



SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

EH2030-B

1. IDENTIFICATION

A. Product name

- EH2030-B

B. Recommended use and restriction on use

- General use : HEAVYDUTY EPOXY HARDNER
- Restriction on use : Do not use except for purpose

C. Manufacturer / Supplier / Distributor information

○ Manufacturer information

- Company name : KCC Corporation
- Address : 30, Bangeojinsunhwando-ro, Dong-gu, Ulsan
- Emergency telephone number : 82-52-280-1717

○ Supplier/Distributor information

- Company name : KCC Corporation
- Address : 30, Bangeojinsunhwando-ro, Dong-gu, Ulsan
- Emergency telephone number : 82-52-280-1717

2. HAZARD IDENTIFICATION

A. GHS Classification

- Flammable liquids : Category3
- Acute toxicity (oral) : Category5
- Acute toxicity (dermal) : Category5
- Acute toxicity (inhalation: vapor) : Category5
- Skin corrosion/irritation : Category2
- Serious eye damage/irritation : Category1
- Skin sensitization : Category1A
- Reproductive toxicity : Category2
- Specific target organ toxicity(Single exposure) : Category3(Narcotic effects)
- Specific target organ toxicity(Repeated exposure) : Category2
- Aspiration hazard : Category1
- Acute aquatic toxicity : Category2
- Chronic aquatic toxicity : Category2

B. GHS label elements

○ Hazard symbols



○ Signal words

- Danger

○ Hazard statements

- H226 Flammable liquid and vapour
- H303 May harmful if swallowed.
- H304 May be fatal if swallowed and enters airways
- H313 May be harmful if contact with skin.

- H315 Causes skin irritation
- H317 May cause an allergic skin reaction
- H318 Causes serious eye damage
- H333 May be harmful if inhaled.
- H336 May cause drowsiness and dizziness.
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- H401 Toxic to aquatic organisms.
- H411 Toxic to aquatic life with long lasting effects

○ **Precautionary statements**

1) Prevention

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.
- P241 Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash hands thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

2) Response

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P302+P312 IF ON SKIN: Call a POISON CENTER/doctor 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+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P304+P340 IF INHALED: Remove person to fresh air and keep 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.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P310 Immediately call a POISON CENTER or doctor/physician.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P321 Specific treatment
- P331 Do NOT induce vomiting.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash before reuse.
- P370+P378 In case of fire: Use Suitable extinguishing media for extinction(Refer Section MSDS 5).
- P391 Collect spillage.

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

- Not available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Toluene	Methylbenzene ; Methylbenzol ; Phenyl methane ; Methacide ; Toluol ; 1-Methylbenzene	108-88-3	13 ~ 20
4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine	Not available	72480-18-3	7 ~ 14
Propylene glycol methyl ether	1-Methoxy-2-hydroxypropane ; 2-Methoxy-1-methylethanol ; Alpha-propylene glycol monomethyl ether ; 1-Methoxy-2-propanol ; Propylene glycol methyl ether ; 1-Methoxy-propane-2-ol ; Methoxyisopropanol	107-98-2	4 ~ 11
Cashew, nutshell liq.	CNSL	8007-24-7	4 ~ 11
Isobutanol	Isobutyl alcohol ; 2-Methyl-1-propanol ; Isopropylcarbinol ; 2-Methylpropan-1-ol ; 1-Hydroxymethylpropane ; 2-Methylpropanol ; 2-Methylpropyl alcohol ; 1-Isobutanol	78-83-1	4 ~ 11
Dodecylphenol	Dodecylphenol ; Phenol, dodecyl- ; Dodecylphenol (mixed isomers)	27193-86-8	1 ~ 8
Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol	Not available	32610-77-8	1 ~ 8
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	Not available	57214-10-5	1 ~ 8
2,4,6-Tris[(dimethylamino)methyl]phenol	2,4,6-Tris[(N,N-dimethylamino)methyl] phenol ; Tris[(dimethylamino)methyl]phenol, 2,4,6- ; 2,4,6-Tridimethylaminomethylphenol ; 2,4,6-Tris[(dimethylaminomethyl)phenol ; Tris-2,4,6-(dimethylaminomethyl)phenol ; Tris(2,4,6-dimethylaminomonomethyl)phenol ; Mesitol, a2,a4,a6-tris(dimethylamino)- ; a,a',a''-Tris(dimethylamino)mesitol ;	90-72-2	1 ~ 8
n-Butyl alcohol	1-Butanol ; Propylcarbinol ; Propylmethanol ; N-Butanol ; Butyric alcohol ; Butyl hydroxide ; 1-Hydroxybutane ; Methylolpropane ; Butyl alcohol ; Butan-1-ol ;	71-36-3	1 ~ 6
1,3-Dioxolan-2-one	1,3-Dioxolan-2-one ; Dioxolone-2 ; Ethylene carbonate ; Ethylene glycol carbonate ; Glycol carbonate ; Carbonic acid, cyclic ethylene ester ; Cyclic ethylene carbonate ; 2-Oxo-1, 3-dioxolan	96-49-1	1 ~ 6
Phenol	Benzenol ; Carbolic acid ; Phenic acid ; Phenyl hydroxide ; Phenyl alcohol ; Phenylic acid ;	108-95-2	0.1~1

4. FIRST AID MEASURES

A. Eye contact

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

B. Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- Wash thoroughly after handling.

C. Inhalation contact

- Take specific treatment if needed.
- When exposed to large amounts of steam and mist, move to fresh air.
- Get medical attention immediately.
- If breathing is stopped or irregular, give artificial respiration and supply oxygen.

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.

- Rinse your mouth with water immediately.
- Get medical attention immediately.
- If swallowed, large amounts of water to drink and do not induce vomiting.

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.
- If exposed or concerned, get medical attention/advice.

5. FIREFIGHTING MEASURES

A. Suitable (Unsuitable) extinguishing media

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

B. Specific hazards arising from the chemical

- Causes serious eye damage
- Causes skin irritation
- Flammable liquid and vapour
- May be fatal if swallowed and enters airways
- May be harmful if contact with skin.

C. Special protective actions for firefighters

- Avoid inhalation of materials or combustion by-products.
- Cool containers with water until well after fire is out.
- Do not approach the tank surrounded by fire until it is extinguished.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Keep unauthorized personnel out.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Do not touch spilled material. Stop leak if you can do it without risk.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Move container to safe area from the leak area.
- Must work against the wind, let the upwind people to evacuate.
- Remove all sources of ignition.

B. Environmental precautions

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

C. Methods and materials for containment and cleaning up

- Appropriate container for disposal of spilled material collected.
- Dike for later disposal.
- Disposal of waste shall be in compliance with the Wastes Control Act
- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notify the central and local government if the emission reach the standard threshold.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Avoid contact with incompatible materials.
- Avoid direct physical contact.
- Comply with all applicable laws and regulations for handling
- Dealing only with a well-ventilated place.
- Do not handle until all safety precautions have been read and understood.

B. Conditions for safe storage, including any incompatibilities

- Avoid direct sunlight.
- Check regularly for leaks.
- Do not apply any physical shock to container.
- Do not apply direct heat.
- Do not use damaged containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**A. Exposure limits**

- **ACGIH TLV**
 - [Toluene] : TWA 20 ppm (75 mg/m³)
 - [Propylene glycol methyl ether] : TWA, 50 ppm (184 mg/m³), STEL, 100 ppm (369 mg/m³)
 - [Isobutanol] : TWA, 50 ppm (152 mg/m³)
 - [n-Butyl alcohol] : TWA, 20 ppm (61 mg/m³)
 - [Phenol] : TWA 5 ppm (19 mg/m³)
- **OSHA PEL**
 - [Toluene] : 200 ppm, C 300 ppm
 - [Isobutanol] : 300
 - [n-Butyl alcohol] : 300
 - [Phenol] : 19

B. Engineering controls

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

C. Individual protection measures, such as personal protective equipment

- **Respiratory protection**
 - Any air-purifying respirator with a full facepiece and an organic vapor canister.
 - Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
 - Any chemical cartridge respirator with organic vapor cartridge(s).
 - Consider warning properties before use.
 - For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.
 - Respiratory protection is ranked in order from minimum to maximum.
 - Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- **Eye protection**
 - Provide an emergency eye wash station and quick drench shower in the immediate work area.
 - Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- **Hand protection**
 - Wear appropriate chemical resistant glove.
- **Skin protection**
 - Wear appropriate chemical resistant protective clothing.
- **Others**
 - Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	Liquid(Viscous liquid)
- Color	Clear
B. Odor	Smell of liquor
C. Odor threshold	Not available
D. pH	Not available
E. Melting point/Freezing point	Not available
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	26°C
H. Evaporation rate	Not available

I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	1% / 11.2%
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	>1(air=1)
N. Specific gravity(Relative density)	0.963 ~0.983
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	343°C
Q. Decomposition temperature	Not available
R. Viscosity	78 ~ 82 KU
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 : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- Avoid contact with incompatible materials and condition.
- 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**
 - May be fatal if swallowed and enters airways
- **Oral**
 - May harmful if swallowed.
- **Eye/Skin**
 - Causes serious eye damage
 - Causes skin irritation
 - May cause an allergic skin reaction

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

- **Acute toxicity**
 - * **Oral**
 - Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
 - [Toluene] : LD50 5580 mg/kg Rat (EU Method B.1) (ECHA)
 - [Propylene glycol methyl ether] : LD50 4016 mg/kg Rat (ECHA)
 - [Cashew, nutshell liq.] : LD50 > 2000 mg/kg Rat (GLP, OECD 423) (ECHA)
 - [Isobutanol] : LD50 3350 mg/kg Rat (OECD Guideline 401, EPA OTS 798.1175, GLP)(ECHA)
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 = 1200 mg/kg Rat (TOMES;RTECS)
 - [n-Butyl alcohol] : LD50 = 790 mg/kg rabbit (SIDS)
 - [1,3-Dioxolan-2-one] : LD50 = 10000 mg/kg Rat (NLM)
 - [Phenol] : LD50 = 270 mg/kg mouse (HSDB), LD50 300 mg/kg Mouse (NIER)
 - * **Dermal**
 - Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
 - [Toluene] : LD50 >5000 mg/kg Rabbit (ECHA)
 - [Propylene glycol methyl ether] : LD50 >2000 mg/kg Rabbit (ECHA)

- [Cashew, nutshell liq.] : LD50 > 2000 mg/kg Rat (GLP, OECD 402) (ECHA)
- [Isobutanol] : LD50 >2000 mg/kg Rabbit (LD50= 2460mg/kg bw, No death, OECD Guideline 402, EPA OTS 798.1100, GLP)
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 = 1280 mg/kg Rat (IUCLID)
- [n-Butyl alcohol] : LD50 = 3400 mg/kg rabbit (HSDB)
- [1,3-Dioxolan-2-one] : LD50 > 3000 mg/kg Rabbit (NLM)
- [Phenol] : LD50 = 850 mg/kg Rabbit (EHC 161, 1994), LD50 660~707 mg/kg Rat (NIER)
- * Inhalation**
 - Product (ATEmix) : 20.0mg/L < ATEmix <= 50.0mg/L
 - [Toluene] : LC50 >20 mg/ℓ Rat (OECD TG 403) (ECHA)
 - [Propylene glycol methyl ether] : Vapor LC0 > 7000 ppm 6 hr Rat No death (OECD TG 403, GLP) (ECHA)
 - [Isobutanol] : Vapor LC50 24.6 mg/ℓ Rat (ECHA)
 - [n-Butyl alcohol] : Steam LC50 = 24.25 mg/L/4 hr Rat (HSDB)
 - [Phenol] : LC0 900 mg/m3 (Rat 8h air) category 4(NIER), Rat LC50 = 1.8 mg/L/4hr
- **Skin corrosion/irritation**
 - Causes skin irritation
- **Serious eye damage/irritation**
 - Causes serious eye damage
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - May cause an allergic skin reaction
- **Carcinogenicity**
 - * IARC**
 - [Toluene] : Group 3
 - [Phenol] : Group 3
 - * OSHA**
 - Not available
 - * ACGIH**
 - [Toluene] : A4
 - [Propylene glycol methyl ether] : A4
 - [Phenol] : A4
 - * NTP**
 - Not available
 - * EU CLP**
 - Not available
- **Germ cell mutagenicity**
 - Not available
- **Reproductive toxicity**
 - Suspected of damaging fertility or the unborn child
- **STOT-single exposure**
 - May cause drowsiness and dizziness.
- **STOT-repeated exposure**
 - May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- **Aspiration hazard**
 - May be fatal if swallowed and enters airways

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- **Fish**
 - [Toluene] : LC50 5.5 mg/ℓ 96 hr Oncorhynchus kistutch (ECHA)
 - [Propylene glycol methyl ether] : LC50 4600-10000 mg/ℓ 96 hr Leuciscus idus (Static) (ECHA)
 - [Cashew, nutshell liq.] : LL50 > 1000 mg/L 96h Sheepshead minnow (ECHA)
 - [Isobutanol] : LC50 1000 mg/ℓ 96 hr LC50 1430 mg/ℓ 96 hr Pimephales promelas (ECHA)
 - [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Korea MOE's Toxic substance Acute/chronic aquatic toxicity category 1
 - [2,4,6-Tris[(dimethylamino)methyl]phenol] : LC50 = 447.821 mg/ℓ 96 hr (estimate)
 - [n-Butyl alcohol] : LC50 1376 mg/ℓ 96 hr Pimephales promelas(OECD TG 203, GLP) (ECHA)

- [1,3-Dioxolan-2-one] : LC50 > 100 mg/ℓ 96 hr Oncorhynchus mykiss (ECHA)

- [Phenol] : LC50 8.9 mg/L 96hr Oncorhynchus mykiss (ECHA)

○ Crustaceans

- [Toluene] : EC50 3.78mg/L 48hr (ECHA)

- [Propylene glycol methyl ether] : EC50 21100 ~ 25900 mg/ℓ 48 hr Daphnia magna(Static, GLP) (ECHA)

- [Cashew, nutshell liq.] : EL50 40.46 mg/ℓ 48 hr Daphnia magna (ECHA)

- [Isobutanol] : EC50 1250 mg/ℓ 24 hr Daphnia magna (NITE: EHC65, 1987) EC50 1100 mg/ℓ 48 hr Daphnia magna (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LC50 = 28.198 mg/ℓ 48 hr (estimate)

- [n-Butyl alcohol] : EC50 1983 mg/ℓ 48 hr Daphnia magna (DIN 38412 Part 11) (ECHA/ECOTOX)

- [1,3-Dioxolan-2-one] : LC50 > 100 mg/ℓ 96 hr Oncorhynchus mykiss (ECHA)

- [Phenol] : EC50 3.1 mg/L 48hr Ceriodaphnia dubia (ECHA), EC50=14.9mg/L(48h, D. magna)(NIER)

○ Algae

- [Toluene] : NOEC 0.74 mg/L Ceriodaphnia dubia 7d (ECHA)

- [Propylene glycol methyl ether] : EC50 >500 mg/ℓ 72 hr Selenastrum capricornutum(Static) (ECHA)

- [Cashew, nutshell liq.] : EC50 5.82 mg/L 96 hr Pseudokirchneriella subcapitata (ECHA)

- [Isobutanol] : EC50 593 mg/ℓ 72 hr Selenastrum capricornutum (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : EC50 = 34.812 mg/ℓ 96 hr (Estimate)

- [n-Butyl alcohol] : EC50 225 mg/ℓ 96 hr Selenastrum capricornutum(OECD TG 201, GLP) (ECHA)

- [1,3-Dioxolan-2-one] : EC50 > 100 mg/ℓ 72 hr Raphidocelis subcapitata (ECHA)

- [Phenol] : EC50 61.1 mg/L 96hr Pseudokirchneriella subcapitata (ECHA), ErC50=156 mg/L(72h)(NIER)

B. Persistence and degradability

○ Persistence

- [Toluene] : log Kow 2.73 (20 °C) (ECHA)

- [Propylene glycol methyl ether] : log Kow -0.49 (Estimate) (HSDB)

- [Cashew, nutshell liq.] : log Kow 6.7 (ECHA)

- [Isobutanol] : log Kow 0.8 (ISCS) log Kow 10 (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : log Kow = 0.77

- [n-Butyl alcohol] : log Kow 1 (OECD TG 117) (ECHA)

- [1,3-Dioxolan-2-one] : log Kow = -0.340 (NLM/HSDB)

- [Phenol] : log Kow = 1.47 (ECHA)

○ Degradability

- Not available

C. Bioaccumulative potential

○ Bioaccumulative potential

- [Toluene] : BCF 90 (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : BCF = 3.162 (Estimate)

- [n-Butyl alcohol] : BCF 3.16 (ECHA)

- [1,3-Dioxolan-2-one] : BCF = 3.2 (NLM/HSDB)

- [Phenol] : BCF = 17.5 ~ 647 (ECHA)

○ Biodegradation

- [Toluene] : 69 % 5 day (Readily biodegradable) (ECHA)

- [Propylene glycol methyl ether] : 96 % 28 day (OECD Guideline 301 E, GLP) (ECHA)

- [Cashew, nutshell liq.] : readily biodegradable (OECD 301F, GLP)(ECHA)

- [Isobutanol] : 70%~80% 28day (ECHA)

- [n-Butyl alcohol] : 92% 20 days (O2) (ECHA)

- [Phenol] : 62% 100 hr, readily biodegradable (ECHA)

D. Mobility in soil

- [Isobutanol] : log Kow = 0.8 (1)

- [Dodecylphenol] : Koc 165300 (Estimate)

- [Phenol] : Koc = 14 ~ 73 (ECHA)

E. Other adverse effects

- [Isobutanol] : Crustaceans(Daphnia magna); NOEC(21d) 20mg/L Algae(Pseudokirchnerella subcapitata); NOEC(72h)>53mg/L (OECD Guideline 201, Alga, Growth Inhibition Test, GLP) (ECHA)

- [Dodecylphenol] : W/S : 0.03249 mg/L (EPISUITE)

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- It shall be treated by incineration
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them

B. Special precautions for disposal

- Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act
- Dispose of waste in accordance with all applicable laws and regulations.

14. TRANSPORT INFORMATION

A. UN No. (IMDG CODE/IATA DGR)

- 1263

B. Proper shipping name

- PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)

C. Hazard Class

- 3

D. IMDG CODE/IATA DGR Packing group

- III

E. Marine pollutant

- 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.
- 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

○ POPs Management Law

- [Toluene] : Not applicable
- [4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [Cashew, nutshell liq.] : Not applicable
- [Isobutanol] : Not applicable
- [Dodecylphenol] : Not applicable
- [Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol] : Not applicable
- [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable
- [n-Butyl alcohol] : Not applicable
- [1,3-Dioxolan-2-one] : Not applicable
- [Phenol] : Not applicable

○ Information of EU Classification

* Classification

- [Toluene] : H225,H304,H315,H336,H361,H373
- [Propylene glycol methyl ether] : H226,H336
- [Isobutanol] : H226,H315,H318,H335,H336

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : H302,H315,H319
- [n-Butyl alcohol] : H226,H302,H315,H318,H335,H336
- [Phenol] : H301,H311,H314,H331,H341,H373

o **U.S. Federal regulations**

*** OSHA PROCESS SAFETY (29CFR1910.119)**

- Not applicable

*** CERCLA Section 103 (40CFR302.4)**

- [Toluene] : 453.599 kg 1000 lb
- [Isobutanol] : 2267.995 kg 5000 lb
- [n-Butyl alcohol] : 2267.995 kg 5000 lb
- [Phenol] : 453.599 kg 1000 lb
- [4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [Cashew, nutshell liq.] : Not applicable
- [Dodecylphenol] : Not applicable
- [Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol] : Not applicable
- [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable
- [1,3-Dioxolan-2-one] : Not applicable

*** EPCRA Section 302 (40CFR355.30)**

- [Phenol] : 226.7995/4535.99 kg 500/10000 lb
- [Toluene] : Not applicable
- [4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [Cashew, nutshell liq.] : Not applicable
- [Isobutanol] : Not applicable
- [Dodecylphenol] : Not applicable
- [Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol] : Not applicable
- [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable
- [n-Butyl alcohol] : Not applicable
- [1,3-Dioxolan-2-one] : Not applicable

*** EPCRA Section 304 (40CFR355.40)**

- [Phenol] : 453.599 kg 1000 lb
- [Toluene] : Not applicable
- [4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [Cashew, nutshell liq.] : Not applicable
- [Isobutanol] : Not applicable
- [Dodecylphenol] : Not applicable
- [Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol] : Not applicable
- [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable
- [n-Butyl alcohol] : Not applicable
- [1,3-Dioxolan-2-one] : Not applicable

*** EPCRA Section 313 (40CFR372.65)**

- [Toluene] : Applicable
- [n-Butyl alcohol] : Applicable
- [Phenol] : Applicable
- [4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane, reaction products with ethylenediamine] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [Cashew, nutshell liq.] : Not applicable
- [Isobutanol] : Not applicable
- [Dodecylphenol] : Not applicable
- [Formaldehyde polymer with N,N'-bis(2-aminoethyl)-1,2-ethanediamine and phenol] : Not applicable
- [Formaldehyde polymer with 1,3-benzenedimethanamine and phenol] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable

- [1,3-Dioxolan-2-one] : 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

- The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.
- This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

B. Issue date

- 2013-06-25

C. Revision number and Last date revised

- 4 times, 2022-09-16

D. Other

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