



SAFETY DATA SHEET

According to Regulation (US HCS) 29 CFR
1910.1200

ZF Lifeguard Hybrid 4

Version number: 1

Issued: 2026-08-10

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
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USA

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Emergency phone number

1-800-222-1222 (general poison US emergency 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

Description

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200): Not a hazardous substance or mixture.

Label elements, including precautionary statements

More information

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

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.

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



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SECTION 3: Composition/information on ingredients

Mixture

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases 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 - -		-
Alkoxysulfolane	18760-44-6 - - -	1 - <2.5%	-	- - -		-
alkenyl amine, long-chain	112-90-3 - - -	0.01 - <0.25%	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-acut=10 M-chro=10		-
Alkyl thio phosphite	1041187-44-3 - - -	0.01 - <0.25%	-	- - -		-

Product based on

Mixture containing severely refined base oils and additives.

Note: 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."



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SECTION 4: First-aid measures

Description of necessary first-aid measures

Instantly remove any clothing soiled by the product.

Inhalation

Supply fresh air; consult doctor in case of symptoms.

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.

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, gases hazardous to health may be formed.



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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 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.

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.

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

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

Do not heat up to temperatures close to the flash point.



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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
base oil, low viscous - Inhalable fraction	- -	- / 5	US. ACGIH Threshold Limit Values, as amended (03 2014)	TWA	2014
base oil, low viscous	- -	500 / 2000	US. OSHA Table Z-1 Lim- its for Air Con- taminants (29 CFR 1910.1000), as amended (02 2006)	PEL	2006
base oil, low viscous - Mist	- -	- / 5	US. OSHA Table Z-1 Lim- its for Air Con- taminants (29 CFR 1910.1000), as amended (02 2006)	PEL	2006
base oil, low viscous	- -	400 / 1600	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)	TWA	1989
base oil, low viscous - Mist	-	- / 5	US. OSHA	TWA	1989



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Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m ³	Source	Remark	Year
	-		Table Z-1-A (29 CFR 1910.1000), as amended (1989)		

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 airborne 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 footwear 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.

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.



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Respiratory protection

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

Thermal hazards

No data available.

Environmental exposure controls

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

Not applicable for mixtures

Boiling point or initial boiling point and boiling range

Value not relevant for classification

Flammability

Value not relevant for classification [solid, gas]

Lower and upper explosion limit

Not applicable for mixtures

Flash point

210 °C / 410°F

Auto-ignition temperature

Value not relevant for classification

Decomposition temperature

Value not relevant for classification



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pH

substance/mixture is non-soluble (in water)

Kinematic viscosity

29 mm²/s (40 °C)

Solubility

No data available

Water solubility

Insoluble in water

Partition coefficient n-octanol/water

Not applicable for mixtures

Vapour pressure

Not applicable for mixtures

Density and/or relative density

0.84 g/ml (15 °C)

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.



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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. Strong bases.

Hazardous decomposition products

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

SECTION 11. Toxicological information

Information on the likely routes of exposure

Acute toxicity

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

ATE(mix) - Dermal: ATEmix: 212,018.62 mg/kg

Product / Sub- stance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Method / Guideline
base oil, low viscous -	LD50	> 5,001 mg/kg	oral	Rat	OECD 401
alkenyl amine, long- chain -	LD50	1689 mg/kg	oral	Rat	OECD 401
Alkyl thio phosphite -	LD50	> 501 mg/kg	Dermal	Rat	-

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.



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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

OSHASP: US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): No carcinogenic components identified

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	-



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Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
-					
Alkyl thio phosphite -	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

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Alkoxysulfolane -	EC50	63 mg/l	72 hr	Algae
Alkyl thio phosphite -	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 / Sub- stance 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 thio phosphite -	EC50	0.09 mg/l	48 hr	Water Flea	OECD 202
alkenyl amine, long- chain -	EC50	0.011 mg/l	48 hr	Water Flea	-



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Chronic toxicity

Based on available data, the classification criteria are met.

Product / Sub- stance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species	Method / Guideline
base oil, low viscous -	NOEC	> 1000 mg/l	14 d	Fish	-
Alkoxysulfolane -	NOEC	1 mg/l	96 d	Fish	-
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 thio phosphite -	NOEC	0.14 mg/l	21 d	Water Flea	-
alkenyl amine, long- chain -	NOEC	0.013 mg/l	21 d	Water Flea	-
base oil, low viscous -	NOEC	> 100 mg/l	72 hr	Alga	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 easily biodegradable	9.6 %	OECD 301D
alkenyl amine, long- chain -	28 d	-	66 %	OECD 301B

Bioaccumulative potential

Not applicable for mixtures



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Mobility in soil

Mobility

Not applicable for mixtures

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, state, or local laws.

SECTION 14: Transport information

UN number

UNRTDG: Not Regulated.

US DOT: 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.



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Transport hazard class(es)

Label

Not Regulated.

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.



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National regulations

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity: This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulations, limitations and legal regulations

Inventory Status:

TSCA On or in compliance with the inventory

DSL On or in compliance with the inventory

NDSL Not in compliance with the inventory.

Chemical safety assessment

No data available

SECTION 16: Other information

Phrase meaning

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.



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Other

Additional information

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