NOROO

SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

DHDC-5000HB (BASE) EPOXY INTERMEDIATE COAT (HIGH BUILD) (E-80680)

Date of issue: 2025-09-09 Revision date: 2026-02-06 Version: 1.1

1. IDENTIFICATION

A. Product name

- DHDC-5000HB (BASE) EPOXY INTERMEDIATE COAT (HIGH BUILD) (E-80680)

B. Recommended use and restriction on use

- General use : 유성 페인트
- Restriction on use : Not for use other than as recommended.

C. Manufacturer / Supplier / Distributor information

- Company name : NOROO Paint & Coatings
- Address : 351, Bakdal-ro, Manan-gu, Anyang-si, Gyeonggi-do, Republic of Korea
- Emergency telephone number : 031-467-6114

2. HAZARD IDENTIFICATION

A. GHS Classification

- Flammable liquids : Category3
- Acute toxicity (inhalation: vapor) : Category4
- Skin corrosion/irritation : Category2
- Serious eye damage/irritation : Category2
- Skin sensitization : Category1
- Germ cell mutagenicity : Category1B
- Carcinogenicity : Category1B
- Reproductive toxicity : Category2
- Specific target organ toxicity(Repeated exposure) : Category2
- Aspiration hazard : Category1
- Chronic aquatic toxicity : Category1

B. GHS label elements

○ Hazard symbols



○ Signal words

- Not applicable

○ Hazard statements

- H226 Flammable liquid and vapour
- H304 May be fatal if swallowed and enters airways
- H315 Causes skin irritation

- H317 May cause an allergic skin reaction
- H319 Causes serious eye irritation
- H332 Harmful if inhaled
- H340 May cause genetic defects
- H350 May cause cancer
- H361 Suspected of damaging fertility or the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure
- H410 Very 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.
- P281

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 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.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention 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).
- 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.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P362 Take off contaminated clothing and wash before reuse.
- 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+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(%)
탄산 칼슘	칼사이트(방해석) ; 마블 ; 석회암 ; 석회석	1317-65-3	40~50
비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체	비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체	25036-25-3	12~20
자일렌	자일롤 ; 메틸톨루엔 ; 다이메틸벤젠	1330-20-7	5~15
이산화 티타늄	산화 티타늄 ; 과산화 티타늄 ; 다이옥소티타늄 ; 피그먼트 화이트 6	13463-67-7	1~6
4-메틸-2-펜탄온	2-메틸-4-펜탄온 ; 2-메틸프로필 메틸 케톤 ; 헥산온 ; 4-메틸-2-펜탄온 ; 아이소부틸 메틸 케톤 ; 헥손 ; 4-메틸펜탄-2-온 ; 아이소프로필아세톤	108-10-1	1~5
방향족 경질 나프타 용매 (석유)	나프타	64742-95-6	1~5
스타이렌화된 페놀	스타이렌화된 페놀	61788-44-1	1~5
4차 암모늄 화합물, 비스(수소산 수지 알킬) 다이메틸, 벤토나이트와의 염	제4급 암모늄 화합물, 비스(하이드로겐에이트 탈로우 알킬)다이메틸과 벤토나이트의 염 ; 제4급 암모늄 화합물 ,비스(하이드로겐에이트 탈로우 알킬)다이메틸과 벤토나이트의 염 ; 비스(하이드로겐에이트 탈로우 알킬)다이메틸과 벤토나이트의 암모늄 염 ; 비스(하이드로겐에이트 탈로우 알킬)다이메틸암모늄 벤토나이트 ; 다이메틸 다이하이드로겐에이트 탈로우 암모늄 클로라이드와 벤토나이트의 반응 생성물 ; 다이메틸 다이하이드로겐에이트 탈로우 암모늄 클로라이드와 벤토나이트의 반응 생성물 ; 다이메틸비스(하이드로겐에이트 탈로우)암모늄 벤토나이트 ; 제4급 암모늄 화합물, 비스(하이드로겐에이트 탈로우 알킬)다이메틸와 벤토나이트의 염 ;	68953-58-2	1~5
1-뷰탄올	1-부탄올 ; 프로필 카빈올 ; 프로필메탄올 ; N-부탄올 ; 부티릭 알콜 ; 수산화 부틸 ; 1-하이드록시부탄 ; 메틸올 프로판 ; 부틸 알콜 ; 부탄-1-올	71-36-3	1~5
2-뷰톡시에탄올	O-부틸 에틸렌 글라이콜 ; 에틸렌 글라이콜 부틸 에테르 ; 에틸렌 글라이콜 N-부틸 에테르 ; 글라이콜 부틸 에테르 ; 글라이콜 모노부틸 에테르 ; 모노부틸 글라이콜 에테르 ; 부틸 글라이콜 ; 부틸 옥시톨	111-76-2	1~5

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.
- 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

- 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 irritation
- Causes skin irritation
- Flammable liquid and vapour
- Harmful if inhaled
- May be fatal if swallowed and enters airways

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

- Avoid dispersal of spilt material and runoff and contact with waterways, drains and sewers. If large spills, advise emergency services.
- 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

- [자일렌] : TWA 20 ppm
- [4-메틸-2-펜탄온] : TWA, 20 ppm (82 mg/m3) STEL 75 ppm (307 mg/m3)
- [1-뷰탄올] : TWA, 20 ppm (61 mg/m3)

○ OSHA PEL

- [탄산 칼슘] : 15 mg/m3 (Total dust), 5 mg/m3 (Respirable fraction)
- [자일렌] : 100 ppm, 435 mg/m3
- [이산화 티타늄] : 15 mg/m3 (Total dust)
- [4-메틸-2-펜탄온] : 100 ppm, 410 mg/m3
- [1-뷰탄올] : 100 ppm, 300 mg/m3
- [2-뷰톡시에탄올] : 50 ppm, 240 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 air-purifying respirator with a full facepiece and an organic vapor canister.
- Any chemical cartridge respirator with a full facepiece and organic vaporcartridge(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	액체
- Color	유색의 액체
B. Odor	특취
C. Odor threshold	자료없음
D. pH	Not available
E. Melting point/Freezing point	자료없음
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	28
H. Evaporation rate	자료없음
I. Flammability(solid, gas)	자료없음
J. Upper/Lower Flammability or explosive limits	Not available
K. Vapour pressure	자료없음
L. Solubility	물)불용성
M. Vapour density	자료없음
N. Specific gravity(Relative density)	1.6±0.2
O. Partition coefficient of n-octanol/water	자료없음
P. Autoignition temperature	자료없음
Q. Decomposition temperature	자료없음
R. Viscosity	120±10 KU
S. Molecular weight	자료없음

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: 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

○ Oral

- Not available

○ Eye·Skin

- Causes serious eye irritation
- 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) : Not available
- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : LD50 > 2000 mg/kg Rat (NICS)
- [자일렌] : LD50 3523 mg/kg Rat (EU Method B.1) (ECHA)
- [이산화 티타늄] : LD50 > 10000 ㎎/㎏ Rat (HSDB)
- [4-메틸-2-펜탄온] : LD50 2080 ㎎/㎏ Rat (NITE, ECHA)
- [방향족 경질 나프타 용매 (석유)] : LD50 > 5000 mg/kg Rat (Read across 86290-81-5) (OECD TG 401, GLP) (ECHA)
- [스타이렌화된 페놀] : LD50 > 2000 mg/kg Rat (NICS)
- [4차 암모늄 화합물, 비스(수소산 수지 알킬) 다이메틸, 벤토나이트와의 염] : LD50 > 5000 ㎎/㎏ Rat (SIDS)
- [1-뷰탄올] : LD50 1200 mg/kg Hamster, EU Harmonised Cat 4. (ECHA)
- [2-뷰톡시에탄올] : LD50 1414 ㎎/㎏ Guinea pig (OECD TG 401, GLP)

* Dermal

- Product (ATEmix) : Not available
- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : LD50 > 2000 mg/kg Rat (NICS)
- [자일렌] : LD50 1700 mg/kg Rabbit (NITE)、EU Harmonized Cat. 4 (ECHA)
- [이산화 티타늄] : LD50 > 10000 ㎎/㎏ Rabbit (IUCLID)
- [4-메틸-2-펜탄온] : LD50 > 16,040 ㎎/㎏ Rabbit (NITE)
- [방향족 경질 나프타 용매 (석유)] : LD50 > 2000 mg/kg Rabbit (Read across 86290-81-5) (OECD TG 402, GLP) (ECHA)
- [스타이렌화된 페놀] : LD50 > 2000 mg/kg Rat (NICS)
- [1-뷰탄올] : LD50 ca. 3430 mg/kg Rabbit (OECD TG 402, GLP) (ECHA)
- [2-뷰톡시에탄올] : LD50 >2000 ㎎/㎏ Rat (ECHA)

* Inhalation

- Product (ATEmix) : Not available
- [자일렌] : Vapor LC50 > 10 ~ 20 mg/L 4hr, EU Harmonized Cat. 4 (ECHA)
- [이산화 티타늄] : LC50 >3.43 ㎎/ℓ Rat (OECD TG 403)
- [4-메틸-2-펜탄온] : Vapor LC50 11.6 ㎎/ℓ 4hr Rat (ECHA)
- [방향족 경질 나프타 용매 (석유)] : Vapour LC50 > 7.63 mg/L Rat 4 hr (Read across 86290-81-5) (OECD TG 403, GLP) (ECHA)
- [스타이렌화된 페놀] : Aerosol LC50 1.567 mg/L 4hr Rat (NICS)
- [4차 암모늄 화합물, 비스(수소산 수지 알킬) 다이메틸, 벤토나이트와의 염] : LC50 > 12.6 ㎎/ℓ 4 hr Rat (GLP, IUCLID)

- [2-뷰톡시에탄올] : 구분3

○ Skin corrosion/irritation

- Causes skin irritation

○ Serious eye damage/irritation

- Causes serious eye irritation

○ Respiratory sensitization

- Not available

○ Skin sensitization

- May cause an allergic skin reaction

○ Carcinogenicity

* IARC

- [자일렌] : Group 3
- [이산화 티타늄] : Group 2B
- [4-메틸-2-펜탄온] : Group 2B
- [2-뷰톡시에탄올] : Group 3

* OSHA

- Not available

* ACGIH

- [자일렌] : A4
- [이산화 티타늄] : A4
- [4-메틸-2-펜탄온] : A3
- [2-뷰톡시에탄올] : A3

* NTP

- Not available

* EU CLP

- [4-메틸-2-펜탄온] : Carc.2
- [방향족 경질 나프타 용매 (석유)] : Carc. 1B (Note P)

○ Germ cell mutagenicity

- May cause genetic defects

○ Reproductive toxicity

- Suspected of damaging fertility or the unborn child

○ STOT-single exposure

- Not available

○ STOT-repeated exposure

- May cause damage to organs through prolonged or repeated exposure

○ Aspiration hazard

- May be fatal if swallowed and enters airways

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ Fish

- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : LC50 > 100 mg/L 96 hr O. latipes (NICS)

- [자일렌] : 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)

- [이산화 티타늄] : LL50 >100 ㎎/ℓ 96 hr Oryzias latipes(OECD TG 203)

- [4-메틸-2-펜탄온] : LC50 > 179 ㎎/ℓ 96 hr Brachydanio rerio (OECD TG 203, GLP) (ECHA)

- [방향족 경질 나프타 용매 (석유)] : LL50 8.2 mg/L 96hr Pimephales promelas (Read-across Light alkylate naphtha) (EPA 66013-75-009, GLP), NOELR 2.6 mg/L 14d Pimephales promelas (Read-across Light Catalytically Reformed

Naphtha) (OECD TG 204, GLP) (ECHA)

- [스타이렌화된 페놀] : LC50 1.9 mg/L 96 hr O. latipes NOEC 0.0021 mg/L 63d, D. rerio (NICS)

- [1-뷰탄올] : LC50 1376 ㎎/ℓ 96hr Pimephales promelas (OECD TG 203, GLP) (ECHA)

- [2-뷰톡시에탄올] : LC50 1474 ㎎/ℓ 96 hr Oncorhynchus mykiss(OECD Guideline 203)

○ Crustaceans

- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : EC50 > 100 mg/L 48 hr D. magna (NICS)

- [자일렌] : 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)

- [이산화 티타늄] : EC50 >100 ㎎/ℓ 48 hr Daphnia magna(48h-EL50Daphnia magna>100 mg/L, 48h-EC50>100, 48h-EC10=91.2 mg/L, OECD TG 202)

- [4-메틸-2-펜탄온] : EC50 > 200 ㎎/ℓ 48 hr Daphnia magna (OECD TG 202, GLP), NOEC 30 mg/L 21 d Daphnia magna (OECD TG 211) (ECHA)

- [방향족 경질 나프타 용매 (석유)] : EL50 4.5 mg/L 48hr Daphnia magna (Read-across straight-run light gasoline) (OECD TG 202, GLP), NOELR 2.6 mg/L 21d (Read-across Light alkylate naphtha) (OECD TG 211, GLP) (ECHA)

- [스타이렌화된 페놀] : NOEC 0.115 mg/L 21 d, D. magna (NICS)

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

- [2-뷰톡시에탄올] : EC50 1800 ㎎/ℓ 48 hr Daphnia magna(OECD TG 202)

○ Algae

- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : ErC50 > 100 mg/L, NOEC 100 mg/L 72 hr P. subspicatus (NICS)

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

- [이산화 티타늄] : ErL50 >100 ㎎/ℓ 72 hr (Pseudokirchneriella subcapitata, 72h-ErL50 Pseudokirchneriella subcapitata >100 mg/L growth rate, static, 72h-EyL50 >100 mg/L static, OECD TG 201)

- [4-메틸-2-펜탄온] : EC50 > 146 ㎎/ℓ, NOEC 146 mg/L 7 d Lemna gibba (OECD TG 221) (ECHA)

- [방향족 경질 나프타 용매 (석유)] : EL50 3.1 mg/L, NOELR 0.5 mg/L 72hr Selenastrum capricornutum (Read-across Blended Gasoline) (OECD TG 201, GLP) (ECHA)

- [스타이렌화된 페놀] : ErC50 0.340 mg/L 72 hr P. subcapitata (NICS)

- [1-뷰탄올] : EC50 225 mg/L 96hr Raphidocelis subcapitata (OECD TG 201, GLP) (ECHA)

- [2-뷰톡시에탄올] : EC50 911 ㎎/ℓ 72 hr Selenastrum capricornutum(OECD TG 201)

B. Persistence and degradability

○ Persistence

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

- [4-메틸-2-펜탄온] : log Kow 1.9 (OECD TG 117) (ECHA)

- [스타이렌화된 페놀] : log Kow 3.03 (ECHA)

- [1-뷰탄올] : log Pow 1 (25 °C, pH 7) (OECD TG 117, GLP) (ECHA)

- [2-뷰톡시에탄올] : 0.81 log Kow (25 °C, pH=7, BASF standard method)

○ Degradability

- Not available

C. Bioaccumulative potential

○ Bioaccumulative potential

- [자일렌] : BCF 25.9 dimensionless (ECHA)

○ Biodegradation

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

- [4-메틸-2-펜탄온] : Readily biodegradable, 83 % 28 d (O2 consumption) (OECD TG 301 F, GLP) (ECHA)

- [스타이렌화된 페놀] : Not readily biodegradable (NICS)

- [1-뷰탄올] : Readily biodegradable, 92 % degradation (O2 consumption) 20d (ECHA)

- [2-뷰톡시에탄올] : 90.4 % 28 day (OECD TG 301G)

D. Mobility in soil

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

- [4-메틸-2-펜탄온] : Koc 101.85 (calculation) (ECHA)

E. Other adverse effects

- [2-뷰톡시에탄올] : FIsh Danio rerio: NOEC14d>100 mg/L OECD TG 204, Crustacean Daphnia magna: NOEC21d=100 mg/L OECD TG 211 (ECHA)

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)

- Not applicable

B. Proper shipping name

- Not applicable

C. Hazard Class

- Not applicable

D. IMDG CODE/IATA DGR Packing group

- Not applicable

E. Marine pollutant

- Applicable

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

- Air transport(IATA): Not subject to IATA regulations.

- Emergency Action Code

- Hazard No.(ADR)

- 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.

- Tunnel Restriction Code

- EmS FIRE SCHEDULE : Not available

- EmS SPILLAGE SCHEDULE : Not available

15. REGULATORY INFORMATION

A. National and/or international regulatory information

○ POPs Management Law

- [탄산 칼슘] : Not applicable

- [비스페놀 A-비스페놀 A 디글리시딜 에테르 중합체] : Not applicable

- [자일렌] : Not applicable

- [이산화 티타늄] : Not applicable

- [4-메틸-2-펜탄온] : Not applicable

- [방향족 경질 나프타 용매 (석유)] : Not applicable

- [스타이렌화된 페놀] : Not applicable

- [4차 암모늄 화합물, 비스(수소산 수지 알킬) 다이메틸, 벤토나이트와의 염] : Not applicable

- [1-뷰탄올] : Not applicable
- [2-뷰톡시에탄올] : Not applicable

○ Information of EU Classification

* Classification
  - [자일렌] : H226,H312,H315,H332
  - [4-메틸-2-펜탄온] : H225,H319,H332,H335,H351
  - [방향족 경질 나프타 용매 (석유)] : H304,H340,H350
  - [1-뷰탄올] : H226,H302,H315,H318,H335,H336
  - [2-뷰톡시에탄올] : Not applicable

○ U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)
  - Not applicable
* CERCLA Section 103 (40CFR302.4)
  - [자일렌] : 45.3599 kg 100 lb
  - [4-메틸-2-펜탄온] : 2267.995 kg 5000 lb
  - [1-뷰탄올] : 2267.995 kg 5000 lb
* EPCRA Section 302 (40CFR355.30)
  - Not applicable
* EPCRA Section 304 (40CFR355.40)
  - Not applicable
* EPCRA Section 313 (40CFR372.65)
  - [자일렌] : Applicable
  - [4-메틸-2-펜탄온] : Applicable
  - [1-뷰탄올] : 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

- 2025-09-09

C. Revision number and Last date revised

- 1 times, 2026-02-06

D. Other

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