

SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

ET574HS-B

1. IDENTIFICATION

A. Product name

- ET574HS-B

B. Recommended use and restriction on use

- General use : Heavyduty Epoxy Topcoat
- 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) : Category4
- Acute toxicity (inhalation: vapor) : Category4
- Skin corrosion/irritation : Category2
- Serious eye damage/irritation : Category1
- Reproductive toxicity : Category2

B. GHS label elements

Hazard symbols



Signal words

- Danger

Hazard statements

- H226 Flammable liquid and vapour
- H302 Harmful if swallowed
- H315 Causes skin irritation

- H318 Causes serious eye damage
- H332 Harmful if inhaled
- H361 Suspected of damaging fertility or the unborn child

○ 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.
- P261 Avoid breathing 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.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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 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.
- P321 Specific treatment (if in eyes, wash with plenty of running water; if in contact with skin, wash with plenty of running water; if inhaled, move to fresh air; if ingested, seek medical advice on whether to induce vomiting).
- P330 Rinse mouth.
- P332+P313 If skin irritation 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).

3) Storage

- 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(%)
Unsatd. (C=18) fatty acids dimers polymers with triethylenetetramine reaction products with bisphenol A diglycidyl ether polymer	Fatty acids, C18-unsatd., dimers, polymers with triethylenetetramine, reaction products with poly(bisphenol A diglycidyl ether)	68424-41-9	67 ~ 74

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	13 ~ 20
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 ~ 8
Xylene	Xylol ; Methyltoluene	1330-20-7	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''-	90-72-2	1 ~ 6
Ethylbenzene	Benzene, ethyl- ; Ethyl benzene ; Ethylbenzol ; Phenylethane ;	100-41-4	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.

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
- Harmful if inhaled
- Harmful if swallowed

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

- [Propylene glycol methyl ether] : TWA, 50 ppm (184 mg/m³), STEL, 100 ppm (369 mg/m³)
- [n-Butyl alcohol] : TWA, 20 ppm (61 mg/m³)
- [Xylene] : TWA 20 ppm
- [Ethylbenzene] : TWA, 20 ppm (87 mg/m³)

○ OSHA PEL

- [n-Butyl alcohol] : 100 ppm, 300 mg/m³
- [Xylene] : 100 ppm, 435 mg/m³
- [Ethylbenzene] : 100 ppm, 435 mg/m³

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 chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Respiratory protection is ranked in order from minimum to maximum.
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- 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.
- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

○ 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.

○ 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	Solvent odor
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	27°C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	14% / 1%
K. Vapour pressure	Not available

L. Solubility	Not available
M. Vapour density	> 1(Air=1)
N. Specific gravity(Relative density)	0.897 ~ 0.937
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	464°C
Q. Decomposition temperature	Not available
R. Viscosity	96 ~ 102 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

- Sparks, flames, static electricity, strong acids and base substances

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

- Product (ATEmix) : 300mg/kg < ATEmix <= 2000mg/kg
- [Propylene glycol methyl ether] : LD50 4016 mg/kg Rat (EU Method B.1, GLP) (ECHA)
- [n-Butyl alcohol] : LD50 300 ~ 2000 mg/kg EU Harmonised Cat 4. (ECHA)
- [Xylene] : LD50 3523 mg/kg Rat (EU Method B.1) (ECHA)
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 1200 mg/kg Rat (NIER)
- [Ethylbenzene] : LD50 3500 mg/kg Rat (ECHA)

* Dermal

- Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
- [Propylene glycol methyl ether] : LD50 > 2000 mg/kg Rat (EU Method B.3, GLP) (ECHA)
- [n-Butyl alcohol] : LD50 ca. 3430 mg/kg Rabbit (OECD TG 402, GLP) (ECHA)
- [Xylene] : LD50 1700 mg/kg Rabbit (EPA Pesticide, 2005) (NITE). Acute toxicity - dermal EU Harmonized Cat. 4 (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LD50 1280 mg/kg Rat (NIER)
- [Ethylbenzene] : LD50 15432 mg/kg (17.8 mL/kg) Rabbit (ECHA)
- * Inhalation
 - Product (ATEmix) : 10.0mg/L 4hr < ATEmix <= 20.0mg/L 4hr
 - [Propylene glycol methyl ether] : Vapor LC0 > 8573 ppm 4hr (7000 ppm 6 hr) Rat No death Not classified (OECD TG 403, GLP) (ECHA)
 - [n-Butyl alcohol] : Vapour LC50 24 mg/L/4h (HSDB), LC0 > 17.76 mg/L/4 hr Rat No death Not classified (ECHA)
 - [Xylene] : Vapor LC50 10~20 mg/L 4 hr (NIER), Acute toxicity - inhalation EU Harmonized Cat. 4 (ECHA)
 - [Ethylbenzene] : Vapor LC50 18.96 mg/L 4 hr Rat (NIER)
- Skin corrosion/irritation
 - Causes skin irritation
- Serious eye damage/irritation
 - Causes serious eye damage
- Respiratory sensitization
 - Not available
- Skin sensitization
 - Not available
- Carcinogenicity
 - * IARC
 - [Xylene] : Group 3
 - [Ethylbenzene] : Group 2B
 - * OSHA
 - Not available
 - * ACGIH
 - [Propylene glycol methyl ether] : A4
 - [Xylene] : A4
 - [Ethylbenzene] : A3
 - * 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
 - Not available
- STOT-repeated exposure
 - Not available
- Aspiration hazard
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- Fish
 - [Propylene glycol methyl ether] : LC50 4600~10000 mg/L 96 hr Leuciscus idus (ECHA)
 - [n-Butyl alcohol] : LC50 1376 mg/l 96 hr Pimephales promelas(OECD TG 203, GLP) (ECHA)
 - [Xylene] : LC50 7.6 mg/L 96 hr Oncorhynchus mykiss (Read-across 95-47-6) (OECD TG 203) (ECHA), NOEC 0.714

mg/L 35 d Danio rerio (Read-across 106-42-3) (OECD TG 210, GLP) (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : LC50 > 100 mg/L 96 hr Cyprinus carpio (OECD TG 203, GLP) (ECHA)

- [Ethylbenzene] : LC50 4.2 mg/L 96 hr Oncorhynchus mykiss (NIER)

○ Crustaceans

- [Propylene glycol methyl ether] : LC50 21100~25900 mg/L 48 hr Daphnia magna (ECHA)

- [n-Butyl alcohol] : EC50 1328 mg/ℓ 48 hr Daphnia magna (OECD TG 202, GLP), NOEC 4.1 mg/ℓ 21 d Daphnia magna (OECD TG 211, GLP) (ECHA)

- [Xylene] : EC50 4.7 mg/L 48 hr Daphnia magna (Read-across 108-38-3) (NIER), NOEC 1.17 mg/L 7 d Ceriodaphnia dubia (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : EC50 > 100 mg/L 48 hr Daphnia magna (OECD TG 202, GLP) (ECHA)

- [Ethylbenzene] : EC50 1.8~2.4 mg/L 48 hr Daphnia magna, NOEC 0.96 mg/L 7 d Ceriodaphnia dubia (ECHA)

○ Algae

- [Propylene glycol methyl ether] : EC50 > 1000 mg/L 96 hr Raphidocelis subcapitata (OECD TG 201, GLP) (ECHA)
NOEC 100 mg/L 72hr Raphidocelis subcapitata (NIER)

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

- [Xylene] : EC50 4.7 mg/L 72 hr Raphidocelis subcapitata (Read-across 95-47-6) (OECD TG 201) (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : EC50 46.7 mg/L 72 hr, NOEC 6.44 mg/L 72 hr Raphidocelis subcapitata (OECD TG 201, GLP) (ECHA)

- [Ethylbenzene] : EC50 3.6 mg/L 96 hr, NOEC 3.4 mg/L 96 hr Raphidocelis subcapitata (ECHA)

B. Persistence and degradability

○ Persistence

- [Propylene glycol methyl ether] : log Pow < 1 (20 °C) (OECD TG 117) (ECHA)

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

- [Xylene] : log Pow 3.12 (Read-across 95-47-6) (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Pow >=0.219 (21.5°C)(ECHA)

- [Ethylbenzene] : log Pow 3.6 (20 °C) (ECHA)

○ Degradability

- Not available

C. Bioaccumulative potential

○ Bioaccumulative potential

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

- [Xylene] : BCF 25.9 dimensionless (ECHA)

- [Ethylbenzene] : BCF 1 (ECHA)

○ Biodegradation

- [Propylene glycol methyl ether] : 96 % 28 d, Readily biodegradable (OECD TG 301 E, GLP) (ECHA)

- [n-Butyl alcohol] : Readily biodegradable, 92 % 20 d (O2 consumption) (ECHA)

- [Xylene] : Readily biodegradable, 94 % 28 d (O2 consumption) (Read-across 95-47-6) (OECD TG 301 F, GLP) (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not readily biodegradable, 4% degradation (O2 consumption) 28day (OECD TG 301D, GLP)(ECHA)

- [Ethylbenzene] : Readily biodegradable, 70~ 80 % 28 d (inorg. C analysis) (ISO 14593-CO2-Headspace Test) (ECHA)

D. Mobility in soil

- [n-Butyl alcohol] : Koc 3.471 (calculation) (ECHA)

- [Xylene] : log Koc ca. 2.73 dimensionless (Read-across 95-47-6) (OECD TG 121) (ECHA)

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Koc 20.98 (ECHA)

E. Other adverse effects

- Not available

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
- High temperature incinerate
- After taking off organic solvents that are supposed to be recycled, incinerate the rest of them at a high degree.

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)(Propylene glycol methyl ether)

C. Hazard Class

- 3

D. IMDG CODE/IATA DGR Packing group

- III

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.
- 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

- [Unsatd. (C=18) fatty acids dimers polymers with triethylenetetramine reaction products with bisphenol A diglycidyl ether polymer] : Not applicable
- [Propylene glycol methyl ether] : Not applicable
- [n-Butyl alcohol] : Not applicable
- [Xylene] : Not applicable
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable
- [Ethylbenzene] : Not applicable

○ Information of EU Classification

* Classification

- [Propylene glycol methyl ether] : H226,H336
- [n-Butyl alcohol] : H226,H302,H315,H318,H335,H336
- [Xylene] : H226,H312,H315,H332
- [2,4,6-Tris[(dimethylamino)methyl]phenol] : H302,H315,H319
- [Ethylbenzene] : H225,H304,H332,H373

○ U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- Not applicable

* CERCLA Section 103 (40CFR302.4)

- [n-Butyl alcohol] : 2267.995 kg 5000 lb

- [Xylene] : 45.3599 kg 100 lb

- [Ethylbenzene] : 453.599 kg 1000 lb

- [Unsatd. (C=18) fatty acids dimers polymers with triethylenetetramine reaction products with bisphenol A diglycidyl ether polymer] : Not applicable

- [Propylene glycol methyl ether] : Not applicable

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : Not applicable

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- [n-Butyl alcohol] : Applicable

- [Xylene] : Applicable

- [Ethylbenzene] : Applicable

- [Unsatd. (C=18) fatty acids dimers polymers with triethylenetetramine reaction products with bisphenol A diglycidyl ether polymer] : Not applicable

- [Propylene glycol methyl ether] : Not applicable

- [2,4,6-Tris[(dimethylamino)methyl]phenol] : 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

- 2020-06-26

C. Revision number and Last date revised

- 4 times, 2025-04-22

D. Other

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