuse.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310 Immediately call a POISON CENTER or doctor/physician.

P308+P313 If exposed or concerned: Get medical advice / attention.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists, get medical attention / attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P301+P330+P331 Rinse mouth if swallowed. Do not induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P363 Wash contaminated clothing before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P370+P378 In case of fire: Use Suitable extinguishing media for extinction (Refer Section 5).

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed

P405 Save by locking.

P403 Store in a well-ventilated place.

Disposal:

P501 Dispose of the contents and containers in accordance with waste-related laws.

SECTION 3: COMPOSITION ON INGREDIENTS

Composition/information on ingredients

9046-10-0	α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediyl)]	48-58%
100-51-6	Benzyl alcohol	14-24%
121158-58-5	Dodecylphenol, branched	11-21%
2579-20-6	1,3-Cyclohexanedimethanamine	6-16%
68911-35-3	Fatty acids, tail oil compds. with polyalkylenepolyamines	1-10%
108-95-2	Phenol	1-10%

SECTION 4: FIRST AID MEASURES

Eye Contact: Flush exposed eyes with plenty of water for more than 15 minutes. If irritation, pain, swelling, tears, or glaring happens, take to a medical assistant immediately. Do not rub your eyes. If you wear a contact lens, remove them first.

Skin Contact: Remove exposed clothing and wash off exposed area with soap and water. If symptoms like irritation or pain occurs, take to a medical assistant immediately. Wash off with soap and water for more than 15 minutes. And take to a medical assistant immediately. If symptoms like redness or irritation occurs, take to a medical assistant immediately. Wash carefully after handling. Wear gloves while washing the patient and avoid contact with exposed clothes.

Inhalation: Avoid exposure and move into an area with fresh air. If not breathing, perform artificial respiration. If inhaled or swallowed, do not perform the inhalation phase of breathing. Perform artificial respiration, using the pocket mask with one-way valves or other respiratory medical devices. If hard to breathe, administer oxygen. Remove contaminated clothing and shoes and isolate it. Take to a medical assistant immediately.

Ingestion Contact: Inducing vomit. If unconscious, do not induce vomiting. In case of vomiting, keep head down under hip to prevent lung inhalation. If ingested large quantity, take to a medical assistant. Take symptoms to a proper medical assistant. It needs to be considered that early removal of some ingested material by gastric lavage must be weighed against potential complications of bleeding or perforation. Flush mouth with water immediately.

Notes to Physician: There is no specific antidote and take an appropriate medical treatment.

SECTION 5: FIRE FIGHTING MEASURES

Suitable /Unsuitable extinguishing media

Suitable extinguishing media: Powder extinguishing agent, gaseous Extinguishing Agent, and regular foam.

(Unsuitable) extinguishing media: Avoid digestion using direct water.

Avoid use waterjet as fire extinguishing agent.

Avoid extinguishing fire with halogenating agent.

In case of fire: Spread large amount of the extinguishing agent as a mist form with staying against wind.

Stay away more than 800m to avoid tank explosion.

Use appropriate protective device depend on the situation.

Specific hazards arising from the chemical:

Pyrolysate: Carbon dioxide, toxic carbon compounds/Nitrogen compounds/sulfur compounds

Irritating and highly toxic gases may produce during the combustion by pyrolysis or combustion itself.

Fire and Explosion danger : Risk of medium-sized fire.

Aqueous (Exclude water-soluble one) products does not have risk of fire or explosion hazard by itself.

Vapor may be released to the ignition source and ignited.

May form explosive mixture at or above ignition point

Container may explode when heating

Leakages may fire / explosion hazard and could be easily ignited by heat, sparks or flames.

Vapors may explode indoors, outdoors, and in drains

Special protective actions for fire-fighters

Personal Precautions, protective equipment: Gas mask or air respirator, heat resistant clothing, heat resistant helmet, heat resistant gloves, heat resistant boots

Emergency procedures: Use appropriate extinguishing agents to catch fire.

If there is no risk, moving containers away from fire.

Cooling containers with water long time after extinguish fire.

Block the area except for the fire-suppression personnel.

Protect others from access and prohibit access to dangerous areas.

Tell the fire department, location of the fire and the hazardous features.

Use an unmanned fire extinguishing device, in case of large-sized fire. If not, leave it to burn.

Avoid inhalation of the substance or combustion products.

Do not approach if the tank is on fire.

SECTION 6: RELEASE MEASURES

Personal Precautions, protective equipment, and emergency procedures

Personal Precautions, protective equipment: Gas mask for organic gases, other appropriate protective device / clothing / gloves.

Emergency procedures: Take an action to block the leakage if there is no risk.
Spray water to reduce amount of steam.
Do work with the personal protected devices such as gas mask for organic gases other appropriate protective devices / clothing / gloves.
Do not contact on bare skin
Environmental precautions:
Atmosphere: Do install the local ventilations and full ventilation system
Using local ventilation to Minimize the exposure to worker.
Soil: Trap spilled material at bottom in deep water pockets, excavated holding areas or within sandbag barriers.
Use absorbent to collect the appropriate container.
Under water: Use absorbent to collect the appropriate container.
Collect spilled material with mechanic devices
Methods and materials for containment and cleaning up:
Small spill : Absorb for use sand or other non-combustible material.
Move to appropriate container for disposal of spilled material collected.
Large spill : Prohibit access of unnecessary people, isolate hazard area to secure.
Notify to central and local government, when emissions are above regulation.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling : Keep or handle followed by Dangerous Goods Safety Management Act
Ground for preventing the static discharge.
Seal the container for minimizing the petroleum steam
Use local ventilations and a full ventilation system when handling
Wash carefully after handling.
Avoid contact with prohibited materials in mixture.
Do not handle until you read and understood all safety precautions.
Do not inhale vapor for long-term or repeatedly.
Avoid contact with heat, sparks, flames or other sources of ignition.
Do not take contaminated clothing away from the work area.
Storing with combustible substances such as stained clothes or paper may cause fire by spontaneous ignition. Thus, do not stack it, and keep it in a non-flammable container with cap filled with water and dispose it.
Conditions for safe storage, including any incompatibilities : Because of evaporation and contamination concerns, airtight the container and store in a well-ventilated building.
Avoid direct sunlight while storing outdoor.
Storage temperature: 5 ~ 35 °C
Avoid strong oxidizing agents, acid.
Store at appropriate temperature according to the isolation location, freezing caution, high temperature body caution.
Storage temperature: 5 ~ 15 °C
Storage temperature: 15 ~ 25 °C
Storage temperature: 25 ~ 35 °C
Store in a cool, dry, well-ventilated area.
Check periodically for leaks
Store in accordance with all current law and regulations.
Store in original container only.
Prevent static electricity and do not store near heat sources.
Collect in an airtight container to dispose.
Store away from waterworks and sewers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits
 α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]
ACGIH: NO DATA
Biological exposure indices: NO DATA

Benzyl alcohol

ACGIH: NO DATA

Biological exposure indices: NO DATA

Dodecylphenol, branched

ACGIH: NO DATA

Biological exposure indices: NO DATA

1,3-Cyclohexanedimethanamine

ACGIH: NO DATA

Biological exposure indices: NO DATA

Trade secret

ACGIH: NO DATA

Biological exposure indices: NO DATA

Fatty acids, tail oil compds. with polyalkylenepolyamines

ACGIH: NO DATA

Biological exposure indices: NO DATA

Phenol

ACGIH: NO DATA

Biological exposure indices: While urinating Phenol(with hydrolysis) : 250 mg/g creatinine(After work)

Engineering Controls

Do install local ventilations and full ventilation system

Use local ventilation to minimize exposure to worker.

Personal Protective Equipment:

Respiratory protection : Respirators should be authorized OSHA - Occupational Safety and Health Agency

Use a personal protect respirator for organic solvents or higher level of capacity when workers are exposed to unsuitable respiratory working conditions, or longer period exposure than the standard level.

Consider warning properties before use.

Respiratory protection may be needed, with frequent use or heavy exposure.

Respiratory protection is ranked in order from minimum to maximum

If there is a possibility of direct contact or exposure to these substances, you should wear an authorized dust-proof mask or respirator for organic compounds.

Eye protection: Use the respirator for organic solvent or higher level.

Install washing facilities and emergency washing facilities close to workplace.

Let workers do wear the safety glasses in case hazard caused by mist may be expected.

If there is possibility of direct contact or exposure to these substances should wear authorized safety glasses or mask.

Hand protection: Do the workers wear the impermeable protective gloves made from rubber/PVC due to skin irritation may be supposed by chronicle and long period exposure.

Wear the chemical protective gloves

Wear appropriate protective gloves

If there is possibility of direct contact or exposure to these substances should wear authorized safety gloves for chemicals.

Skin protection: Work after wearing the impermeable protective apron made by rubber/PVC in case hazard caused by exposure or spill, wear the impermeable whole body protective clothing if needed.

Wear appropriate chemical protective clothing.

Wear cleanroom garment or appropriate protective clothing to prevent contamination

If there is a possibility of direct contact or exposure to the substance wear protective clothing for chemical substances.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid

Odor: Specific odor

Odor threshold: NO DATA

PH: NO DATA

Melting point/Freezing point (°C) : NO DATA

Initial Boiling Point/Boiling Ranges (°C) : NO DATA

Flash point (°C) : 89

Evaporating Rate: NO DATA

Flammability (solid, gas) : NO DATA

Upper/Lower Flammability or explosive limits: NO DATA
Vapor pressure: NO DATA
Solubility: (Water)Insoluble
Vapor density: NO DATA
Specific gravity: 0.9 ± 0.3
Partition coefficient of n-octanol/water: NO DATA
Autoignition temperature (°C) : NO DATA
Decomposition temperature (°C) : NO DATA
Viscosity: NO DATA
Molecular weight: NO DATA

SECTION 10: HANDLING AND STORAGE

Chemical stability: NO DATA
Possibility of hazardous reactions: Do not contact with heat, spark, flame, or other flammable sources
Avoid contaminants and friction.
Conditions to avoid: Oxidation agent, metal and combustible materials.
Hazardous decomposition products : Thermal decomposition products (carbon etc.,)

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Respiratory tracts: Adverse lung effects, Dyspnoea, Hypothermia, Vomiting
Oral: Vomiting, Diarrhea, Stomach pain, Irregular heartbeat
Skin: Irritation, Burn, Adverse nerve effects
Eye: Irritation, eye damage
Delayed and immediate effects and also chronic effects from short- and long-term exposure:
 α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]
Acute toxicity
Oral: LD50 = 242 mg/kg Rat
Dermal: LD50 = 360 mg/kg rabbit
Inhalation: LD50 = 360 mg/kg rabbit
Skin corrosion/irritation: In case of contact with skin may cause burns
Serious eye damage/irritation: Medium using rabbit eye irritation or irritation test results
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Benzyl alcohol:
Acute toxicity
Oral: LD50 = 1230 mg/kg Rat
Dermal: LD50 = 2000 mg/kg Rabbit
Inhalation: LD50 = 2000 mg/kg Rabbit
Skin corrosion/irritation: usually stimulus (100mg, 24H, rabbit)
Serious eye damage/irritation: non-irritating(rabbit)
Respiratory sensitization: NO DATA

Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Dodecylphenol, branched:
Acute toxicity
Oral: NO DATA
Dermal: NO DATA
Inhalation: NO DATA
Skin corrosion/irritation: NO DATA
Serious eye damage/irritation: NO DATA
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
1,3-Cyclohexanedimethanamine Acute toxicity
Oral: LD50 880 mg/kg Rat
Dermal: LD50 100 mg/kg Rat
Inhalation: LD50 100 mg/kg Rat
Skin corrosion/irritation: NO DATA
Serious eye damage/irritation: NO DATA
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Trade Secret
Oral: NO DATA
Dermal: NO DATA
Inhalation: NO DATA
Skin corrosion/irritation: NO DATA

Serious eye damage/irritation: NO DATA
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Fatty acids, tail oil compounds with polyalkylenepolyamines Oral: NO DATA
Dermal: NO DATA
Inhalation: NO DATA
Skin corrosion/irritation: NO DATA
Serious eye damage/irritation: NO DATA
Respiratory sensitization: NO DATA
Skin sensitization: NO DATA
Carcinogenicity
IARC: NO DATA
OSHA: NO DATA
ACGIH: NO DATA
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: NO DATA
Reproductive toxicity: NO DATA
STOT-single exposure: NO DATA
STOT-repeated exposure: NO DATA
Aspiration hazard: NO DATA
Phenol
Oral: LD50 317 mg/kg Rat
Dermal: LD50 670 mg/kg Rat
Inhalation: LD50 670 mg/kg Rat
Skin corrosion/irritation: Rabbit Skin corrosion, and as reported in humans.
Serious eye damage/irritation: Rabbits eyes appear in the full opacity of the cornea irritation test results.
Respiratory sensitization: NO DATA
Skin sensitization: Test using guinea pig negative result, the test results using a mouse negative.
Carcinogenicity
IARC: Group 3
OSHA: NO DATA
ACGIH: NA4
NTP: NO DATA
EU CLP: NO DATA
Germ cell mutagenicity: Chromosome aberration test positive
Reproductive toxicity: Chromosome aberration test positive
STOT-single exposure: NO Increased mortality resulting from cardiovascular disease in humans, vomiting, diarrhea, abdominal pain, hemolytic anemia, methemoglobin hyperlipidemia, renal degeneration, tubular necrosis, nipple cells appear bleeding.
Reduced number of red blood cells in laboratory.
Aspiration hazard: NO DATA

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]

Fish: NO DATA

Crustaceans: NO DATA

Algae: NO DATA

Benzyl alcohol

Fish: LC50 = 10 mg/ℓ 96 hr

Crustaceans: NO DATA

Dodecylphenol, branched.

Fish: NO DATA

Crustaceans: NO DATA

Algae: NO DATA

1,3-Cyclohexanedimethanamine

Fish: : LC50 90.772 mg/ℓ 96 hr (ECOSAR Class : Aliphatic Amines)

Crustaceans: LC50 7.553 mg/ℓ 48 hr (ECOSAR Class : Aliphatic Amines)

Algae: EC50 2.395 mg/ℓ 96 hr (ECOSAR Class : Aliphatic Amines)

Trade Secret

Fish: NO DATA

Crustaceans: NO DATA

Algae: NO DATA

Fatty acids, tail oil compounds. with polyalkylenepolyamines

Fish: NO DATA

Crustaceans: LC50 1.198 mg/ℓ 48 hr Daphnia magna (predicted)

Algae: EC50 0.899 mg/ℓ 96 hr (predicted)

Phenol

Fish: LC50 10.9 mg/ℓ 96 hr

Crustaceans: LC50 3.1 mg/ℓ 48 hr

Algae: EC50 370 mg/ℓ 96 hr

Persistence and degradability:

α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]

Persistence: NO DATA

Degradability: NO DATA

Benzyl alcohol

Persistence: log Kow = 1.1

Degradability: NO DATA

Dodecylphenol, branched.

Persistence: NO DATA

Degradability: NO DATA

1,3-Cyclohexanedimethanamine

Persistence: NO DATA

Degradability: NO DATA

Trade Secret

Persistence: NO DATA

Degradability: NO DATA

Fatty acids, tail oil compounds with polyalkylenepolyamines

Persistence: log Kow 3.72 (Estimates)

Degradability: NO DATA

Phenol

Persistence: log Kow 1.46

Degradability: NO DATA

Bioaccumulative potential

α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]

Bioaccumulative potential: NO DATA

Biodegradation: NO DATA

Benzyl alcohol

Bioaccumulative potential: NO DATA

Biodegradation : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)

Dodecylphenol, branched

Bioaccumulative potential: NO DATA

Biodegradation : NO DATA

1,3-Cyclohexanedimethanamine

Bioaccumulative potential: BCF 10

Biodegradation : 0 (%) 28 day (OECD TG 301C)

Trade Secret

Bioaccumulative potential: NO DATA

Biodegradation : NO DATA

Fatty acids, tail oil compound. with polyalkylenepolyamines

Bioaccumulative potential: BCF 343.2 (Estimates)

Biodegradation : NO DATA

Phenol

Bioaccumulative potential: NO DATA

Biodegradation: 85%

Mobility in soil:

1,3-Cyclohexanedimethanamine: Koc 29.74

Other adverse effects: NO DATA

SECTION 13: WASTE DISPOSAL

Disposal methods: Disposal material should keep in the airtight container and consign according to Waste Material Management Act

Pre-treat with oil-water separation method when it is available.

Recycle the recyclable materials, such as organic solvents, and then incinerate the residue at high temperature.

To prevent environmental pollution, dispose it to a licensed waste disposal company.

Special precautions for disposal: Prohibit the unauthorized disposal and incineration due to adversely affect natural ecosystems

Discard it followed by appropriate regulations.

SECTION 14: TRANSPORTATION INFORMATION

UN Number (IMDG CODE/IATA DGR): 2735

Proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S. (α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)])

Hazard class: 8

Packing group (IMDG CODE/IATA DGR): III

Marine pollutant: N/A

Special precautions for user related to transport or transportation measures.

Local transport follows in accordance with Dangerous goods Safety Management

Package and transport follow in accordance with Department of Transportation

EMS FIRE SCHEDULE: F-A

EMS SPILLAGE SCHEDULE: S-B

SECTION 15: REGULATORY INFORMATION

α -(2-Aminomethylethyl)- ω -(2-aminomethylethoxy)poly[oxy(methyl-1,2-ethanediy)]

Information of EU Classification: NO DATA

U.S. Federal regulations:

OSHA PROCESS SAFETY (29CFR1910.119): not applicable

CERCLA Section 103 (40CFR302.4): not applicable

EPCRA Section 302 (40CFR355.30): not applicable

EPCRA Section 304 (40CFR355.40): not applicable

EPCRA Section 313 (40CFR372.65): not applicable
Rotterdam Convention listed ingredients : NO DATA
Stockholm Convention listed ingredients : NO DATA
- Montreal Protocol listed ingredients : NO DATA
Benzyl alcohol: NO DATA
Dodecylphenol, branched: NO DATA
1,3-Cyclohexanedimethanamine: NO DATA
Trade Secret: NO DATA
Fatty acids, tail oil compounds. with polyalkylenepolyamines: NO DATA
Phenol: NO DATA

SECTION 16: DISCLAIMER

Disclaimer: the information contained herein is based on the data available and is believed to be accurate, however, the manufacturer makes no warranty expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. Accordingly, we assume no responsibility for injury from the use of this product.