

SAFETY DATA SHEET

According to OSHA Hazcom Standard 29 CFR 1910.1200

MP120-4433

1. IDENTIFICATION

A. Product name

- MP120-4433

B. Recommended use and restriction on use

- General use : ALKYD PRIMER
- 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 (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) : Category1
- Aspiration hazard : Category1
- Chronic aquatic toxicity : Category2

B. GHS label elements

○ Hazard symbols



○ Signal words

- Danger
- 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
 - H372 Causes damage to organs through prolonged or repeated exposure
 - 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.
 - P270 Do not eat, drink or smoke when using this product.
 - 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.
 - 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+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(%)
Kerosine (petroleum), hydrodesulfurized	HYDRODESULFURIZED KEROSENE	64742-81-0	13 ~ 20
Talc(Containing no asbestos fibers)	Talc (Mg3H2(SiO3)4)	14807-96-6	10 ~ 17
Naphtha (petroleum), hydrodesulfurized heavy	Aliphatic hydrocarbon ; Oils, naphtha, hydrodesulfurized heavy ; Hydrodesulfurized heavy naphtha (petroleum) ;	64742-82-1	10 ~ 17
Dolomite	Magnesium calcium carbonate	16389-88-1	7 ~ 14
Calcium hydrogenorthophosphate	Anhydrous Emcompress	7757-93-9	4 ~ 11
Titanium dioxide	Titanium oxide (TiO2) ; Titanium peroxide (TiO2) ; Dioxotitanium ; Pigment white 6	13463-67-7	1 ~ 8
Xylene	Xylol ; Methyltoluene	1330-20-7	1 ~ 8
Calcium carbonate	Carbonic acid calcium salt (1:1) ; Calcite ; Limestone ; Marble ;	471-34-1	1 ~ 6
Ethylbenzene	Benzene, ethyl- ; Ethyl benzene ; Ethylbenzol ; Phenylethane ;	100-41-4	0.1~1
Calcium 2-ethylhexanoate	Hexanoicacid, 2-ethyl-, calcium salt (8CI,9CI)	136-51-6	0.1~1
Methyl ethyl ketoxim	2-Butanone oxime ; 2-Butoxime ; Ethyl methyl ketone oxime ; Ethyl methyl ketoxime ; 2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(Methylamino)]carbonyl)oxime ; 3,3-Dimethyl-1-methylthiobutanone O-methylcarbamoyloxime ; 1-(2,2-Dimethyl-1-methylthiomethylpropylideneamin o-oxy)-N-methylformamide ;	96-29-7	0.1~1
2-Ethylhexanoic acid zirconium salt	ZIRCONIUM 2-ETHYLHEXANOATE	22464-99-9	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.
- 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 damage to organs through prolonged or repeated exposure
- Causes serious eye irritation
- Causes skin irritation
- Flammable liquid and vapour
- Harmful if inhaled

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

- [Kerosine (petroleum), hydrodesulfurized] : TWA, 200 mg/m³, Total hydrocarbon vapor Skin
- [Talc(Containing no asbestos fibers)] : TWA 2 mg/m³, Respirable particulate matter (containing no asbestos and <1% crystalline silica)
- [Titanium dioxide] : TWA 0.2 mg/m³ (Nanoscale particles), 2.5 mg/m³ (Finescale particles) Respirable particulate mass
- [Xylene] : TWA 20 ppm
- [Ethylbenzene] : TWA, 20 ppm (87 mg/m³)
- [2-Ethylhexanoic acid zirconium salt] : TWA 5 mg/m³, as Zr STEL 10 mg/m³, as Zr

○ OSHA PEL

- [Titanium dioxide] : 15 mg/m³ (Total dust)
- [Xylene] : 100 ppm, 435 mg/m³
- [Ethylbenzene] : 100 ppm, 435 mg/m³
- [2-Ethylhexanoic acid zirconium salt] : 15 mg/m³ (Total dust), 5 mg/m³ (Respirable fraction)

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	GREYISH GREEN
B. Odor	Solvent odor
C. Odor threshold	NO DATA
D. pH	Not available
E. Melting point/Freezing point	NODATA°C
F. Initial Boiling Point/Boiling Ranges	Not available
G. Flash point	31°C
H. Evaporation rate	NO DATA
I. Flammability(solid, gas)	NO DATA
J. Upper/Lower Flammability or explosive limits	1%/7%
K. Vapour pressure	NO DATA
L. Solubility	NO DATA
M. Vapour density	> 1(Air=1)
N. Specific gravity(Relative density)	1.217 ~ 1.257
O. Partition coefficient of n-octanol/water	NO DATA
P. Autoignition temperature	210°C
Q. Decomposition temperature	NO DATA°C
R. Viscosity	75 ~ 85 KU
S. Molecular weight	NO DATA

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
 - May be fatal if swallowed and enters airways
- Oral
 - Not available
- Eye-Skin
 - 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
- [Kerosine (petroleum), hydrodesulfurized] : LD50 > 5000 mg/kg Rat (OECD TG 420, GLP) (Read-across CAS No. 68333-23-3) (ECHA)
- [Talc(Containing no asbestos fibers)] : LD50 >5000 mg/kg Rat (OECD TG 423, GLP)(ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : LD50 > 5000 mg/kg Rat (Read-across CAS no. 86290-81-5) (OECD TG 401, GLP) (ECHA)
- [Titanium dioxide] : LD50 >5000 mg/kg Mouse (OECD TG 420) (OECD SIDS)
- [Xylene] : LD50 3523 mg/kg Rat (EU Method B.1) (ECHA)
- [Calcium carbonate] : LD50 > 2000 mg/kg Rat No death Not classified (OECD TG 420, GLP) (ECHA)
- [Ethylbenzene] : LD50 3500 mg/kg Rat (ECHA)
- [Calcium 2-ethylhexanoate] : LD50 2000 mg/kg Rat (OECD TG 423, GLP)(ECHA)
- [Methyl ethyl ketoxim] : LD50 ≤ 160 mg/kg Rabbit (NIER), EU Harmonised Cat. 3 (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : LD50 > 5000 mg/kg bw Rat No death Not classified (OECD TG 423, GLP) (ECHA)

* Dermal

- Product (ATEmix) : 2000mg/kg < ATEmix ≤ 5000mg/kg
- [Kerosine (petroleum), hydrodesulfurized] : LD50 > 2000 mg/kg Rabbit (OECD TG 402, GLP) (Read-across CAS No. 68333-23-3) (ECHA)
- [Talc(Containing no asbestos fibers)] : LD50 >2000 mg/kg Rat (OECD TG 402, GLP)(ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : LD50 > 2000 mg/kg Rat (Read-across CAS no. 86290-81-5) (OECD TG 402, GLP) (ECHA)
- [Xylene] : LD50 1700 mg/kg Rabbit (EPA Pesticide, 2005) (NITE), Acute toxicity - dermal EU Harmonized Cat. 4 (ECHA)
- [Calcium carbonate] : LD50 > 2000 mg/kg Rat No death Not classified (OECD TG 402, GLP) (ECHA)
- [Ethylbenzene] : LD50 15432 mg/kg (17.8 mL/kg) Rabbit (ECHA)
- [Methyl ethyl ketoxim] : LD50 1848 mg/kg Rabbit (NIER), EU Harmonised Cat. 4 (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : LD50 > 2000 mg/kg bw Rat (Read across CAS No. 7585-20-8) (OECD TG 402, GLP) (ECHA)

* Inhalation

- Product (ATEmix) : 10.0mg/L 4hr < ATEmix ≤ 20.0mg/L 4hr
- [Kerosine (petroleum), hydrodesulfurized] : Vapor LC50 > 5.28 mg/L4 hr Rat No death Not classified (OECD TG 403, GLP) (Read-across CAS No. 8008-20-6) (ECHA)
- [Talc(Containing no asbestos fibers)] : Aerosol LC50 >2.1 mg/ℓ 4 hr Rat No death Not classified (Read-across 1309-42-8) (OECD TG 403, GLP) (ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : Vapor LC50 > 7.63 mg/L 4hr Rat No death Not classified (Read-across CAS no. 86290-81-5) (OECD TG 403, GLP) (ECHA)

- [Titanium dioxide] : Aerosol LC50 5.09 mg/L 4h Rat No death, Not classified (ECHA)
- [Xylene] : Vapor LC50 10~20 mg/L 4 hr (NIER), Acute toxicity - inhalation EU Harmonized Cat. 4 (ECHA)
- [Calcium carbonate] : Aerosol LC50 > 3 mg/L 4 hr Rat No death Not classified (OECD TG 403, GLP) (ECHA)
- [Ethylbenzene] : Vapor LC50 18.96 mg/L 4 hr Rat (NIER)
- [Methyl ethyl ketoxim] : Vapor LC50 > 4.83 mg/L 4hr Rat No death Not classified (OECD TG 403, GLP) (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : Aerosol LC50 > 4.3 mg/L 4 hr Rat No death Not classified (Read across CAS No. 1314-23-4) (OECD TG 436, GLP) (ECHA)
- 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
 - [Titanium dioxide] : Group 2B
 - ※ IARC (International Agency for Research on Cancer) has classified TiO₂ as a substance which may be possibly carcinogenic to humans. However, studies on TiO₂ conducted by the IARC state that when TiO₂ is mixed in substance such as paints and coatings, the level of exposure is not severe. An increase in cancer was found only when ultrafine TiO₂ particles of less than 100nm were used in a Study on Long-term Inhalation of TiO₂ by Animals, issued by the National Institute for Occupational Safety & Health (NIOSH). Therefore, it is difficult to conclude that this product, which contains TiO₂ with a particle size of 280~360nm, can be carcinogenic enough to cause cancer.
 - [Xylene] : Group 3
 - [Ethylbenzene] : Group 2B
 - * OSHA
 - Not available
 - * ACGIH
 - [Kerosine (petroleum), hydrodesulfurized] : A3
 - [Talc(Containing no asbestos fibers)] : A4 (Talc(containing no asbestos fibers))
 - [Titanium dioxide] : A3
 - [Xylene] : A4
 - [Ethylbenzene] : A3
 - [2-Ethylhexanoic acid zirconium salt] : A4 (Zirconium compounds)
 - * NTP
 - Not available
 - * EU CLP
 - [Naphtha (petroleum), hydrodesulfurized heavy] : Carc. 1B (Note P)
 - [Titanium dioxide] : Carc. 2
 - [Methyl ethyl ketoxim] : Carc.1B
- 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
 - Causes damage to organs through prolonged or repeated exposure

- Aspiration hazard
 - May be fatal if swallowed and enters airways

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

○ Fish

- [Kerosine (petroleum), hydrodesulfurized] : LL50 2 ~ 5 mg/L 96 hr *Oncorhynchus mykiss* (OECD TG 203, GLP) (Read-across CAS No. 64742-94-5) (ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : LL50 8.2 mg/L 96hr *Pimephales promelas* (Read-across CAS no. 64741-66-8) (EPA 66013-75-009, GLP) (ECHA)
- [Calcium hydrogenorthophosphate] : LC50 1910000 mg/l 96 hr (Estimate)
- [Titanium dioxide] : LC50 >100 mg/L 96 hr *Carassius auratus*, *Oncorhynchus mykiss* (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)
- [Calcium carbonate] : LC50 > 100 % v/v saturated solution 96 hr *Oncorhynchus mykiss* (OECD TG 203, GLP) (ECHA)
- [Ethylbenzene] : LC50 4.2 mg/L 96 hr *Oncorhynchus mykiss* (NIER)
- [Calcium 2-ethylhexanoate] : LC50 > 100 mg/L 96hr *Oryzias latipes* (OECD TG 203)(ECHA)
- [Methyl ethyl ketoxim] : LC50 > 100 mg/L 96hr *Oryzias latipes* (OECD TG 203, GLP), NOEC ca. 50 mg/L 14d *Oryzias latipes* (OECD TG 204, GLP) (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : LL50 > 100 mg/L 96 hr *Danio rerio* (Read across CAS No. 1314-23-4) (OECD TG 203) (ECHA)

○ Crustaceans

- [Kerosine (petroleum), hydrodesulfurized] : EL50 1.4 mg/L 48 hr *Daphnia magna* (OECD TG 202, GLP), NOEL 0.48 mg/L 21 d *Daphnia magna* (OECD TG 211, GLP) (ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : EL50 4.5 mg/L 48hr *Daphnia magna* (Read-across CAS no. 64741-46-4) (OECD TG 202, GLP) (ECHA)
- [Calcium hydrogenorthophosphate] : LC50 1490000 mg/l 48 hr (Estimate)
- [Titanium dioxide] : EC50 >100 mg/L 48 hr *Daphnia magna*, OECD TG 202 (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)
- [Calcium carbonate] : EC50 > 100 % v/v saturated solution 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)
- [Calcium 2-ethylhexanoate] : EC50 910 mg/L 48hr *Daphnia magna* (OECD TG 202), NOEC 18 mg/L 21day *Daphnia magna* (OEC DTG 211)(ECHA)
- [Methyl ethyl ketoxim] : EC50 ca.201 mg/L 48hr *Daphnia magna* (OECD TG 202, GLP), NOEC 100 mg/L 21d *Daphnia magna* (OECD TG 211, GLP) (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : EC50 > 100 mg/L 48 hr *Daphnia magna* (OECD TG 202, GLP), NOEC 18 mg/L 21 d *Daphnia magna* (Read across CAS No. 19766-89-3) (OECD TG 211) (ECHA)

○ Algae

- [Kerosine (petroleum), hydrodesulfurized] : EL50 1~3 mg/L 72 hr, NOEL 1 mg/L 48 hr *Raphidocelis subcapitata* (OECD TG 201, GLP) (ECHA)
- [Naphtha (petroleum), hydrodesulfurized heavy] : EL50 3.1 mg/L 72hr *Raphidocelis subcapitata* (Read-across Blended Gasoline) (OECD TG 201, GLP) (ECHA)
- [Calcium hydrogenorthophosphate] : EC50 719000 mg/l 96 hr (Estimate)
- [Titanium dioxide] : ErL50 > 100 mg/l 72 hr *Pseudokirchneriella subcapitata*, growth rate, static, (72h-EyL50 >100 mg/L static, OECD TG 201) (ECHA)
- [Xylene] : EC50 4.7 mg/L 72 hr *Raphidocelis subcapitata* (Read-across 95-47-6) (OECD TG 201) (ECHA)
- [Calcium carbonate] : EC50 > 14 mg/L 72 hr, NOEC 14 mg/L 72 hr *Desmodesmus subspicatus* (OECD TG 201, GLP) (ECHA)
- [Ethylbenzene] : EC50 3.6 mg/L 96 hr, NOEC 3.4 mg/L 96 hr *Raphidocelis subcapitata* (ECHA)
- [Calcium 2-ethylhexanoate] : EC50 500 mg/L, NOEC 130 mg/L 72hr *Raphidocelis subcapitata* (OECD TG 201)
- [Methyl ethyl ketoxim] : EC50 ca. 11.8 mg/L, NOEC ca. 2.56mg/L 72hr *Scenedesmus capricornutum* (OECD TG 201).

GLP) (ECHA)

- [2-Ethylhexanoic acid zirconium salt] : EC50 500 mg/L, NOEC 130 mg/L 72 hr *Raphidocelis subcapitata* (Read across CAS No. 19766-89-3) (OECD TG 201) (ECHA)

B. Persistence and degradability

○ Persistence

- [Calcium hydrogenorthophosphate] : log Kow 2.55 (Estimate)
- [Xylene] : log Pow 3.12 (Read-across 95-47-6) (ECHA)
- [Ethylbenzene] : log Pow 3.6 (20 °C) (ECHA)
- [Calcium 2-ethylhexanoate] : log Pow 2.7 (25°C)(ECHA)
- [Methyl ethyl ketoxim] : log Kow 0.63 (OECD TG 117) (ECHA)

○ Degradability

- Not available

C. Bioaccumulative potential

○ Bioaccumulative potential

- [Kerosine (petroleum), hydrodesulfurized] : BCF 130~159 (IUCLID)
- [Calcium hydrogenorthophosphate] : BCF 3.162 (Estimate)
- [Xylene] : BCF 25.9 dimensionless (ECHA)
- [Ethylbenzene] : BCF 1 (ECHA)
- [Methyl ethyl ketoxim] : BCF 2.5 ~ 5.8 (OECD TG 305C, GLP) (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : BCF 0.64 L/kg (ECHA)

○ Biodegradation

- [Xylene] : Readily biodegradable, 94 % 28 d (O₂ consumption) (Read-across 95-47-6) (OECD TG 301 F, GLP) (ECHA)
- [Calcium carbonate] : Readily biodegradable, 90 % 28 d (CO₂ evolution) (OECD TG 301 B, GLP) (ECHA)
- [Ethylbenzene] : Readily biodegradable, 70~ 80 % 28 d (inorg. C analysis) (ISO 14593-CO₂-Headspace Test) (ECHA)
- [Calcium 2-ethylhexanoate] : Readily biodegradable, 99% degradation (DOC removal) 28day (OECD TG 301E)(ECHA)
- [Methyl ethyl ketoxim] : Not readily biodegradable, ca. 27 % degradation (TOC removal) 21d (OECD TG 301C) (ECHA)
- [2-Ethylhexanoic acid zirconium salt] : Readily biodegradable, 73.82 % (CO₂ evolution) 28 day (OECD TG 301 B, GLP) (ECHA)

D. Mobility in soil

- [Xylene] : log Koc ca. 2.73 dimensionless (Read-across 95-47-6) (OECD TG 121) (ECHA)
- [Calcium 2-ethylhexanoate] : Koc ≤ 140.87 (OECD TG 106)(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)

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

- [Kerosine (petroleum), hydrodesulfurized] : Not applicable
- [Talc(Containing no asbestos fibers)] : Not applicable
- [Naphtha (petroleum), hydrodesulfurized heavy] : Not applicable
- [Dolomite] : Not applicable
- [Calcium hydrogenorthophosphate] : Not applicable
- [Titanium dioxide] : Not applicable
- [Xylene] : Not applicable
- [Calcium carbonate] : Not applicable
- [Ethylbenzene] : Not applicable
- [Calcium 2-ethylhexanoate] : Not applicable
- [Methyl ethyl ketoxim] : Not applicable
- [2-Ethylhexanoic acid zirconium salt] : Not applicable

○ Information of EU Classification

* Classification

- [Kerosine (petroleum), hydrodesulfurized] : H304
- [Naphtha (petroleum), hydrodesulfurized heavy] : H304,H340,H350,H372
- [Xylene] : H226,H312,H315,H332
- [Ethylbenzene] : H225,H304,H332,H373
- [Methyl ethyl ketoxim] : H301,H312,H315,H317,H318,H336,H350,H370,H373

○ 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
- [Kerosine (petroleum), hydrodesulfurized] : Not applicable
- [Talc(Containing no asbestos fibers)] : Not applicable

- [Naphtha (petroleum), hydrodesulfurized heavy] : Not applicable
- [Dolomite] : Not applicable
- [Calcium hydrogenorthophosphate] : Not applicable
- [Titanium dioxide] : Not applicable
- [Calcium carbonate] : Not applicable
- [Calcium 2-ethylhexanoate] : Not applicable
- [Methyl ethyl ketoxim] : Not applicable
- [2-Ethylhexanoic acid zirconium salt] : Not applicable
- * EPCRA Section 302 (40CFR355.30)
 - Not applicable
- * EPCRA Section 304 (40CFR355.40)
 - Not applicable
- * EPCRA Section 313 (40CFR372.65)
 - [Xylene] : Applicable
 - [Ethylbenzene] : Applicable
 - [Kerosine (petroleum), hydrodesulfurized] : Not applicable
 - [Talc(Containing no asbestos fibers)] : Not applicable
 - [Naphtha (petroleum), hydrodesulfurized heavy] : Not applicable
 - [Dolomite] : Not applicable
 - [Calcium hydrogenorthophosphate] : Not applicable
 - [Titanium dioxide] : Not applicable
 - [Calcium carbonate] : Not applicable
 - [Calcium 2-ethylhexanoate] : Not applicable
 - [Methyl ethyl ketoxim] : Not applicable
 - [2-Ethylhexanoic acid zirconium salt] : 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

- 2020-02-25

C. Revision number and Last date revised

- 6 times, 2025-05-21

D. Other

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