

SAFETY DATA SHEET

Revision date: 2021-07-16

Version: LP1406.1

1. IDENTIFICATION

- A. Product name : ZIC ATF 3
- B. Recommended use and restriction on use
- General use : Lubricating oil
 - Restriction on use : Not available
- C. Manufacturer / Supplier / Distributor information
- Manufacturer information
- Company name
SK Enmove Co., Ltd.
 - Address
26, Jong-ro, Jongno-gu, Seoul, Korea
 - Dept.
SK Lubricants Business
 - Telephone number : +82-1899-1147
 - Emergency telephone number
+82-1899-1147
 - Fax number :
 - E-mail address : jonghun.lee@sk.com
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2. HAZARD IDENTIFICATION

- A. GHS Classification
- Chronic aquatic toxicity : Category3
- B. GHS label elements
- Hazard symbols
- Not applicable
- Signal words
- Not applicable
- Hazard statements
- H412 Harmful to aquatic life with long lasting effects
- Precautionary statements
- 1) Prevention
 - P273 Avoid release to the environment.
 - 2) Response
 - Not applicable
 - 3) Storage
 - Not applicable
 - 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 : 1, Flammability : 1, Reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	Trade names and Synonyms	CAS No.	%[weight]
Distillates (petroleum), hydrotreated heavy paraffinic	Emulsifiable oil	64742-54-7	>=53, < 63
Distillates (petroleum), hydrotreated light paraffinic	Mineral oil, petroleum distillates, hydrotreated (severe) light paraffinic	64742-55-8	>=28, < 38
Reaction product of alkylthioalcohol and substituted phosphorus compound		EC : 424-820-7	>=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.

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.

C. Inhalation contact

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

D. Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water 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.

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

- Cool containers with water until well after fire is out.
- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Notify your local firestation and inform the location of the fire and characteristics hazard.
- Wear appropriate protective equipment.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.

6. ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency procedures

- Ventilate closed spaces before entering.
- 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.

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.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- 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.
- Prevent the influx to waterways, sewers, basements or confined spaces.

7. HANDLING AND STORAGE

A. Precautions for safe handling

- Wash thoroughly after handling.
- Avoid contact with incompatible materials.
- Dealing only with a well-ventilated place.
- Do not handle until all safety precautions have been read and understood.
- Do not inhale the steam prolonged or repeated.

B. Conditions for safe storage, including any incompatibilities

- Check regularly for leaks.
- Do not apply direct heat.
- Keep in the original container.
- Please pay attention to incompatibilities materials and conditions to avoid.
- Prevent static electricity and keep away from combustible materials or heat sources.
- Store away from water and sewer.
- Collected them in sealed containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limits

ACGIH TLV

- [Distillates (petroleum), hydrotreated heavy paraffinic] : TWA 5 mg/m³, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)
- [Distillates (petroleum), hydrotreated light paraffinic] : TWA 5 mg/m³, Inhalable particulate matter(Mineral oil, Pure, highly and severely refined)

OSHA PEL

- Not available

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

- 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 glove.

Skin protection

- Wear appropriate clothing.

Others

- Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

A. Appearance	
- Appearance	: Liquid
- Color	: Transparent red
B. Odor	: Mild petroleum odor
C. Odor threshold	: Not available
D. pH	: Not available
E. Melting point/Freezing point	: Not available
F. Initial Boiling Point/Boiling Ranges	: $\geq 290^{\circ}\text{C}$
G. Flash point	: 220°C (COC)
H. Evaporation rate	: Not available
I. Flammability(solid, gas)	: Not available
J. Upper/Lower Flammability or explosive limits	: Not available
K. Vapour pressure	: ≤ 0.1 kPa (20°C)
L. Solubility	: Not available
M. Vapour density	: ≥ 5 (Air = 1)
N. Specific gravity(Relative density)	: 0.84
O. Partition coefficient of n-octanol/water	: Not available
P. Autoignition temperature	: Not available
Q. Decomposition temperature	: Not available
R. Viscosity	: 38 mm ² /s (@ 40°C)
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**
- Hazardous Polymerization will not occur.
- C. Conditions to avoid**
- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
- 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)
- Not available
 - (Oral)
- Not available
 - (Eye · Skin)
- Not available
- B. Delayed and immediate effects and also chronic effects from short and long term exposure**
- Acute toxicity
 - * Oral
 - Product (ATEmix) : >5000 mg/kg
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 > 5000 mg/kg Rat (ECHA)
 - [Distillates (petroleum), hydrotreated light paraffinic] : LD50 > 5000 mg/kg Rat (GLP, ECHA)
 - * Dermal
 - Product (ATEmix) : >5000 mg/kg
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : LD50 >5000 mg/kg Rabbit (ECHA)
 - [Distillates (petroleum), hydrotreated light paraffinic] : LD50 > 5000 mg/kg Rabbit (GLP, ECHA)
 - * Inhalation
 - Product (ATEmix) : Not available
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : LC50 >5.53 mg/ℓ 4 hr Rat (ECHA)
 - [Distillates (petroleum), hydrotreated light paraffinic] : LC50 >5.53 mg/ℓ 4 hr Rat (ECHA)

- Skin corrosion/irritation**
 - Not available
- Serious eye damage/irritation**
 - Not available
- Respiratory sensitization**
 - Not available
- Skin sensitization**
 - Not available
- Carcinogenicity**
 - * IARC**
 - Not available
 - * OSHA**
 - Not available
 - * ACGIH**
 - Not available
 - * NTP**
 - Not available
 - * EU CLP**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : Carc. 1B (Note L)
It is not considered carcinogenic. it has been demonstrated to contain less than 3% extractables by the IP 346 test (EU CLP Note L)
 - [Distillates (petroleum), hydrotreated light paraffinic] : Carc. 1B (Note L)
It is not considered carcinogenic. it has been demonstrated to contain less than 3% extractables by the IP 346 test (EU CLP Note L)
- Germ cell mutagenicity**
 - Not available
- Reproductive toxicity**
 - Not available
- STOT-single exposure**
 - Not available
- STOT-repeated exposure**
 - Not available
- Aspiration hazard**
 - Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity

- Fish**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : LC50 5000 mg/ℓ 96 hr Oncorhynchus mykiss (IUCLID)
 - [Distillates (petroleum), hydrotreated light paraffinic] : LC50 5000 mg/ℓ 96 hr Oncorhynchus mykiss (IUCLID)
- Crustaceans**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : EC50 1000 mg/ℓ 48 hr Daphnia magna (IUCLID)
 - [Distillates (petroleum), hydrotreated light paraffinic] : EC50 1000 mg/ℓ 48 hr Daphnia magna (IUCLID)
- Algae**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : EC50 1000 mg/ℓ 96 hr Scenedesmus subspicatus (IUCLID)

B. Persistence and degradability

- Persistence**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : log Kow = 3.9 ~ 6 (Estimate)
 - [Distillates (petroleum), hydrotreated light paraffinic] : log Kow 3.9 ~ 6 (Estimate)
- Degradability**
 - Not available

C. Bioaccumulative potential

- Bioaccumulative potential**
 - Not available
- Biodegradation**
 - [Distillates (petroleum), hydrotreated heavy paraffinic] : Biodegradability = 6 (%) 28 day (Aerobic, Domestic wastewater, does not decompose easily)
 - [Distillates (petroleum), hydrotreated light paraffinic] : 6 (%) 28 day (Aerobic, Domestic wastewater, does not decompose easily)

D. Mobility in soil

- Not available

E. Other adverse effects

- Not available

13. DISPOSAL CONSIDERATIONS

A. Disposal methods

- Since more than two kinds of designaed waste is mixed, it is difficult to treat seperatly, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.

B. Special precautions for disposal

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- 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

- 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 : Not available
- EmS SPILLAGE SCHEDULE : Not available
- Air transport(IATA): Not subject to IATA regulations.

15. REGULATORY INFORMATION

A. National and/or international regulatory information

POPs Management Law

- Not applicable

Information of EU Classification

* Classification

- [Distillates (petroleum), hydrotreated heavy paraffinic] : H350
It is not considered carcinogenic. it has been demonstrated to contain less than 3% extractables by the IP 346 test (EU CLP Note L)
- [Distillates (petroleum), hydrotreated light paraffinic] : H350
It is not considered carcinogenic. it has been demonstrated to contain less than 3% extractables by the IP 346 test (EU CLP Note L)

U.S. Federal regulations

* OSHA PROCESS SAFETY (29CFR1910.119)

- Not applicable

* CERCLA Section 103 (40CFR302.4)

- Not applicable

* EPCRA Section 302 (40CFR355.30)

- Not applicable

* EPCRA Section 304 (40CFR355.40)

- Not applicable

* EPCRA Section 313 (40CFR372.65)

- 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

2020-04-07

C. Revision number and Last date revised

Last date revised : 1

Revision number : 2021-07-16

D. Other

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