

SAFETY DATA SHEET

1. IDENTIFICATION

A. Product name

- 002

B. Recommended use and restriction on use

- General use : THINNER
- Restriction on use : Do not use except for purpose

C. Supplier 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) : Category4
- Acute toxicity (inhalation: vapor) : Category4
- Skin corrosion/irritation : Category2
- Serious eye damage/irritation : Category2A
- Germ cell mutagenicity : Category1B
- Carcinogenicity : Category1B
- Specific target organ toxicity(Single exposure) : Category3(Narcotic effects)
- Specific target organ toxicity(Single exposure) : Category3(Respiratory tract irritation)
- Specific target organ toxicity(Repeated exposure) : Category1
- Specific target organ toxicity(Repeated exposure) : Category2
- Aspiration hazard : Category1
- Acute aquatic toxicity : Category2
- Chronic aquatic toxicity : Category3

B. GHS label elements

o Hazard symbols



o Signal words

- Danger

o Hazard statements

- H226 Flammable liquid and vapour
- H303 May harmful if swallowed.
- H304 May be fatal if swallowed and enters airways
- H312 Harmful in contact with skin
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H335 May cause respiratory irritation.
- H336 May cause drowsiness and dizziness.
- H340 May cause genetic defects
- H350 May cause cancer
- H372 Causes damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
- H401 Toxic to aquatic organisms.
- H412 Harmful 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/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.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe gas/mist/vapours/spray.
- P261 Avoid breathing 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.
- P281 Use personal protective equipment as required.

2) Response

- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- 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.
- P308+P313 If exposed or concerned: Get medical advice/attention.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.
- P321 Specific treatment
- P322 Specific measures
- P331 Do NOT induce vomiting.
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P337+P313 If eye irritation persists: 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)

○ **NFPA grade (0 ~ 4 level)**

- Health : 2, Flammability : 3, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Trade names and Synonyms	CAS No.	Content(%)
Xylene	Dimethylbenzene	1330-20-7	80 ~ 90
Ethylbenzene	Benzene, ethyl-	100-41-4	10 ~ 20
Solvent naphtha (petroleum), light arom.	Naphtha	64742-95-6	1 ~ 10

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.
- Go to the hospital immediately if symptoms(flare, irritate) occur.
- 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.
- Prevent the spread of the skin.
- Remove contaminated clothing, shoes and isolate.
- Wash thoroughly after handling.
- Wear gloves when washing the patient, and please avoid contact with contaminated clothing.

C. Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- 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

- 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

- Notify your local firestation and inform the location of the fire and characteristics hazard.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Avoid inhalation of materials or combustion by-products.
- Do not approach the tank surrounded by fire until it is extinguished.
- Use appropriate extinguishing measure suitable for surrounding fire.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.
- Due to the extremely low flash point, irrigating fire extinguishing may be less effective when put out a fire.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Must work against the wind, let the upwind people to evacuate.
- Move container to safe area from the leak area.
- Remove all sources of ignition.

- Handle the damaged containers or spilled material after wearing appropriate protective equipment
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.
- Cleanup and disposal under expert supervision is advised.
- Keep unauthorized people away, isolate hazard area and deny entry.

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.
- Notify the central and local government if the emission reach the standard threshold.
- Disposal of waste shall be in compliance with the Wastes Control Act
- 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.
- Spilled material should be treated as a potential risk of waste collected.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling.
- Avoid direct physical contact.
- Avoid contact with incompatible materials.
- Refer to Engineering controls and personal protective equipment.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.
- Contaminated work clothing should not be allowed out of the workplace.

B. Conditions for safe storage, including any incompatibilities

- Do not use damaged containers.
- Do not apply direct heat.
- Store according to current laws and regulations
- Avoid direct sunlight.
- Keep in the original container.
- By specifying a storage area for carcinogenic substances.
- Collected them in sealed containers.
- Store away from water and sewer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

- o ACGIH TLV
 - [Xylene] : TWA 100 ppm (434 mg/m³), STEL, 150 ppm (651 mg/m³)
 - [Ethylbenzene] : TWA, 20 ppm (87 mg/m³)
- o OSHA PEL
 - [Ethylbenzene]: 100ppm 435mg/m³
 - [Xylene]: 100ppm 435mg/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

- o Respiratory protection

- 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.
- 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
- 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	136 °C
G. Flash point	28.5 °C
H. Evaporation rate	Not available
I. Flammability(solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	1%/7%
K. Vapour pressure	Not available
L. Solubility	Not available
M. Vapour density	Not available
N. Specific gravity(Relative density)	0.86 ~ 0.88
O. Partition coefficient of n-octanol/water	Not available
P. Autoignition temperature	432
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)**
 - May be fatal if swallowed and enters airways
 - May cause respiratory irritation.
- **(Oral)**
 - May harmful if swallowed.
- **(Eye-Skin)**
 - Causes serious eye irritation
 - Causes skin irritation

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
 - [Xylene] : LD50=3523 mg/kg Rat (EU Method B1) (ECHA)
 - [Ethylbenzene] : LD50 = 3500 mg/kg Rat (ECHA, HSDB)
 - [Solvent naphtha (petroleum), light arom.] : LD50 = 8400 mg/kg Rat (RTECS)
 - * **Dermal**
 - Product (ATEmix) : 300mg/kg < ATEmix <= 2000mg/kg
 - [Xylene] : LD50 ≥1,700mg/kg Rabbit (NIER)
 - [Ethylbenzene] : LD50 = 15400 mg/kg Rabbit (ECHA, ChemIDPlus)
 - [Solvent naphtha (petroleum), light arom.] : LD50 > 2000 mg/kg Rabbit (IUCLID)
 - * **Inhalation**
 - Product (ATEmix) : 10.0mg/L < ATEmix <= 20.0mg/L
 - [Xylene] : Vapor LC50 = 10 ~ 20 mg/L/4hr (NIER)
 - [Ethylbenzene] : Vapor LC50 17.8 mg/L 4 hr Rat (conversion value of 4000 ppm) (ECHA, HSDB)
 - [Solvent naphtha (petroleum), light arom.] : LC50 > 5.61 mg/L 4 hr Rat (ECHA), Mist LC50= 3400 ppm 4hr Rat (IUCLID)
- **Skin corrosion/irritation**
 - Causes skin irritation
- **Serious eye damage/irritation**
 - Causes serious eye irritation
- **Respiratory sensitization**
 - Not available
- **Skin sensitization**
 - Not available
- **Carcinogenicity**
 - * **IARC**
 - [Ethylbenzene0] : Group 2B
 - * **OSHA**
 - Not available
 - * **ACGIH**
 - [Ethylbenzene0] : A3
 - [Xylene0] : A4
 - * **NTP**
 - Not available
 - * **EU CLP**
 - [Solvent naphtha (petroleum), light arom.0] : Carc.1B
- **Germ cell mutagenicity**
 - May cause genetic defects
- **Reproductive toxicity**
 - Not available
- **STOT-single exposure**

- May cause drowsiness and dizziness.
- May cause respiratory irritation.
- **STOT-repeated exposure**
 - Causes damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
 - 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**
 - [Xylene] : LC50=3.3mg/L 96 hr (NITE)
 - [Ethylbenzene] : LC50 5.1 mg/ℓ 96 hr (ECHA)
 - [Solvent naphtha (petroleum), light arom.] : LC50 = 9.22 mg/ℓ 96 hr *Oncorhynchus mykiss* (IUCLID)
- **Crustaceans**
 - [Xylene] : LC50 3.6 mg/ℓ 24 hr (OECD TG202) (ECHA)
 - [Ethylbenzene] : LC50 1.8 mg/ℓ ~ 2.4 mg/ℓ 48 hr *Mysidopsis bahia*(EC50 48hr >5.2mg/L, EPA 1985, GLP)
 - [Solvent naphtha (petroleum), light arom.] : EC50 = 6.14 mg/ℓ 48 hr *Daphnia magna* (IUCLID)
- **Algae**
 - [Xylene] : ErC50 4.06 mg/ℓ 73 hr (OECD TG201, GLP) (ECHA)
 - [Ethylbenzene] : EC50 3.6 mg/ℓ 96 hr (EPA 1985, GLP)
 - [Solvent naphtha (petroleum), light arom.] : EC50 = 19 mg/ℓ 72 hr *Selenastrum capricornutum* (IUCLID)

B. Persistence and degradability

- **Persistence**
 - [Xylene] : log Kow=3.16 (NITE)
 - [Ethylbenzene] : log Kow 3.15 (ECHA)
 - [Solvent naphtha (petroleum), light arom.] : log Kow = 2.1 ~ 6 (Estimate) (IUCLID)
- **Degradability**
 - [Solvent naphtha (petroleum), light arom.] : BOD5/COD = 0.43

C. Bioaccumulative potential

- **Bioaccumulative potential**
 - [Xylene] : BCF25.9 (ECHA)
 - [Ethylbenzene] : BCF 1
- **Biodegradation**
 - [Xylene] : 90 % 28 day (OECD TG301F, GLP)(ECHA)
 - [Ethylbenzene] : 70-80% 28 day (ISO 14593 CO2, GLP)

D. Mobility in soil

- [Xylene] : log Kow = 3.12 (measured) (ortho), 3.2 (measured) (meta), 3.15 (measurements) (p) (5)
- [Ethylbenzene] : log koc= 2.41, measured (ECHA)

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- 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
- Oil water separation technology shall be applied as pre-waste treatment if it is applicable
- It shall be treated by incineration
- 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)

- 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

- 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.
- Air transport(IATA): This product is NOT classified as dangerous for IATA Transport.
- 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**
 - [Xylene] : H226,H332,H312,H315
 - [Ethylbenzene] : H225,H332
 - [Solvent naphtha (petroleum), light arom.] : H350,H340,H304
- o **U.S. Federal regulations**
 - * **OSHA PROCESS SAFETY (29CFR1910.119)**
 - Not applicable
 - * **CERCLA Section 103 (40CFR302.4)**
 - [Xylene] : 45.3599 kg 100 lb
 - [Ethylbenzene] : 453.599 kg 1000 lb
 - * **EPCRA Section 302 (40CFR355.30)**
 - Not applicable
 - * **EPCRA Section 304 (40CFR355.40)**
 - Not applicable
 - * **EPCRA Section 313 (40CFR372.65)**
 - [Xylene] : Applicable
 - [Ethylbenzene] : Applicable
- o **Rotterdam Convention listed ingredients**
 - Not applicable
- o **Stockholm Convention listed ingredients**
 - Not applicable
- o **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

- 2013-04-15

C. Revision number and Last date revised

- 16 times, 2020-06-11

D. Other

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