



SAFETY DATA SHEET

*In accordance with the Hazardous Products
Regulations (HPR), SOR/2015-17.*

*Conformément au Règlement sur les
produits dangereux (RPD), DORS/2015-17.*

Version number: 1

Issued: 2026-09-10

ZF Lifeguard Hybrid 4

SECTION 1: Identification

Product identifier

Trade name

ZF Lifeguard Hybrid 4

Article No.

5961.308.625

Recommended use of the chemical and restrictions on use

Product type

Mixture.

Use

Lubricant.

Not suitable for use in

No uses advised against identified.

Supplier's details

SDS created by

Global Division B Product Compliance Mgmt. System (BWC)

Supplier

ZF Services, LLC

Address

ZF Services Region North
America Headquarters
777 Hickory Hill Drive
Vernon Hills
60061 Illinois
USA

Telephone

+1 847 478 6868

Email

msds.zf-aftermarket@zf.com



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ZF Lifeguard Hybrid 4

Contact person

Global Division B Product Compliance Mgmt. System (BWC)

Email address

msds.zf-aftermarket@zf.com

Emergency phone number

(+49) 89 19 240

Available outside office hours

Yes

SECTION 2: Hazard identification

Classification of the substance or mixture and any national or regional information

Classification according to Globally Harmonized System (GHS)

Classification

Hazardous to the aquatic environment — Chronic hazard category 3

Hazard statements

H412

Description

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Label elements, including precautionary statements

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

P501 Dispose of contents/container to an approved waste disposal plant.



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ZF Lifeguard Hybrid 4

Other hazards which do not result in classification

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.

Unknown toxicity: Due to information available product does not contain any ingredients of unknown toxicity.

SECTION 3: Composition/information on ingredients

Mixture

Chemical name	CAS No. EC No. REACH No. Index No.	Concentra- tion	Classification	H-phrase M factor acute M factor chronic	Specific concentra- tion limits ATE	Note
base oil, low viscous	72623-87-1 276-738-4 01-2119474889- 13 649-483-00-5	30 - 60%	Asp. Tox. 1	H304 - -		-
Alkoxysulfolane	18760-44-6 - - -	0.5 - 1.5%	-	- - -		-
Alkyl thio phosphite	1041187-44-3 - - -	0.1 - 1%	-	- - -		-
alkenyl amine, long- chain	112-90-3 - - -	0 - 0.1%	Acute Tox. 4 - oral, Asp. Tox. 1, Skin Corr. 1B, Eye Dam. 1, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1, STOT SE 3	H302, H304, H314, H318, H335, H373, H400, H410 M-acute=10 M-chro=10		-



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ZF Lifeguard Hybrid

4

Product based on

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 EC 1272/2008.

SECTION 4: First-aid measures

Description of necessary 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.

Most important symptoms/effects, acute and delayed

May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed, if necessary

Get medical attention if symptoms occur.

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) 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.



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ZF Lifeguard Hybrid

4

Unsuitable extinguishing media

Water with a full water jet.

Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products).

During fire, health hazardous gases may be formed.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters

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

Special fire-fighting procedures: 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.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

Avoid release to the environment. 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.

Methods and materials 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.

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.



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ZF Lifeguard Hybrid

4

SECTION 7: Handling and storage

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.

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.

Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure limits

See below OEL table.

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Source	Remark	Year
huile de base, peu visqueuse - Brouillard	- -	- / 5	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended	TWA	-



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ZF Lifeguard Hybrid

4

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Source	Remark	Year
huile de base, peu visqueuse - Brouillard	- -	- / 10	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended	STEL	-
huile de base, peu visqueuse - Brouillard	- -	- / 5	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended	TWA	-
huile de base, peu visqueuse - Brouillard	- -	- / 10	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended	STEL	-
huile de base, peu visqueuse - Brouillard	- -	- / 1	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended	TWA	-



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Version number: 1

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ZF Lifeguard Hybrid

4

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huile de base, peu visqueuse - Brouillard	- -	- / 10	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended	STEL	-

Appropriate engineering 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: 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.

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.

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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ZF Lifeguard Hybrid 4

Hand protection

Material: Nitrile butyl rubber (NBR).

Min. Breakthrough time: ≥ 480 min

Recommended thickness of the material: ≥ 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

No data available.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state

Liquid

Colour

Red.

Odour

Characteristic.

Odour threshold

Not applicable for mixtures.

Melting point / freezing point

No data available



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ZF Lifeguard Hybrid 4

Boiling point or initial boiling point and boiling range

Value not relevant for classification.

Flammability

Value not relevant for classification.

Lower and upper explosion limit

Not applicable for mixtures.

Flash point

210 °C

Auto-ignition temperature

Value not relevant for classification.

Decomposition temperature

Value not relevant for classification.

pH

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

Kinematic viscosity

29 mm²/s (40 °C)

Solubility

No data available

Water solubility

Insoluble (water); No data available (other solvents).

Partition coefficient n-octanol/water

Not applicable for mixtures.

Vapour pressure

Not applicable for mixtures.

Density and/or relative density

No data available

Relative density

0.84 g/ml (15 °C)



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ZF Lifeguard Hybrid 4

Relative vapour density

Not applicable for mixtures.

Evaporation Rate

Not applicable for mixtures.

Explosive properties

Value not relevant for classification.

Oxidising properties

Value not relevant for classification.

Particle characteristics

No data available

Other information

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal use conditions.

Chemical stability

Stable under normal use conditions.

Possibility of hazardous reactions

Stable under normal use conditions.

Conditions to avoid

Stable under normal use conditions.

Incompatible materials

Strong oxidizing substances, strong acids and strong bases.

Hazardous decomposition products

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



ZF Lifeguard Hybrid

4

SECTION 11. Toxicological information

Information on the likely routes of exposure

Acute toxicity

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

Product / Sub- stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Method / Guideline
Alkyl phosphites -	LD50	> 501 mg/kg	Dermal	Rat.	-
base oil, low viscous -	LD50	> 5,001 mg/kg	Oral.	Rat.	OECD 401
alkenyl amine, long- chain -	LD50	1,689 mg/kg	Oral.	Rat.	OECD 401

Skin corrosion/irritation

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

Serious eye damage/irritation

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

Respiratory or skin sensitisation

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

Germ cell mutagenicity

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

Carcinogenicity

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

IARC: IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

NTP: US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogenic components identified



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Issued: 2026-09-10

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Reproductive toxicity

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

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.

Information on other hazards

No data available

SECTION 12: Ecological information

Toxicity

Acute toxicity

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

Acute fish toxicity

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
base oil, low viscous -	LC50	> 100 mg/l	96 hr	Fish.	OECD 203
Alkoxysulfolane -	LC50	2.4 mg/l	96 hr	Fish.	-
Alkyl phosphites -	LC50	1.5 mg/l	96 hr	Fish.	OECD 203
alkenyl amine, long- chain -	LC50	0.06 mg/l	96 hr	Fish.	-

Acute algae toxicity



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produits dangereux (RPD), DORS/2015-17.

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ZF Lifeguard Hybrid 4

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Alkoxysulfolane -	EC50	63 mg/l	72 hr	Algae.
Alkyl phosphites -	EC50	0.31 mg/l	72 hr	Algae.
alkenyl amine, long-chain -	EC50	0.12 mg/l	72 hr	Algae.
alkenyl amine, long-chain -	EC10	0.029 mg/l	72 hr	Algae.

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Alkoxysulfolane -	EC50	4.6 mg/l	48 hr	Water Flea.	-
Alkyl phosphites -	EC50	0.09 mg/l	48 hr	Water Flea.	OECD 202
alkenyl amine, long-chain -	EC50	0.011 mg/l	48 hr	Water Flea.	-

Chronical toxicity

Based on available data, the classification criteria are met.

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
Alkoxysulfolane -	NOEC	1 mg/l	96 d	Fish.	-



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Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
base oil, low viscous -	NOEC	10 mg/l	21 d	Water Flea.	OECD 211
Alkoxysulfolane -	NOEC	0.63 mg/l	48 d	Water Flea.	-
Alkyl phosphites -	NOEC	0.14 mg/l	21 d	Water Flea.	-
base oil, low viscous -	NOEC	> 1,000 mg/l	14 d	Fish.	-
alkenyl amine, long- chain -	NOEC	0.013 mg/l	21 d	Water Flea.	-
base oil, low viscous -	NOEC	> 100 mg/l	72 hr	Algae.	OECD 201
Alkoxysulfolane -	NOEC	0.313 mg/l	72 hr	Algae.	-

Persistence and degradability

Not applicable for mixtures.

Product / Substance name CAS / EC no.	Duration	Result	Degradation	Method / Guideline
Alkoxysulfolane -	28 d	Not readily biodegrad- able.	9.6%	OECD 301D
alkenyl amine, long- chain -	28 d	-	66 %	OECD 301B

Bioaccumulative potential

Not applicable for mixtures.

Mobility in soil

Mobility

Not applicable for mixtures.



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Results of PBT and vPvB assessment

Results of PBT and vPvB assessment

The product does not contain any substances fulfilling the PBT/vPvB criteria.

Endocrine disrupting properties

No data available

Other adverse effects

Harmful to aquatic life with long lasting effects.

The classification of this product is based all or in part on test data

SECTION 13: Disposal considerations

Disposal methods

Disposal considerations

Dispose in accordance with all applicable regulations.

Discharge, treatment or disposal may be subject to national and local laws and regulations.

SECTION 14: Transport information

UN number

Not regulated.

UN proper shipping name

ADR / RID / ADN proper shipping name

Not Regulated.

IMDG proper shipping name

Not Regulated.

IATA proper shipping name

Not Regulated.

Transport hazard class(es)

Label

Not regulated.



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ADR / RID Class

Not regulated.

IMDG Class

Not regulated.

IATA Class

Not regulated.

ADN Class

Not regulated.

Packing group

Not regulated.

Environmental hazards

No.

IMDG Marine Pollutant

No.

Special precautions for user

Not applicable.

Transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

EU regulations

Not applicable.

National regulations

No data available

Other regulations, limitations and legal regulations

Inventory list:

TSCA: On or in compliance with the inventory.

DSL: On or in compliance with the inventory.



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ZF Lifeguard Hybrid 4

Chemical safety assessment

No data available

SECTION 16: Other information

Phrase meaning

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

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

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

Skin Corr. 1B - Skin corrosion, hazard category 1B

Eye Dam. 1 - Serious eye damage, hazard category 1

STOT RE 2 - Specific Target Organ Toxicity — Repeated exposure, hazard category 2

Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1

Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1

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

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

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

Additional information

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.