

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31,
Annex II as amended



Trade name: ZF LifeguardFluid 5

ZF Aftermarket

1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: ZF LifeguardFluid 5

Product code: S671.090.170
S671.090.171
S671.090.172
S671.090.173

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

Use of the Substance/Mixture: Gear oil
Uses advised against: No uses advised against identified.

1.3 Details of the supplier of the safety data sheet

ZF Friedrichshafen AG
ZF Aftermarket
Obere Weiden 12
97424 Schweinfurt
Germany
+49 9721 475 60
www.zf.com/contact

1.4 Emergency telephone number

24/7h Emergency telephone number:
+49 (0)89 19240 Information in German and English

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

The product has not been classified as hazardous, but needs to be labelled according to regulation (EU) 1272/2008 (CLP)

Environmental Hazards

Chronic hazards to the aquatic environment

Category 3

H412: Harmful to aquatic life with long lasting effects.

Hazard summary

Physical Hazards: No data available.

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2.2 Label elements

Hazard Statement(s): H412: Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention: P273: Avoid release to the environment.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Supplemental label information: EUH208: Contains: Triazole amine derivative. May produce an allergic reaction.

2.3 Other hazards

By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (item 7) and personal protective equipment (item 8) are kept. The product may not be released into the environment without control.

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. Composition/information on ingredients

3.2 Mixtures

General information: Mixture containing severely refined base oils and additives.

Chemical name	Identifier	Concentration *	REACH Registration No.
base oil, low viscous	EINECS: 276-738-4	50,00 - <100,00%	01-2119474889-13

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Amine aromatic, alkylated	EINECS: 270-128-1	0,10% - <1,00%	01-2119491299-23
Alkyl amine	EC: 620-540-6	0,10 - <0,25%	01-2119510877-33
prim. alkanolamine ether	EC: 939-485-7	0,01 - <0,10%	01-2119974116-35
Triazole amine derivative	EC: 401-280-0	0,01 - <0,10%	01-2119930450-49

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Identifier	Classification
base oil, low viscous	EINECS: 276-738-4	CLP: Asp. Tox. 1; H304
Amine aromatic, alkylated	EINECS: 270-128-1	CLP: Repr. 2;H361f, Aquatic Chronic 3;H412
Alkyl amine	EC: 620-540-6	CLP: Skin Corr. 1C;H314, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic Chronic 1;H410, Acute Tox. 4;H302; M-Factor (aquatic acute): 10; M-Factor (aquatic chronic): 1
prim. alkanolamine ether	EC: 939-485-7	CLP: Acute Tox. 4;H302, Skin Corr. 1B;H314, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic Chronic 1;H410; M-Factor (aquatic acute): 100; M-Factor (aquatic chronic): 1
Triazole amine derivative	EC: 401-280-0	CLP: Skin Corr. 1B;H314, Skin Sens. 1A;H317, Aquatic Chronic 1;H410, Eye Dam. 1;H318

CLP: Regulation No. 1272/2008.

For the wording of the listed risk phrases refer to section 16.

Please note that the mineral oils and petroleum distillates used in our products are severely refined and have a DMSO extract < 3% as measured by method IP 346

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and are not classified as carcinogenic according to Note L of Annex VI of Regulation EC 1272/2008."

4. First aid measures

General: Instantly remove any clothing soiled by the product.

4.1 Description of first aid measures

If inhaled: Supply fresh air; consult doctor in case of symptoms.

In case of skin contact: Wash with soap and water.

In case of eye contact: Promptly wash eyes with plenty of water while lifting the eye lids.

If swallowed: Rinse mouth thoroughly.

4.2 Most important symptoms and effects, both acute and delayed

May cause skin and eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Get medical attention if symptoms occur.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: CO₂, fire extinguishing powder or fog like water spraying. Extinguish larger fires with alcohol resistant foam or spray water with suitable surfactant added.

Unsuitable extinguishing media: Water with a full water jet.

5.2 Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

Special protective equipment for fire- Self-contained breathing apparatus and full

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fighters:	protective clothing must be worn in case of fire.
Specific extinguishing methods:	Move container from fire area if it can be done without risk. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations. Collect contaminated fire fighting water separately. It must not enter drains.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

In case of spills, beware of slippery floors and surfaces.

6.2 Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent from spreading (e.g. by binding or oil barriers). Environmental manager must be informed of all major spillages. Do not allow to enter drainage system, surface or ground water.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acidbinders, universal binders, sawdust). Dispose of the material collected according to regulations. Stop the flow of material, if this is without risk.

6.4 Reference to other sections

See Section 8 of the SDS for Personal Protective Equipment. See Section 7 for information on safe handling See Section 13 for information on disposal.

7. Handling and storage

7.1 Precautions for safe handling

Prevent formation of aerosols. Do not eat, drink or smoke when working with the product. Take usual precautions when handling mineral oil products or chemical products. Observe good industrial hygiene practices. Provide adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

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Local regulations concerning handling and storage of waterpolluting products have to be followed. Do not heat up to temperatures close to the flash point.

7.3 Specific end use(s)

Specific use(s): Not applicable.

Storage Class: 10, Combustible liquids

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
White mineral oil	AGW	5 mg/m ³	Germany. TRGS 900, Occupational Exposure Limits (AGW) (09 2015)

8.2 Exposure controls

Appropriate engineering controls: Provide adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General Information: Wash hands before breaks and after work. Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. The usual precautionary measures should be adhered to in handling the chemicals or the mineral oil products.

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Eye/face protection:

Safety glasses (EN 166) recommended during refilling. Avoid contact with skin and eyes. Goggles/face shield are recommended. If risk of splashing, wear safety goggles or face shield.

Hand protection:

Material: Nitrile butyl rubber (NBR).
Min. Breakthrough time: ≥ 480 min
Recommended thickness of the material: $\geq 0,38$ mm
Avoid long-term and repeated skin contact. Suitable gloves can be recommended by the glove supplier. Use skin protection cream for preventive skin protection. Protective gloves, where permitted in acc. To safety directions. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Other:

Do not carry cleaning cloths impregnated with the product in trouser pockets. Wear suitable protective clothing.

Respiratory protection:

Ensure good ventilation/exhaustion at the workplace. Avoid breathing vapour/ aerosol.

Thermal hazards:

Not known.

Hygiene measures:

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

Environmental controls:

No data available.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

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Physical state: liquid
 Colour: Light brown
 Odour: Characteristic
 pH: substance/mixture is non-soluble (in water)

Freezing point	not determined.	
Boiling point	not determined.	
Flash point	> 220 °C	
Evaporation rate	Not applicable for mixtures	
Flammability (solid, gas)	not determined.	
Upper explosion limit	Not applicable for mixtures.	
Lower explosion limit	Not applicable for mixtures.	
Vapour pressure	Not applicable for mixtures	
Relative vapour density	Not applicable for mixtures	
Relative density	0,84 g/cm ³ (20°C)	
Solubility(ies)		
Water solubility	Insoluble in water	
Solubility in other solvents	No data available.	
Partition coefficient: n-octanol/water	Not applicable for mixtures	
Auto-ignition temperature	not determined.	
Decomposition Temperature:	not determined.	

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Viscosity, kinematic	37mm ² /s (40°C)	
Explosive properties	Value not relevant for classification	
Oxidizing properties	Value not relevant for classification	
Particle characteristics:	Not applicable.	

9.2 Other information

No data available.

10. Stability and reactivity

- 10.1 Reactivity** Stable under normal use conditions.
- 10.2 Chemical stability:** Stable under normal use conditions.
- 10.3 Possibility of hazardous reactions:** Stable under normal use conditions.
- 10.4 Conditions to avoid:** Stable under normal use conditions.
- 10.5 Incompatible materials:** Strong oxidizing substances. Strong acids. Strong bases.
- 10.6 Hazardous decomposition products:** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Oral
Product: Not classified for acute toxicity based on available data.

Specified substance(s)
LD 50 (Rat): 1.350 mg/kg (OECD 401)

Alkyl amine

Amine aromatic, alkylated
LD 50 (Rat): > 5.000 mg/kg (OECD 401)

base oil, low viscous
LD 50 (Rat): > 5.000 mg/kg (OECD 401)

Dermal

Not classified for acute toxicity based on

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Product: available data.

Inhalation Product: Not classified for acute toxicity based on available data.

Skin corrosion/irritation

Product:
Based on available data, the classification criteria are not met.

Specified substance(s)

Alkyl amine:
OECD 404 (Rabbit, 14 d), causes severe skin burns.

Serious eye damage/eye irritation

Product:
Based on available data, the classification criteria are not met.

Specified substance(s)

Amine aromatic, alkylated:
OECD 405 (Rabbit): Not irritant.

Respiratory or skin sensitisation

Product:
Skin sensitizer: Based on available data, the classification criteria are not met.
Respiratory sensitizer: Based on available data, the classification criteria are not met.

Specified substance(s)

Alkyl amine	No sensitizing effect (guinea pig); OECD 406
Amine aromatic, alkylated	No sensitizing effect (guinea pig); OECD 406

Germ cell mutagenicity

Product:
Based on available data, the classification criteria are not met.

Carcinogenicity

Product:
Based on available data, the classification criteria are not met.

Reproductive toxicity

Product:
Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure

Product:
Based on available data, the classification criteria are not met.

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Specific Target Organ Toxicity - Repeated Exposure

Product:

Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12. Ecological information

12.1 Toxicity

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Fish

LC 50 (Fish, 96 h): 0,1 mg/l (OECD 203)

Specified substance(s)

Alkyl amine

Amine aromatic, alkylated

LC 50 (Fish, 96 h): > 100 mg/l (OECD 203)

Aquatic Invertebrates

EC 50 (Water Flea, 48 h): 0,043 mg/l

Specified substance(s)

(OECD 202)

Alkyl amine

Amine aromatic, alkylated

EC 50 (Daphnia magna): 51 mg/l (OECD 202)

base oil, low viscous

EL50 (Water Flea, 48 h): > 10.000 mg/l (OECD 202)

Chronic Toxicity

Based on available data, the classification criteria are not met.

Product:

Fish

NOEC (Fish, 14 d): > 1.000 mg/l

Specified substance(s)

base oil, low viscous

Aquatic Invertebrates

NOEC (Water Flea, 21 d): 10 mg/l (OECD

Specified substance(s)

211)

base oil, low viscous

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Alkyl amine	EC 10 (Water Flea, 21 d): 0,0107 mg/l (OECD 211)
Toxicity to Aquatic Plants Specified substance(s) base oil, low viscous	NOEC (Alga, 72 h): > 100 mg/l (OECD 201)
Alkyl amine	EC 50 (Alga, 72 h): 0,0538 mg/l (OECD 201) NOEC (Alga, 72 h): 0,0156 mg/l EC 50 (72 h): > 100 mg/l (OECD 201)
Amine aromatic, alkylated	

12.2 Persistence and degradability

Biodegradability Product:	Not applicable for mixtures
Specified substance(s) Alkyl amine	63 % (28 d, OECD 301D) Readily biodegradable
Amine aromatic, alkylated	Not readily degradable.

12.3 Bioaccumulative potential

Bioakkumulation Product:	Not applicable for mixtures
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12.4 Mobility in soil

Mobility Product:	Not applicable for mixtures
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12.5 Results of PBT and vPvB assessment

Assessment Product:	The product does not contain any substances fulfilling the PBT/vPvB criteria.
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|| 12.6 Endocrine disrupting properties

Product:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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12.7 Other adverse effects

Harmful to aquatic life with long lasting effects.

Water Hazard Class (WGK): WGK 2: significantly water-endangering.

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13. Disposal considerations

13.1 Waste treatment methods

General information:	Dispose in accordance with all applicable regulations.
Disposal methods:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
EU Waste Disposal Code (EWC):	13 02 06* synthetic engine, gear and lubricating oils

14. Transport information

ADR/RID

14.1 UN Number:	--
14.2 UN Proper Shipping Name:	--
14.3 Transport Hazard Class(es)	
Class:	Non-dangerous goods
Label(s):	--
Hazard No. (ADR):	--
Tunnel restriction code:	--
14.4 Packing Group:	--
14.5 Environmental hazards:	--
14.6 Special precautions for user:	--

IMDG

14.1 UN Number:	--
14.2 UN Proper Shipping Name:	--
14.3 Transport Hazard Class(es)	
Class:	Non-dangerous goods
Label(s):	--
EmS No.:	--
14.3 Packing Group:	--
14.5 Environmental hazards:	--
14.6 Special precautions for user:	--

IATA

14.1 UN Number:	--
14.2 Proper Shipping Name:	--
14.3 Transport Hazard Class(es):	
Class:	Non-dangerous goods
Label(s):	--
14.4 Packing Group:	--

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14.5 Environmental hazards: --
14.6 Special precautions for user: --

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
Not applicable.

15. Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

National Regulations

Water Hazard Class (WGK): WGK 2: significantly water-endangering.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

16. Other information

Revision Information: Vertical lines in the margin indicate an amendment.

Wording of the H-statements in section 2 and 3

H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Other information:

The classification complies with the current EU lists; however, it has been supplemented with expert literature information and infor-

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mation provided by/about our company. The following evaluation methods were used: - On the basis of test data - Calculation Method - Bridging Principle "Substantially similar mixtures" - Expert Judgement.

Disclaimer:

The data contained in this safety data sheet are based on our current knowledge and experience and are given to the best of our knowledge and belief. It characterizes the product only with regard to safety requirements for handling, transport and disposal. The data do not describe the product's properties (tech. product specification). Neither should any agreed property nor the suitability of the product for any specific technical application be deduced from the data contained in this safety data sheet. Modifications on this document are not allowed. The data are not transferable to other products. In the case of mixing the product with other products or in the case of processing, the data in this safety data sheet are not necessarily valid for the new-made material. It is the responsibility of the recipient of the product to observe federal, state and local law. Please contact us to obtain up-to-date safety data sheets. This document was issued electronically and has no signature.