

SAFETY DATA SHEET

1. IDENTIFICATION

A. Product name

- UNIPOXY LINING PLUS CURING AGENT

B. Recommended use and restriction on use

- General use : EPOXY FLOOR COATING
- Restriction on use : Not available

C. Supplier information

- Company name : KCC Corporation
- Address : 764, Gwahak-ro, Bongdong-eup, Wanju_Gun, Jeollabuk-do
- Emergency telephone number : 82-63-260-7000

2. HAZARD IDENTIFICATION

A. GHS Classification

- Acute toxicity (oral) : Category4
- Acute toxicity (dermal) : Category4
- Acute toxicity (inhalation: vapor) : Category2
- Chronic aquatic toxicity : Category4
- Serious eye damage/irritation : Category1
- Flammable liquids : Category2
- Skin corrosion/irritation : Category2

B. GHS label elements

o Hazard symbols



o Signal words

- Danger

o Hazard statements

- H225 Highly flammable liquid and vapour
- H302 Harmful if swallowed
- H312 Harmful in contact with skin
- H315 Causes skin irritation
- H318 Causes serious eye damage
- H330 Fatal if inhaled
- H413 May cause long lasting harmful effects to aquatic life

o Precautionary statements

1) Prevention

- P210 Keep away from heat/sparks/open flames/hot surfaces. ? No smoking.
- P233 Keep container tightly closed.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 Use only non-sparking tools. Flammable liquids (chapter 2.6) 1, 2, 3
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

- P284 Wear respiratory protection.

2) Response

- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P320 Specific treatment is urgent
- P321 Specific treatment
- P322 Specific measures
- P330 Rinse mouth.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- P363 Wash contaminated clothing before reuse.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).

3) Storage

- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

4) Disposal

- P501 Dispose of contents/container in accordance with local/regional/national/international regulation

C. Other hazards which do not result in classification : (NFPA Classification)

o NFPA grade (0 ~ 4 level)

- Health : 3, Flammability : 0, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Benzyl alcohol	Phenylmethyl alcohol	100-51-6	30 ~ 40
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-	1,3,3-Trimethyl-1-aminomethyl-5-aminocyclohexane	2855-13-2	20 ~ 30
Dodecylphenol, branched	-	121158-58-5	1 ~ 10
Hydrogenated hydrocarbons (C=6-20) polymers	-	69430-35-9	1 ~ 10
2,4,6-Tris[(dimethylamino)methyl]phenol	2,4,6-Tris[(N,N-dimethylamino)methyl] phenol	90-72-2	1 ~ 10
Secret	Secret	-	20 ~ 30

4. FIRST AID MEASURES

A. Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15minutes and call a doctor/physician.
- Get medical attention immediately.
- Remove contact lenses if worn.

B. Skin contact

- Flush skin with plenty of wter for at least 15 minutes while removing contaminated clothing and shoes.
- Laundering enough contaminated clothing before reuse.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Prevent the spread of the skin.
- Wash thoroughly after handling.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.

- Take specific treatment if needed.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- About whether I should induce vomiting Take the advice of a doctor.
- Rinse your mouth with water immediately.

E. Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

F. Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

B. Specific hazards arising from the chemical

- Not available

C. Special protective actions for firefighters

- Keep unauthorized personnel out.
- Notify your local fire station and inform the location of the fire and characteristics hazard.
- Using a unattended and water devices in case of large fire and leave alone to burn if you do not imperative.
- Avoid inhalation of materials or combustion by-products.
- Do not access if the tank on fire.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.
- The extremely low flash point made by fire-fighters may be less effective at digesting weeks.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- Must work against the wind, let the upwind people to evacuate.
- Remove all sources of ignition.
- Handling the damaged containers or spilled material after wearing protective equipment.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

B. Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

C. Methods and materials for containment and cleaning up

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Do not use plastic containers.
- Prevent the influx to waterways, sewers, basements or confined spaces.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling.
- Avoid contact with incompatible materials.
- Operators should wear antistatic footwear and clothing.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.

B. Conditions for safe storage, including any incompatibilities

- Check regularly for leaks.
- Do not use damaged containers.
- Do not apply direct heat.
- Save applicable laws and regulations.
- Keep in the original container.
- Collected them in sealed containers.
- Do not eat, drink or smoke when using this product.
- Store away from water and sewer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- o **ACGIH TLV**
 - Not available
- o **OSHA PEL**
 - Not available

B. Engineering controls

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C. Personal protective equipment

- o **Respiratory protection**
 - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
 - Respiratory protection is ranked in order from minimum to maximum.
 - Consider warning properties before use.
 - Any chemical cartridge respirator with organic vapor cartridge(s).
 - Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
 - Any air-purifying respirator with a full facepiece and an organic vapor canister.
- #####
- o **Eye protection**
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
- o **Hand protection**
 - Wear appropriate chemical resistant glove.
- o **Skin protection**
 - Wear appropriate chemical resistant protective clothing.
- o **Others**
 - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid(Viscous liquid)
- Color	Not available
B. Odor	Not available
C. Odor threshold	Not available

D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	138 °C
G. Flash point	15 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	Not available
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	Not available
Q. Decomposition temperature	Not available
R. Viscosity	Not available
S. Molecular weight	Not available

10. STABILITY AND REACTIVITY

A. Chemical Stability

- This material is stable under recommended storage and handling conditions.

B. Possibility of hazardous reactions

- Cylinders exposed to fire may vent and release flammable gas.

C. Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with heat, sparks, flame or other ignition sources.

D. Incompatible materials

- Not available

E. Hazardous decomposition products

- May emit flammable vapour if involved in fire.

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure

- (Respiratory tracts)
 - Not available
- (Oral)
 - Harmful if swallowed
- (Eye/Skin)
 - Causes serious eye damage
 - Causes skin irritation

B. Delayed and immediate effects and also chronic effects from short and long term exposure

- Acute toxicity
 - * Oral
 - [Benzyl alcohol] : LD50 = 1230 mg/kg Rat
 - [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : LD50 = 1030 mg/kg Rat
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 = 1200 mg/kg Rat
 - * Dermal
 - [Benzyl alcohol] : LD50 = 2000 mg/kg Rabbit
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 = 1280 mg/kg Rat
 - * Inhalation
 - [Benzyl alcohol] : LC50 = 0.9 mg/ℓ 4 hr Rat

- **Skin corrosion/irritation**
 - Causes skin irritation
- **Serious eye damage/irritation**
 - Causes serious eye damage
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not available
- **Carcinogenicity**
 - * **IARC**
 - Not available
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - Not available
 - * **NTP**
 - Not available
 - * **EU CLP**
 - Not available
- **Germ cell mutagenicity**
 - Not available
- **Reproductive toxicity**
 - Not available
- **STOT-single exposure**
 - Not available
- **STOT-repeated exposure**
 - Not available
- **Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
 - [Benzyl alcohol] : LC50 = 10 mg/ℓ 96 hr
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LC50 = 447.821 mg/ℓ 96 hr
- **Crustaceans**
 - [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : EC50 = 17.4 mg/ℓ 48 hr
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LC50 = 28.198 mg/ℓ 48 hr
- **Algae**
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : EC50 = 34.812 mg/ℓ 96 hr

B. Persistence and degradability

- **Persistence**
 - [Benzyl alcohol] : log Kow = 1.1
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : log Kow = 0.77
- **Degradability**
 - Not available

C. Bioaccumulative potential

- **Bioaccumulative potential**
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : BCF = 3.162
- **Biodegradation**
 - [Benzyl alcohol] : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)
 - [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : Biodegradability = 8 (%) 28 day (Aerobic, Mainly domestic wastewater)

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG)

- 1263

B. Proper shipping name

- PAINT INCLUDING PAINT, LACQUER, ENAMEL, STAIN, SHELLAC SOLUTIONS, VARNISH, POLISH, LIQUID FILLER, AND LIQUID LACQUER BASE

C. Hazard Class

- 3

D. IMDG Packing group

- II

E. Marine pollutant

- Not applicable

F. Special precautions for user related to transport or transportation measures

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- Air transport(IATA): Not subject to IATA regulations.
- EmS FIRE SCHEDULE : F-E (Non-water-reactive flammable liquids)
- EmS SPILLAGE SCHEDULE : S-E (Flammable liquids, floating on water)

15. REGULATORY INFORMATION

A. National and/or international regulatory information

o POPs Management Law

- Not applicable

o Information of EU Classification

* Classification

- [Benzyl alcohol] : Xn; R20/22
- [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : Xn; R21/22 C; R34 R43 R52-53
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Xn; R22 Xi; R36/38

* Risk Phrases

- [Benzyl alcohol] : R20/22
- [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : R21/22, R34, R43, R52/53
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : R22, R36/38

* Safety Phrase

- [Benzyl alcohol] : S2, S26
- [Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : S1/2, S26, S36/37/39, S45, S61
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : S2, S26, S28

- 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
 - Not applicable
- Stockholm Convention listed ingredients
 - Not applicable
- Montreal Protocol listed ingredients
 - Not applicable

16. OTHER INFORMATION

A. Reference

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- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2017-01-20

C. Revision number and Last date revised

- Not applicable

D. Other

- This SDS is prepared according to the Globally Harmonized System (GHS).