ZF Lifeguard Fluid 8

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

1.1. Product identifier

Trade name

ZF Lifeguard Fluid 8

Article No.

S671.090.310, S671.090.311; S671.090.312; S671.090.313

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

Product type

Mixture.

Relevant identified uses

Transmission oil.

Not suitable for use in

This product must not be used in applications other than those listed in Section 1 without first seeking the advice of the supplier.

1.3. Details of the supplier of the safety data sheet

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

Contact person

Global Division B Product Compliance Mgmt. System (BWC)

Email

msds.zf-aftermarket@zf.com

1.4. Emergency telephone number

(+49) 89 19 240

Available outside office hours

Yes

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Description

Based on available data this substance / mixture does not meet the classification criteria.

2.2. Label elements

More information

Prevention: No precautionary phrases.
Response: No precautionary phrases.
Storage: No precautionary phrases.
Disposal: No precautionary phrases.

2.3. Other hazards

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin result-ing in disorders such as oil acne/folliculitis.
Used oil may contain harmful impurities.
Not classified as flammable but will burn.

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
Interchangeable low viscosity base oil (<20,5 cSt @40°C)*	- - - -	0 - 90%	Asp. Tox. 1	H304 - -		-
Alkyl acetamide	- - - -	1 - 3%	Skin Sens. 1B	H317 - -		CAS-No.: Not Assigned SCL: H317: >=3.1%
Calcium alkaryl sulphonate	75975-85-8 - - -	0.1 - 0.99%	Skin Sens. 1B	H317 - -		-
Ethoxylated amine	61791-44-4 263-177-5 - -	0.01 - 0.1%	Acute Tox. 4 - oral, Skin Corr. 1C, Aquatic Acute 1, Aquatic Chronic 1	H302, H314, H400, H410 - -		-

Substance additional information
Synthetic base oil and additives.
Highly refined mineral oil.

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.

* contains one or more of the following CAS-numbers (REACH registration numbers): 64742-53-6 (01-2119480375-34), 64742-54-7 (01-2119484627-25), 64742-55-8 (01-2119487077-29), 64742-56-9 (01-2119480132-48), 64742-65-0 (01-2119471299-27), 68037-01-4 (01-2119486452-34), 72623-86-0 (01-2119474878-16), 72623-87-1 (01-2119474889-13), 8042-47-5 (01-2119487078-27), 848301-69-9 (01-0000020163-82), 68649-12-7 (01-2119527646-33), 151006-60-9 (01-2119523580-47), 163149-28-8 (01-2119543695-30), 64741-88-4 (01-2119488706-23), 64741-89-5 (01-2119487067-30).

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

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual
concentration range(s) are being withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Inhalation
No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

Skin contact
Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.
If persistent irritation occurs, obtain medical attention.

Eye contact
Flush eye with copious quantities of water.
Remove contact lenses, if present and easy to do. Continue rinsing.
If persistent irritation occurs, obtain medical attention.

Ingestion
In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

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

Symptoms: Skin sensitisation (allergic skin reaction) signs and symptoms may include itching and/or a rash.
Oil acne/folliculitis signs and symptoms may include formation of black pustules and spots on the skin of exposed areas.
Ingestion may result in nausea, vomiting and/or diarrhea.

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

Notes to doctor/physician: Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media

Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products may include:
A complex mixture of airborne solid and liquid particulates and gases (smoke).
Carbon monoxide may be evolved if incomplete combustion occurs.
Unidentified organic and inorganic compounds.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid contact with skin and eyes.
For emergency responders: Avoid contact with skin and eyes.

6.2. Environmental precautions

Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Slippery when spilt. Avoid accidents, clean up immediately.
Prevent from spreading by making a barrier with sand, earth or other containment material.
Reclaim liquid directly or in an absorbent.
Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.

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

Technical measures: Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Advice on safe handling: Avoid prolonged or repeated contact with skin.
Avoid inhaling vapour and/or mists.
When handling product in drums, safety footwear should be worn and proper handling equipment should be used.
Properly dispose of any contaminated rags or cleaning mate-rials in order to prevent fires.
Product Transfer: Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.
Hygiene measures: Exposure to this product should be reduced as low as reasonably practicable.
Reference should be made to the Health and Safety Executive's publication "COSHH Essentials".

7.2. Conditions for safe storage, including any incompatibilities

Further information on storage stability: Keep container tightly closed and in a cool, well-ventilated place. Use properly labeled and closable containers.
Store at ambient temperature.
Refer to section 15 for any additional specific legislation cov-ering the packaging and storage of this product.
Packaging material: Suitable material: For containers or container linings, use mild steel or high density polyethylene.
Unsuitable material: PVC.
Container Advice: Polyethylene containers should not be exposed to high temperatures because of possible risk of distortion.

7.3. Specific end use(s)

Not applicable.

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.

Monitoring Methods: Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure con-trols. For some substances biological monitoring may also be appropriate.
Validated exposure measurement methods should be applied by a competent person and sam-ples analysed by an accredited laboratory.
Examples of sources of recommended exposure measurement methods are given below or con-tact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Meth-ods http://www.cdc.gov/niosh/
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/
Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substanc-es http://www.hse.gov.uk/
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA) , Germany http://www.dguv.de/inhalt/index.jsp
L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

National occupational exposure limits

Ingredient	CAS No. EC No.	Exposure limit ppm / mg/m³	Source	Remark	Year
Oil mist, mineral	- -	- / 5 /	OSHA Z-1	TWA (Mist)	-
Oil mist, mineral	- -	- / 5 /	ACGIH	TWA (Inhalable particulate matter)	-

8.2. Exposure controls

Appropriate engineering controls

Engineering measures: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Adequate ventilation to control airborne concentrations. Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information: Define procedures for safe handling and maintenance of controls.
Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.
Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Personal protective equipment: The provided information is made in consideration of the PPE directive (Council Directive 89/686/EEC) and the CEN European Committee for Standardisation (CEN) standards.
Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Personal Protective Equipment Symbols

Eye / face protection

If material is handled such that it could be splashed into eyes, protective eyewear is recommended. Approved to EU Standard EN166.

Hand protection

Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. PVC, neoprene or nitrile rubber gloves Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
For continuous contact we recommend gloves with break-through time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model.

Other skin protection

Skin protection is not ordinarily required beyond standard work clothes.
It is good practice to wear chemical resistant gloves.

Respiratory protection

No respiratory protection is ordinarily required under normal conditions of use.
In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material.
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation.
Check with respiratory protective equipment suppliers.
Where air-filtering respirators are suitable, select an appropriate combination of mask and filter.
Select a filter suitable for combined particulate/organic gases and vapours [Type A/Type P boiling point > 65°C (149°F)] meeting EN14387 and EN143.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Liquid at room temperature

Colour

Blue-green

Odour

Slight hydrocarbon

Melting point / freezing point
No data available

Boiling point or initial boiling point and boiling range
> 280 °C
Method
estimated value(s)

Flammability
Not applicable (solid, gas); Not classified as flammable but will burn (liquids)).

Lower and upper explosion limit
Lower: 1%.; Upper: 10%.

Flash point
206 °C
Method
ASTM D92 (COC)

Auto-ignition temperature
> 320 °C

Decomposition temperature
No data available

pH
Not applicable.

Kinematic viscosity
26 mm2/s (40.0 °C); 5.6 mm2/s (100 °C)
5.6 mm2/s (100 °C)
Method
ASTM D445

Viscosity, dynamic
Not available.

Solubility
negligible (water); not available (other solvents)

Partition coefficient n-octanol/water
> 6
Method
based on information on similar products.

Vapour pressure
< 0.5 Pa (20 °C)
Method
estimated value(s)

Density and/or relative density
846 kg/m³
Method
ISO 12185; 15 °C

Relative density
0.846 (15 °C)

Relative vapour density
> 1
Method
estimated value(s)

Evaporation Rate
Not available.

Explosive properties
Not classified.

Oxidising properties
Not available.

Particle characteristics
No data available

9.2. Other information
Pour point: 42 °C [ASTM D97]
Conductivity: This material is not expected to be a static accumulator.

SECTION 10: Stability and reactivity

10.1. Reactivity
The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Strong oxidizing agents.

10.4. Conditions to avoid
Extremes of temperature and direct sunlight.

10.5. Incompatible materials
Strong oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

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

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Based on available data, the classification criteria are not met. (Acute oral toxicity ; Acute dermal toxicity ; Acute inhalation toxicity)

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals	Remarks
ZF Lifeguard Fluid 8 -	LD50	> 5000 mg/kg	Dermal	Rabbit	Low toxicity Based on available data, the classification criteria are not met.
ZF Lifeguard Fluid 8 -	-	-	Inhalation.	-	Based on available data, the classification criteria are not met.
ZF Lifeguard Fluid 8 -	LD50	> 5000 mg/kg	Oral.	Rat.	Low toxicity Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Slightly irritating to skin. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.
Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Slightly irritating to the eye.
Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

skin: Not a skin sensitiser.
Respiratory: Not a sensitizer.

Product / Substance name CAS / EC no.	Result
Alkyl acetamide -	Experimental data has shown that the concentration of potentially sensitizing components present in this product does not induce skin sensitization. May cause an allergic skin reaction in sensitive individuals.

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: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

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.

11.2. Information on other hazards

Other information
Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal. ALL used oil should be handled with caution and skin contact avoided as far as possible.

Slightly irritating to respiratory system.

Classifications by other authorities under varying regulatory frameworks may exist.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

Information given is based on data on the components and the toxicology of similar products.
Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual com-ponent(s).
Based on available data, the classification criteria are not met.

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species	Remark
ZF Lifeguard Fluid 8 -	LL/EL/IL50	>10 <= 100 mg/l	Fish.	Harmful.

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species	Remark
ZF Lifeguard Fluid 8 -	LL/EL/IL50	>10 <= 100 mg/l	Algae.	Harmful.

Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species	Remark
ZF Lifeguard Fluid 8 -	LL/EL/IL50	>10 <= 100 mg/l	Daphnia magna	Harmful.

Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species	Remark
ZF Lifeguard Fluid 8 -	-	-	Fish.	Based on available data, the classification criteria are not met.
ZF Lifeguard Fluid 8	-	-	Daphnia magna	Based on available data,

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species	Remark
-				the classification criteria are not met.
ZF Lifeguard Fluid 8 -	LL/EL/IL50	>10 <= 100 mg/l	microorganisms	Harmful.

12.2. Persistence and degradability

Not readily biodegradable.
Major constituents are inherently biodegradable, but contains components that may persist in the environment.

Persistent per IMO criteria.
International Oil Pollution Compensation (IOPC) Fund definition: "A non-persistent oil is oil, which, at the time of shipment, consists of hydrocarbon fractions, (a) at least 50% of which, by volume, distills at a temperature of 340ºC (645ºF) and (b) at least 95% of which, by volume, distils at a temperature of 370ºC (700ºF) when tested by the ASTM Method D-86/78 or any subsequent revision thereof."

12.3. Bioaccumulative potential

Contains components with the potential to bioaccumulate.

12.4. Mobility in soil

Mobility

Liquid under most environmental conditions., If it enters soil, it will adsorb to soil particles and will not be mobile.
Floats on water.

12.5. Results of PBT and vPvB assessment

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 Com-mission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

Does not have ozone depletion potential, photochemical ozone creation potential or global warming potential. Product is a mixture of non-volatile components, which will not be released to air in any significant quantities under normal conditions of use.

Poorly soluble mixture.
Causes physical fouling of aquatic organisms.

Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses.
Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment.
Waste, spills or used product is dangerous waste.
Waste arising from a spillage or tank cleaning should be dis-posed of in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Do not dispose of tank water bottoms by allowing them to drain into the ground. This will result in soil and groundwater contamination. MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Packaging

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.
Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Waste code	Waste description
13 02 06*	synthetic 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.

ADR / RID Class
Not regulated.

IMDG Class
Not regulated.

IATA Class
Not regulated.

ADN Class
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
Refer to Section 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

14.7. Maritime transport in bulk according to IMO instruments
MARPOL Annex 1 rules apply for bulk shipments by sea.

SECTION 15: Regulatory information

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

EU regulations

Not applicable.

National regulations

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.

Other regulations, limitations and legal regulations

United States Inventory (TSCA, Toxic Substances Control Act, section 8b): All components are listed or exempted.

Canada inventory (DSL/NDSL): Notified with restrictions.
The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Phrase meaning

Asp. Tox. 1 - Aspiration hazard, hazard category 1
Skin Sens. 1B - Skin sensitisation, hazard category 1, sub-category 1B
Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4
Skin Corr. 1C - Skin corrosion, hazard category 1C
Aquatic Acute 1 - Hazardous to the aquatic environment — Acute hazard category 1
Aquatic Chronic 1 - Hazardous to the aquatic environment — Chronic hazard category 1
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.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Other

Additional information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.