



**SAFETY DATA SHEET**

According to Regulation (EC) No 1907/2006

# ZF Lifeguard eFluid

Version number: 1

Issued: 2025-12-11

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

#### 1.1. Product identifier

**Trade name**

ZF Lifeguard eFluid 2

**Article No.**

0671.090.534

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

**Product type**

Mixture.

**Relevant identified uses**

Hydraulic Fluids. / Transmission fluid

**Not suitable for use in**

No uses advised against identified.

#### 1.3. Details of the supplier of the safety data sheet

**SDS created by**

Global Division B Product Compliance Mgmt. System (BWC)

**Supplier**

ZF Aftermarket

Address

ZF Friedrichshafen AG

Obere Weiden 12

97424 Schweinfurt

Germany

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msds.zf-aftermarket@zf.com

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**Contact person**

Global Division B Product Compliance Mgmt. System (BWC)



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### **Email**

msds.zf-aftermarket@zf.com

### **1.4. Emergency telephone number**

+49 (0)89 19240 Information in German and English

### **Available outside office hours**

Yes

## SECTION 2: Hazards identification

### **2.1. Classification of the substance or mixture**

#### **Description**

The classification according to GB-CLP.

The product has not been classified as hazardous, but needs to be labelled according to regulation GB-CLP.

### **2.2. Label elements**

#### **Supplemental hazard statements**

EUH208 Contains Triisobutyl phosphate. May produce an allergic reaction.

EUH210 Safety data sheet available on request.

### **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.

This product does not contain any substance present at a concentration equal to or greater than 0.1% by mass, included in the list drawn up in accordance with article 59, paragraph 1 of the REACH Regulation, due to its endocrine disrupting properties, or a substance known to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation 2018/605.

This mixture does not contain any substances that are assessed to be a PBT or a vPvB in a concentration  $\geq 0,1$  %.



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**SECTION 3: Composition/information on ingredients**

**3.2. Mixtures**

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Specific concentration limits ATE	Note
base oil, low viscous	72623-87-1 276-738-4 01-2119474889-13 649-483-00-5	20 - 50%	Asp. Tox. 1	H304 - -		-
Hydrocarbons, low viscous	68037-01-4 500-183-1 01-2119486452-34-XXXX -	20 - 50%	Asp. Tox. 1	H304 - -		kinematic viscosity < 20.5 cSt 40 °C.
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7 265-157-1 01-2119484627-25 649-467-00-8	1 - <10%	Asp. Tox. 1	H304 - -		ATE (oral): >5000 mg/kg; ATE (dermal): >5000 mg/kg; ATE (inhalation): 5 mg/kg
Triisobutyl phosphate	126-71-6 204-798-3 - -	0.1 - <1%	Skin Sens. 1B	H317 - -		-
Amine aromatic , alkylated	68411-46-1 270-128-1 01-2119491299-23 -	0.1 - <1%	Repr. 2, Aquatic Chronic 3	H361f, H412 - -		-
Hydrocarbons, low viscous	- 919-284-0 01-2119463588-24 -	0.1 - 1%	Asp. Tox. 1, STOT SE 3 - narcosis, Carc. 2, Aquatic Chronic 2	H304, H336, H351, H411, EUH066 - -		M = 0



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### **Substance additional information**

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 and are not classified as carcinogenic according to Nota L/ Nota N of Annex VI of Regulation GB-CLP.

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Instantly remove any clothing soiled by the product.

#### **Inhalation**

Supply fresh air, consult a doctor in case of discomfort.

#### **Skin contact**

Wash with soap and water.

#### **Eye contact**

Promptly wash eyes with plenty of water while lifting the eye lids.

#### **Ingestion**

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.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### **Suitable extinguishing media**

Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

#### **Unsuitable extinguishing media**

Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.



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### 5.3. Advice for firefighters

#### ***Special protective equipment for fire-fighters***

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.

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## SECTION 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

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

### 6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, 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.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### ***Preventive handling precautions***

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

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



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### 7.3. Specific end use(s)

No data available.

### Other

Storage class 10.

Combustible liquid.

Note: This is a regulation from Germany that does not form a legal basis in other countries.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits

Occupational exposure limits: See below OEL table.

Biological Limit Values (BLV): No exposure indices known.

### 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 air-borne levels to an acceptable level.

General Information: 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.

#### Personal Protective Equipment Symbols



#### Eye / face protection

Avoid contact with skin and eyes. Goggles/face shield are recommended. If risk of splashing, wear safety goggles or face shield.



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### **Hand protection**

Material: Nitrile butyl rubber (NBR).

Min. Breakthrough time:  $\geq 480$  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 skin protection**

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.

### **Environmental exposure controls**

No data available.

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 foot-wear that cannot be cleaned.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### **Physical state**

Liquid

#### **Colour**

Amber.

#### **Odour**

Characteristic.

#### **Melting point / freezing point**

Not determined.

#### **Boiling point or initial boiling point and boiling range**

Not determined.



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**Flammability**

Not determined.

**Lower and upper explosion limit**

No data available

**Flash point**

220 °C

**Auto-ignition temperature**

Not determined.

**Decomposition temperature**

Not determined.

**pH**

substance/mixture is non-soluble (in water).

**Kinematic viscosity**

35 mm<sup>2</sup>/s

**Method**

40°C

**Solubility**

No data available

**Water solubility**

Insoluble (water); not available (other solvents)

**Partition coefficient n-octanol/water**

Not applicable for mixtures.

**Vapour pressure**

Not applicable for mixtures.

**Density and/or relative density**

0.84 g/cm<sup>3</sup>

**Method**

@ 20°C

**Relative vapour density**

Not applicable for mixtures.

**Evaporation Rate**

Not applicable for mixtures.

**Explosive properties**

Value not relevant for classification.



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### Oxidising properties

Value not relevant for classification.

### Particle characteristics

Not applicable.

### 9.2. Other information

No data available.

## SECTION 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 oxidising substances, strong acids and strong bases.

### 10.6. Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Not classified for acute toxicity based on available data.

Product / Sub-stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Method / Guideline
Hydrocarbons, low viscous	LD50	> 5000 mg/kg	Oral	Rat.	-

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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Method / Guideline
-					
base oil, low viscous -	LD50	> 5000 mg/kg	Oral.	Rat.	OECD 401
Base oil paraffinic -	LD50	> 5000 mg/kg	Oral.	Rat.	-
Amine aromatic , alkylated -	LD50	> 5000 mg/kg	Oral.	Rat.	OECD 401
Hydrocarbons, low viscous -	LD50	6318 mg/kg	Oral.	Rat.	OECD 423
Base oil paraffinic -	LD50	> 5000 mg/kg	Dermal	Rat.	-
Hydrocarbons, low viscous -	LC50	> 5 mg/l (dust/mist)	Inhalation.	-	-

**Skin corrosion/irritation**

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

Product / Substance name CAS / EC no.	Result	Method / Guideline
Base oil paraffinic -	Not irritating.	OECD 404

**Serious eye damage/irritation**

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

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
Base oil paraffinic -	Not irritating.	-	OECD 405
Amine aromatic , alkylated -	Not irritating.	Rabbit	OECD 405

**Respiratory or skin sensitisation**

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

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Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
Amine aromatic , alkylated -	Not sensitising.	Guinea Pig	OECD 406

**Germ cell mutagenicity**

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

**Carcinogenicity**

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

**Reproductive toxicity**

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

Product / Substance name CAS / EC no.	Exposure route	Species	Result	Other
Amine aromatic , alkylated -	Oral.	Rat.	Suspected of damaging fertility.	OECD 421

**STOT-single exposure**

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

**STOT-repeated exposure**

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

**Aspiration hazard**

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

Base oil paraffinic : May be fatal if swallowed and enters airways.

**11.2. Information on other hazards****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.

**Other**

No data available.

**ZF Lifeguard eFluid****2****SECTION 12: Ecological information****12.1. Toxicity****Acute toxicity**

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

**Acute fish toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Hydrocarbons, low viscous -	LC50	> 750 mg/l	96 hr.	Fish.	-
Base oil paraffinic -	LC50	> 100 mg/l	96 hr.	Fish.	-
Amine aromatic , alkylated -	LC50	> 100 mg/l	96 hr.	Fish.	OECD 203
Hydrocarbons, low viscous -	LC50	2 - 5 mg/l	96 hr.	Fish.	-

**Acute algae toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Amine aromatic , alkylated -	EC50	> 100 mg/l	72 hr	Algae.	OECD 201
Hydrocarbons, low viscous -	EC50	1 - 3 mg/l	72 hr	Algae.	OECD 201
base oil, low viscous -	EC50	> 1000 mg/l	72 hr	Algae.	-
Base oil paraffinic -	EC50	> 100 mg/l	72 hr	Algae.	OECD 201

**Acute crustacean toxicity**

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Hydrocarbons, low viscous -	EC50	190 mg/l	48 hr.	Daphnia magna	-
base oil, low viscous -	EL50	> 10,000 mg/l	48 hr.	Daphnia magna	OECD 202
Base oil paraffinic -	EC50	> 100 mg/l	48 hr.	Daphnia magna	-
Amine aromatic , alkylated -	EC50	51 mg/l	48 hr.	Daphnia magna	OECD 202

**Chronical toxicity**

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

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
base oil, low viscous -	NOEC	> 1000 mg/l	14 days	Fish.	-
base oil, low viscous -	NOEC	10 mg/l	21 days	Daphnia magna	OECD 211
Base oil paraffinic -	NOEC	10 mg/l	21 days	Daphnia magna	OECD 211
base oil, low viscous -	NOEC	> 100 mg/l	72 hr	Algae.	OECD 201

**12.2. Persistence and degradability**

Not applicable for mixtures.

Product / Substance name CAS / EC no.	Duration	Result
Hydrocarbons, low viscous -	28 days	58 %

**12.3. Bioaccumulative potential**

Not applicable for mixtures.



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### 12.4. Mobility in soil

#### Mobility

Not applicable for mixtures.

### 12.5. Results of PBT and vPvB assessment

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.

### 12.6. 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.

### 12.7. Other adverse effects

No data available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose in accordance with all applicable regulations.

Do not empty into drains; dispose of this material and its container in a safe way. When storing used products, ensure that the waste categories and mixing instructions are observed.

Waste code	Waste description
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils

Please note - an asterisk (\*) next to a code denotes that it is HAZARDOUS WASTE.

## SECTION 14: Transport information

### 14.1. UN number

Not regulated.

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

Not regulated.

### 14.3. Transport hazard class(es)

#### Label

Not regulated.



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**ADR / RID Class**

Not regulated.

**ADR / RID Classification code**

Not regulated.

**ADR / RID hazard identification number**

Not regulated.

**IMDG Class**

Not regulated.

**IATA Class**

Not regulated.

**ADN Class**

Not regulated.

**ADN Class Code**

Not regulated.

**14.4. Packing group**

Not regulated.

**14.5. Environmental hazards**

Not regulated.

**IMDG Marine Pollutant**

Not regulated.

**14.6. Special precautions for user**

Not regulated.

**IMDG EmS**

Not regulated.

**14.7. Maritime transport in bulk according to IMO instruments**

Not regulated.

**ZF Lifeguard eFluid****2****SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations**

Regulation (EC) No. 649/2012 Import and export of dangerous chemicals: None.

DIRECTIVE 2012/18/EU (SEVESO III) on the control of major-accident hazards involving dangerous substances: Not applicable.

**National regulations**

The Ozone-Depleting Substances and Fluorinated Greenhouse Gases (Amendment etc.) (EU Exit)

Regulations 2019: None

The Persistent Organic Pollutants (Amendment) (EU Exit) Regulations 2020: None

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out.

**SECTION 16: Other information****Phrase meaning**

Skin Sens. 1B - Skin sensitisation, hazard category 1, sub-category 1B

Repr. 2 - Reproductive toxicity, hazard category 2

Aquatic Chronic 3 - Hazardous to the aquatic environment — Chronic hazard category 3

Asp. Tox. 1 - Aspiration hazard, hazard category 1

STOT SE 3 - narcosis - Specific Target Organ Toxicity — Single exposure, hazard category 3 - narcosis

Carc. 2 - Carcinogenicity, hazard category 2

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

H304 May be fatal if swallowed and enters airways.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

H361f Suspected of damaging fertility

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains Triisobutyl phosphate. May produce an allergic reaction.

EUH210 Safety data sheet available on request.



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### Other

#### **Additional information**

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

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