

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Product name : ZIC ATF SP 4

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Industrial use
Use of the substance/mixture : Lubricants and additives

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

SK Lubricants Co. Ltd
26, Jong-ro, Jongno-gu
03188 Seoul - South Korea
T +82 (0)2-2121-6516
orders@yubase.com

1.4. Emergency telephone number

Emergency number : +31-6-2826-6460

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (inhalation:dust,mist) Category 4 H332
Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412
Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) :

Warning

Hazardous ingredients

: Gas oils (petroleum), hydrodesulfurized; Gasoil— unspecified; [A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C13 through C25 and boiling in the range of approximately 230°C to 400°C (446°F to 752 °F).]; Distillates (petroleum), hydrotreated middle; Gasoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C11 through C25 and boiling in the range of approximately; 205°C to 400°C (401 °F to 752 °F).]

Hazard statements (CLP) :

: H332 - Harmful if inhaled.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

: P261 - Avoid breathing fume.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

EUH-statements

: EUH208 - Contains 1,1'-[iminobis(ethyleneiminoethylene)]bis[3-(octadecenyl)pyrrolidine-2,5-dione], octadec-2-enylsuccinic acid, 2-octadecenylsuccinic anhydride, thiodiethanol esterification products, methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate(80-62-6). May produce an allergic reaction.

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated heavyparaffinic [YUBASE]	(CAS-No.) 64742-54-7 (EC-No.) 265-157-1 (EC Index-No.) 649-467-00-8	47	Asp. Tox. 1, H304
Distillates (petroleum), hydrotreated light paraffinic; Baseoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C15 through C30 and produces a finished oil with a viscosity of less than 100 SUS at 100 °F (19cSt at 40 °C). It contains a relatively large proportion of saturated hydrocarbons.] [YUBASE]	(CAS-No.) 64742-55-8 (EC-No.) 265-158-7 (EC Index-No.) 649-468-00-3	34.98	Acute Tox. 4 (Inhalation), H332 Asp. Tox. 1, H304
Thiophene, tetrahydro-, 1,1-dioxide, 3-(C9-11-isoalkyloxy) derivs., C10-rich	(EC-No.) 800-172-4 (REACH-no) 01-2119969520-35	0.375 - 1.5	Aquatic Chronic 2, H411
bis(nonylphenyl)amine	(CAS-No.) 36878-20-3 (EC-No.) 253-249-4 (REACH-no) 01-2119488911-28	0.375 - 1.5	Aquatic Chronic 4, H413
Reaction product of alkylthioalcohol and substituted phosphorus compound	(EC-No.) 424-820-7 (REACH-no) 01-0000017126-75	0.375 - 0.75	Acute Tox. 4 (Dermal), H312 Skin Corr. 1, H314 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Gas oils (petroleum), hydrodesulfurized; Gasoil— unspecified; [A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C13 through C25 and boiling in the range of approximately 230°C to 400°C (446°F to 752 °F).]	(CAS-No.) 64742-79-6 (EC-No.) 265-182-8 (EC Index-No.) 649-222-00-5	0.15 - 0.45	Carc. 1B, H350
Distillates (petroleum), hydrotreated middle; Gasoil— unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C11 through C25 and boiling in the range of approximately; 205°C to 400°C (401 °F to 752 °F).]	(CAS-No.) 64742-46-7 (EC-No.) 265-148-2 (EC Index-No.) 649-221-00-X	0.15 - 0.45	Carc. 1B, H350
1,1'-[iminobis(ethyleneiminoethylene)]bis[3-(octadecenyl)pyrrolidine-2,5-dione]	(EC-No.) 264-637-8 (REACH-no) 01-2120750265-57	0.15 - 0.375	Skin Sens. 1, H317
methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate	(CAS-No.) 80-62-6 (EC-No.) 201-297-1 (EC Index-No.) 607-035-00-6	0.003 - 0.3	Flam. Liq. 2, H225 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317
octadec-2-enylsuccinic acid	(EC-No.) 268-159-0 (REACH-no) 01-2120568742-47	0.0375 - 0.15	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 4, H413
2-octadecenylsuccinic anhydride, thiodiethanol esterification products	(EC-No.) 299-434-3 (REACH-no) 01-2120735527-50	0.0375 - 0.15	Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
ethylbenzene substance with a Community workplace exposure limit	(CAS-No.) 100-41-4 (EC-No.) 202-849-4 (EC Index-No.) 601-023-00-4	0.00005 - 0.0002	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412

Full text of H-statements: see section 16

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SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Gently wash with plenty of soap and water.
- First-aid measures after eye contact : Rinse eyes with water as a precaution.
- First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/effects : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
- Symptoms/effects after skin contact : May cause irritation to skin. May cause an allergic skin reaction.
- Symptoms/effects after eye contact : May cause slight irritation.
- Symptoms/effects after ingestion : Ingestion may cause nausea and vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : No fire hazard.
- Explosion hazard : Product is not explosive.
- Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Do not handle until all safety precautions have been read and understood. Evacuate area.

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Contain the spilled material by bunding.
- Methods for cleaning up : Take up liquid spill into absorbent material.
- Other information : Dispose of materials or solid residues at an authorized site. If spilled, may cause the floor to be slippery.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in original container.
- Special rules on packaging : Keep only in original container.

7.3. Specific end use(s)

No additional information available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ethylbenzene (100-41-4)

EU	IOELV TWA (mg/m ³)	442 mg/m ³
EU	IOELV TWA (ppm)	100 ppm
EU	IOELV STEL (mg/m ³)	884 mg/m ³
EU	IOELV STEL (ppm)	200 ppm
United Kingdom	WEL TWA (mg/m ³)	441 mg/m ³
United Kingdom	WEL TWA (ppm)	100 ppm
United Kingdom	WEL STEL (mg/m ³)	552 mg/m ³
United Kingdom	WEL STEL (ppm)	125 ppm

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Protective gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Neoprene rubber (HNBR), Natural rubber	1 (> 10 minutes)		2 (< 1.5)	EN ISO 374

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: light red.
Odour	: petroleum-like odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: > 300 °C
Flash point	: > 200 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: < 0.1 kPa
Relative vapour density at 20 °C	: > 5
Relative density	: No data available
Density	: 0.85
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: 25 cSt (40°C), 5.4 cSt (100°C)
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

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Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Harmful if inhaled.

ATE CLP (dust,mist)	4.288 mg/l/4h
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ethylbenzene (100-41-4)

LD50 oral rat	3500 mg/kg (Rat, Male/female, Experimental value, Oral)
LD50 dermal rabbit	15432 mg/kg bodyweight (24 h, Rabbit, Male, Experimental value, Dermal)
LC50 inhalation rat (mg/l)	17.8 mg/l (4 h, Rat, Male, Experimental value, Inhalation (vapours))

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified.
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Harmful to aquatic life with long lasting effects. Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

ethylbenzene (100-41-4)

LC50 fish 1	4.2 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Salmo gairdneri, Semi-static system, Fresh water, Experimental value)
EC50 Daphnia 1	1.8 - 2.4 mg/l (US EPA, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 72h algae (1)	5.4 mg/l (US EPA, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Cell numbers)

12.2. Persistence and degradability

ethylbenzene (100-41-4)

Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.44 g O ₂ /g substance (20d.)

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Chemical oxygen demand (COD)	2.1 g O ₂ /g substance
ThOD	3.17 g O ₂ /g substance

12.3. Bioaccumulative potential

ethylbenzene (100-41-4)

BCF fish 1	1 - 2.4 (Other, 6 week(s), Oncorhynchus kisutch, Flow-through system, Salt water, Experimental value)
Log Pow	3.6 (Experimental value, EU Method A.8: Partition Coefficient, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

ethylbenzene (100-41-4)

Surface tension	0.071 N/m (23 °C, 0.0582 g/l, EU Method A.5: Surface tension)
Log Koc	2.71 (log Koc, PCKOCWIN v1.66, QSAR)
Ecology - soil	Low potential for adsorption in soil. Toxic to soil organisms.

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

No supplementary information available

14.6. Special precautions for user

Overland transport

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

Inland waterway transport

Not applicable

Rail transport

Not applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

Substance(s) are not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC.

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

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H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
EUH208	Contains 1,1'-[iminobis(ethyleneiminoethylene)]bis[3-(octadecenyl)pyrrolidine-2,5-dione], octadec-2-enylsuccinic acid, 2-octadecenylsuccinic anhydride, thiodiethanol esterification products, methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate(80-62-6). May produce an allergic reaction.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.