



**Trade name: ZF LifeguardFluid 6**

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

**1.1 Product identifier**

Trade name: ZF LifeguardFluid 6

Product code: S671.090.250  
S671.090.252  
S671.090.253  
S671.090.255

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

Use of the Substance/Mixture: Transmission oil

Uses advised against: 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**

**ZF Friedrichshafen AG**  
**ZF Aftermarket**  
**Obere Weiden 12**  
**97424 Schweinfurt**  
**Germany**  
**+49 9721 475 60**  
**[www.zf.com/contact](http://www.zf.com/contact)**

**1.4 Emergency telephone number**

**24/7h Emergency telephone number:**

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

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**2. Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification (REGULATION (EC) No 1272/2008)**

Long-term (chronic) aquatic hazard, Category 3

H412: Harmful to aquatic life with long lasting effects.

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**



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Hazard pictograms:	No Hazard Symbol required
Signal word:	No signal word
Hazard statements	
PHYSICAL HAZARDS:	Not classified as a physical hazard according to CLP criteria.
HEALTH HAZARDS:	Not classified as a health hazard under CLP criteria.
ENVIRONMENTAL HAZARDS:	H412 Harmful to aquatic life with long lasting effects.
Precautionary statements:	
<b>Prevention:</b>	P273 Avoid release to the environment.
<b>Response:</b>	No precautionary phrases.
<b>Storage:</b>	No precautionary phrases.
<b>Disposal:</b>	P501 Dispose of contents/ container to an approved waste disposal plant.
Sensitising components:	Contains calcium sulphonate. Contains substituted hydrocarbyl sulphide. Contains borated ester. May produce an allergic reaction.

**2.3 Other hazards**

This mixture does not contain any REACH registered substances that are assessed to be a PBT or a vPvB.  
Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.  
Used oil may contain harmful impurities.  
Not classified as flammable but will burn.

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**3. Composition/information on ingredients**

**3.2 Mixtures**

Chemical nature	Synthetic base oil and additives. Highly refined mineral oil. The highly refined mineral oil contains <3% (w/w) DMSOextract, according to IP346. The highly refined mineral oil is only pre-
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sent as additive diluent.

\* 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).

### Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
2,2'-(C16-18 (evennumbered, C18 unsaturated) alkyl imino) diethanol	1218787-32-6 01-2119510877-33	Acute Tox.4; H302 Skin Corr.1C; H314 Aquatic Acute1; H400 Aquatic Chronic1; H410	0,1 - 0,99
Substituted hydrocarbyl sulphide	67124-09-8 266-582-5 01-2119953277-30	Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic1; H410	0,1 - 0,99
Calcium alkaryl sulphonate	75975-85-8	Skin Sens.1B; H317	0,1 - 0,99
Borated ester	939-580-3	Skin Sens.1; H317	0,1 - 0,99
Interchangeable low viscosity base oil (<20,5 cSt @40°C) *	--	Asp. Tox.1; H304	0 - 90

For explanation of abbreviations see section 16.

## 4. First aid measures

### 4.1 Description of first aid measures



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Protection of first-aiders:	When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.
If inhaled:	No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.
In case of 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.
In case of 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.
If swallowed:	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:	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 diarrhoea.
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#### **4.3 Indication of any immediate medical attention and special treatment needed**

Treatment:	Notes to doctor/physician: Treat symptomatically.
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### **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 in a jet.



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## 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting: 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 firefighters: 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.

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## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: For non emergency personnel:  
Avoid contact with skin and eyes.  
Emergency responders: For emergency responders:  
Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Environmental precautions: Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.



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### **6.3 Methods and materials for containment and cleaning up**

Methods for 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**

For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.  
For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

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## **7. Handling and storage**

General Precautions:

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.

### **7.1 Precautions for safe handling**

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 materials in order to prevent fires.

Product Transfer:

Proper grounding and bonding procedures should be used during all bulk transfer operations to avoid static accumulation.

### **7.2 Conditions for safe storage, including any incompatibilities**





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adequacy of exposure controls.

For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods

<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 Substances

<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 Sécurité, (INRS), France

<http://www.inrs.fr/accueil>

## **8.2 Exposure 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



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(CEN) standards.

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

**Eye 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 breakthrough 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.

**Skin and body protection:**

Skin protection is not ordinarily required



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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.

**Thermal hazards:**

Not applicable

**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".

**Environmental exposure controls**

General advice:

Take appropriate measures to fulfill the requirements of relevant environmental protection legislation. Avoid contamination of the environment by following advice given in Chapter 6. If necessary, prevent undissolved material from being discharged to waste water. Waste water should be treated in a municipal or industrial waste water treatment plant before discharge to surface water. Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.



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**9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Appearance:	Liquid at room temperatur
Colour:	Amber
Odour:	Slight hydrocarbon
Odour Threshold:	Data not available
pH:	Not applicable

Pour point	-30°C	ASTM D97
Initial boiling point and boiling range	> 280 °C	estimated value(s)
Flash point	230°C	ASTM D92 (COC)
Evaporation rate	Data not available	
Flammability (solid, gas)	Data not available	
Upper explosion limit	Typical 10 %(V)	
Lower explosion limit	Typical 1 %(V)	
Vapour pressure	< 0,5 Pa (20 °C)	estimated value(s)
Relative vapour density	> 1	estimated value(s)

Relative density	0,840 (15°C)	
Density	840 kg/m <sup>3</sup> (15°C)	ASTM D4052
<b>Solubility(ies)</b>		
Water solubility	negligible	
Solubility in other solvents	Data not available	
Partition coefficient: n-octanol/water	Pow: > 6 (based on information on similar products)	



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Auto-ignition temperature	> 320°C	
Viscosity, dynamic	Data not available	
Viscosity, kinematic	26,8 mm <sup>2</sup> /s (40°C) 5,6 mm <sup>2</sup> /s (100°C)	ISO 3104
Explosive properties	Not classified	
Oxidizing properties	Data not available	

**9.2 Other information**

Conductivity: This material is not expected to be a static accumulator.

Decomposition temperature: Data not available

**10. Stability and reactivity**

- 10.1 Reactivity** The product does not pose any further reactivity hazards in addition to those listed in the following subparagraph.
- 10.2 Chemical stability:** Stable.  
No hazardous reaction is expected when handled and stored according to provisions
- 10.3 Possibility of hazardous reactions:** Reacts with strong oxidising agents.
- 10.4 Conditions to avoid:** Extremes of temperature and direct sunlight
- 10.5 Incompatible materials:** Strong oxidising agents.
- 10.6 Hazardous decomposition products:** No decomposition if stored and applied as directed.

**11. Toxicological information**

**11.1 Information on toxicological effects**



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Basis for assessment:

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 component(s).

Information on likely routes of exposure

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

**Acute toxicity**

Product:

Acute oral toxicity:

LD50 rat: > 5.000 mg/kg

Remarks: Low toxicity:

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

Acute inhalation toxicity:

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

Acute dermal toxicity:

LD50 Rabbit: > 5.000 mg/kg

Remarks: Low toxicity:

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

**Skin corrosion/irritation**

Product:

Remarks: 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/eye irritation**

Product:

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

**Respiratory or skin sensitisation**

Product:

Remarks: For respiratory and skin sensitisation:., Not a sensitiser., Based on available data, the classification criteria are not met.

**Components:**

**Substituted hydrocarbyl sulphide:**

Remarks: Experimental data has shown that the concentration of potentially sensitising components present in this product does not induce skin sensitisation. May cause an allergic skin reaction in sensitive individuals.



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**Calcium alkaryl sulphonate:**

Remarks: May cause an allergic skin reaction in sensitive individuals.

**Borated ester:**

Remarks: May cause an allergic skin reaction in sensitive individuals.

**Germ cell mutagenicity**

Product:

Remarks: Non mutagenic, Based on available data, the classification criteria are not met.

**Carcinogenicity**

Product:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
Highly refined mineral oil	No carcinogenicity classification

**Reproductive toxicity**

Product:

Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are not met.

**STOT - single exposure**

Product:

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

**STOT - repeated exposure**

Product:

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

**Aspiration toxicity**

Product:

Not an aspiration hazard.

**Further information**

Product:

Remarks: 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.

Remarks: Slightly irritating to respiratory system.

Remarks: Classifications by other authorities under varying regulatory frameworks may exist.



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### Summary on evaluation of the CMR properties

Germ cell mutagenicity – Assessment: This product does not meet the criteria for classification in categories 1A/1B.

Carcinogenicity – Assessment: This product does not meet the criteria for classification in categories 1A/1B.

Reproductive toxicity – Assessment: This product does not meet the criteria for classification in categories 1A/1B.

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## 12. Ecological information

### 12.1 Toxicity

Basis for assessment: Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s). (LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract).

Product:  
Toxicity to fish (Acute toxicity): Remarks: LL/EL/IL50 10-100 mg/l  
Harmful

Toxicity to crustacean (Acute toxicity) Remarks: LL/EL/IL50 10-100 mg/l  
Harmful

Toxicity to algae/aquatic plants (Acute toxicity) Remarks: LL/EL/IL50 10-100 mg/l  
Harmful

Toxicity to fish (Chronic toxicity) Remarks: Data not available

Toxicity to crustacean (Chronic toxicity) Remarks: Data not available

Toxicity to microorganisms (Acute toxicity) Remarks: Data not available

### Components:

#### 2,2'-(C16-18 (evennumbered, C18



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**unsaturated) alkyl imino) diethanol:**

M-Factor (Short-term (acute) aquatic hazard): 10

M-Factor (Long-term (chronic) aquatic hazard): 1

**Substituted hydrocarbyl sulphide**

M-Factor (Short-term (acute) aquatic hazard): 1

**12.2 Persistence and degradability**

Product:

Biodegradability

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

**12.3 Bioaccumulative potential**

Product:

Bioakkumulation

Partition coefficient: n-octanol/water

Remarks: Contains components with the potential to bioaccumulate.

Pow: > 6

Remarks: (based on information on similar products)

**12.4 Mobility in soil**

Product:

Mobility

Remarks: Liquid under most environmental conditions. If it enters soil, it will adsorb to soil particles and will not be mobile.

Remarks: Floats on water.

**12.5 Results of PBT and vPvB assessment**

Product:

Assessment

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

**12.6 Other adverse effects**

Product:

Additional ecological information

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. May cause physical fouling of aquatic organisms.

**13. Disposal considerations**



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### 13.1 Waste treatment methods

Product:

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.

Contaminated 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.

Local legislation Waste catalogue

EU Waste Disposal Code (EWC): 13 02 06 \*

Remarks:

Disposal should be in accordance with applicable regional, national, and local laws and regulations.  
Classification of waste is always the responsibility of the end user.  
Hazardous Waste (England and Wales) Regulations 2005.

## 14. Transport information

### 14.1 UN number

ADN	Not regulated as a dangerous good
ADR	Not regulated as a dangerous good
RID	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good
IATA	Not regulated as a dangerous good

### 14.2 Proper shipping name



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ADR	Not regulated as a dangerous good
RID	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good
IATA	Not regulated as a dangerous good

**14.3 Transport hazard class**

ADR	Not regulated as a dangerous good
RID	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good
IATA	Not regulated as a dangerous good

**14.4 Packing group**

ADR	Not regulated as a dangerous good
RID	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good
IATA	Not regulated as a dangerous good

**14.5 Environmental hazards**

ADR	Not regulated as a dangerous good
RID	Not regulated as a dangerous good
IMDG	Not regulated as a dangerous good

**14.6 Special precautions for user**

Remarks:	Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.
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**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied. MARPOL Annex 1 rules apply for bulk shipments by sea.

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**15. Regulatory information**

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

REACH - List of substances subject to authorisation (Annex XIV)	Product is not subject to Authorisation under REACH.
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Volatile organic compounds:	0 %
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Other regulations:	The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.
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Environmental Protection Act 1990 (as amended). Health and Safety at Work etc. Act 1974. Consumers Protection Act 1987. Pollution Prevention and Control Act 1999. Environment Act 1995. Factories Act 1961. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment) Regulations 2011. Chemicals (Hazard Information and Packaging for Supply) Regulations 2009. Control of Substances Hazardous to Health Regulations 2002 (as amended). Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (as amended). Personal Protective Equipment Regulations 2002. Personal Protective Equipment at Work Regulations 1992. Hazardous Waste (England and Wales) Regulations 2005(as amended). Control of Major Accident Hazards Regulations 1999 (as amended). Renewable Transport Fuel Obligations Order 2007 (as amended). Energy Act 2011. Environmental Permitting (England and Wales) Regulations 2010 (as amended). Waste (England and Wales) Regulations 2011 (as amended). Planning (Hazardous Substances) Act 1990 and associated regulations. The Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XIV. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), annex XVII.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work and its amendments.



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Directive 1994/33/EC on the protection of young people at work and its amendments.

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding and its amendments.

The components of this product are reported in the following inventories:

EINECS: Not established.

TSCA: Notified with Restrictions.

## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

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## 16. Other information

### REGULATION (EC) No 1272/2008

Long-term (chronic) aquatic hazard, Category 3, H412

### Classification procedure

Expert judgement and weight of evidence determination.

### Full text of H-Statements

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.

### Full text of other abbreviations

Acute Tox. Acute toxicity

Aquatic Acute Short-term (acute) aquatic hazard

Aquatic Chronic Long-term (chronic) aquatic hazard

Asp. Tox. Aspiration hazard

Skin Corr. Skin corrosion

Skin Sens. Skin sensitisation

Abbreviations and Acronyms:

The standard abbreviations and acronyms used in this document can be looked up in



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reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial Hygienists  
ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road  
AICS = Australian Inventory of Chemical Substances  
ASTM = American Society for Testing and Materials  
BEL = Biological exposure limits  
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes  
CAS = Chemical Abstracts Service  
CEFIC = European Chemical Industry Council  
CLP = Classification Packaging and Labelling  
COC = Cleveland Open-Cup  
DIN = Deutsches Institut für Normung  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
DSL = Canada Domestic Substance List  
EC = European Commission  
EC50 = Effective Concentration fifty  
ECETOC = European Center on Ecotoxicology and Toxicology Of Chemicals  
ECHA = European Chemicals Agency  
EINECS = The European Inventory of Existing Commercial Chemical Substances  
EL50 = Effective Loading fifty  
ENCS = Japanese Existing and New Chemical Substances Inventory  
EWC = European Waste Code  
GHS = Globally Harmonised System of Classification and Labelling of Chemicals  
IARC = International Agency for Research on Cancer  
IATA = International Air Transport Association  
IC50 = Inhibitory Concentration fifty  
IL50 = Inhibitory Level fifty  
IMDG = International Maritime Dangerous Goods  
INV = Chinese Chemicals Inventory  
IP346 = Institute of Petroleum test method N° 346 for the determination of polycyclic aromatics DMSO-extractables



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KECI = Korea Existing Chemicals Inventory  
LC50 = Lethal Concentration fifty  
LD50 = Lethal Dose fifty per cent.  
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading  
LL50 = Lethal Loading fifty  
MARPOL = International Convention for the Prevention of Pollution From Ships  
NOEC/NOEL = No Observed Effect Concentration / No Observed Effect Level  
OE\_HPVS = Occupational Exposure - High Production Volume  
PBT = Persistent, Bioaccumulative and Toxic  
PICCS = Philippine Inventory of Chemicals and Chemical Substances  
PNEC = Predicted No Effect Concentration  
REACH = Registration Evaluation And Authorisation Of Chemicals  
RID = Regulations Relating to International Carriage of Dangerous Goods by Rail  
SKIN\_DES = Skin Designation  
STEL = Short term exposure limit  
TRA = Targeted Risk Assessment  
TSCA = US Toxic Substances Control Act  
TWA = Time-Weighted Average  
vPvB = very Persistent and very Bioaccumulative

### Further information

Training advice:

Provide adequate information, instruction and training for operators.

Other information:

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Sources of key data used to compile the Safety Data Sheet

The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU IUCLID date base, EC 1272 regulation, etc).

### Identified Uses according to the Use Descriptor System

#### Uses - Worker

Title:

General use of lubricants and greases in vehicles or machinery.- Industrial



**Trade name: ZF LifeguardFluid 6**

ZF Aftermarket

**Uses - Worker**

Title:

General use of lubricants and greases in vehicles or machinery.- Professional

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



**Trade name: ZF LifeguardFluid 6**

ZF Aftermarket

Exposure Scenario – Worker  
300000010771

**SECTION 1**

**EXPOSURE SCENARIO TITLE**

**Title**

General use of lubricants and greases in vehicles or machinery.- Industrial

**Use Descriptor**

Sector of Use: SU 3  
Process Categories: PROC 1, PROC 2, PROC 8b, PROC 9  
Environmental Release Categories: ERC4, ERC7, ATIEL-ATC SPERC 4.Bi.v1

**Scope of process**

Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

**SECTION 2**

**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

**Additional Information**

No exposure assessment presented for human health.

**Section 2.1**

**Control of Worker Exposure**

**Product Characteristics**

**Contributing Scenarios**

**Risk Management Measures**

**Section 2.2**

**Control of Environmental Exposure**

**Amounts Used**

EU tonnage (tonnes per year): 2.631,1

Fraction of EU tonnage used in region: 0,1

Fraction of Regional tonnage used locally: 0,1

**Frequency and Duration of Use**

Emission Days (days/year): 300

**Environmental factors not influenced by risk management**



**Trade name: ZF LifeguardFluid 6**

ZF Aftermarket

Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

**Other Operational Conditions affecting Environmental Exposure**

Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs) : 5,00E-05

Release fraction to wastewater from process (after typical onsite RMMs and before (municipal) sewage treatment plant): 2,00E-11

Release fraction to soil from process (after typical onsite RMMs): 0

**Technical conditions and measures at process level (source) to prevent release**

Common practices vary across sites thus conservative process release estimates used.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Treat air emission to provide a typical removal efficiency of (%) 70

Prevent discharge of undissolved substance to or recover from onsite wastewater.

User sites are assumed to be provided with oil/water separators or equivalent and for waste water to be discharged via public sewer system.

**Organisational measures to prevent/limit release from site**

Do not apply industrial sludge to natural soils.

Sludge should be incinerated, contained or reclaimed.

**Conditions and Measures related to municipal sewage treatment plant**

Estimated substance removal from wastewater via domestic sewage treatment (%) 87,3

Assumed domestic sewage treatment plant flow (m<sup>3</sup>/d) 2,00E+03

Maximum allowable site quantity 39.650,4



**Trade name: ZF LifeguardFluid 6**

ZF Aftermarket

(MSafe) based on OCs and RMMs as above (kg/day):

**Conditions and Measures related to external treatment of waste for disposal**

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

**Conditions and measures related to external recovery of waste**

External recovery and recycling of waste should comply with applicable local and/or regional regulations.

**SECTION 3**

**EXPOSURE ESTIMATION**

**Section 3.1 - Health**

No exposure assessment presented for human health.

**Section 3.2 -Environment**

Used ECETOC TRA model.

**SECTION 4**

**GUIDANCE TO CHECK COMPLIANCE WITH THE EXPOSURE SCENARIO**

**Section 4.1 - Health**

No exposure assessment presented for human health.

**Section 4.2 -Environment**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org>).

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

For further information see [www.ATIEL.org/REACH\\_GES](http://www.ATIEL.org/REACH_GES).

**Exposure Scenario – Worker**  
300000010772

**SECTION 1**

**EXPOSURE SCENARIO TITLE**

**Title**

General use of lubricants and greases in vehicles or machinery.- Professional

**Use Descriptor**

Sector of Use: SU 22  
Process Categories: PROC 1, PROC 2, PROC 8a, PROC 8b, PROC 20



**Trade name: ZF LifeguardFluid 6**

ZF Aftermarket

Environmental Release Categories:  
ERC9a, ERC9b, ESVOC SpERC  
9.6b.v1

**Scope of process**

Covers general use of lubricants and greases in vehicles or machinery in closed systems. Includes filling and draining of containers and operation of enclosed machinery (including engines) and associated maintenance and storage activities.

**SECTION 2**

**OPERATIONAL CONDITIONS AND RISK MANAGEMENT MEASURES**

**Additional Information**

No exposure assessment presented for human health.

**Section 2.1**

**Control of Worker Exposure**

**Product Characteristics**

**Contributing Scenarios**

**Risk Management Measures**

**Section 2.2**

**Control of Environmental Exposure**

**Amounts Used**

EU tonnage (tonnes per year): 5.387,2  
Fraction of EU tonnage used in region: 0,1  
Fraction of Regional tonnage used locally: 0,1

**Frequency and Duration of Use**

Emission Days (days/year): 365

**Environmental factors not influenced by risk management**

Local freshwater dilution factor: 10  
Local marine water dilution factor: 100

**Other Operational Conditions affecting Environmental Exposure**

Negligible wastewater emissions as process operates without water contact.

Release fraction to air from process (after typical onsite RMMs):

Release fraction to wastewater from process (after typical onsite RMMs) 5,00E-04



**Trade name: ZF LifeguardFluid 6**

and before (municipal) sewage treatment plant):

Release fraction to soil from process 1E-03  
(after typical onsite RMMs):

**Technical conditions and measures at process level (source) to prevent release**

Common practices vary across sites thus conservative process release estimates used.

**Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil**

Prevent discharge of undissolved substance to or recover from onsite wastewater.

**Organisational measures to prevent/limit release from site**

Do not apply industrial sludge to natural soils.

Sludge should be incinerated, contained or reclaimed.

**Conditions and Measures related to municipal sewage treatment plant**

Estimated substance removal from wastewater via domestic sewage treatment (%):

Assumed domestic sewage treatment plant flow (m<sup>3</sup>/d): 2,00E+03

Maximum allowable site quantity (MSafe) based on OCs and RMMs as above (kg/day): 386,0

**Conditions and Measures related to external treatment of waste for disposal**

External treatment and disposal of waste should comply with applicable local and/or regional regulations.

**Conditions and measures related to external recovery of waste**

External recovery and recycling of waste should comply with applicable local and/or regional regulations.

**SECTION 3**

**EXPOSURE ESTIMATION**

**Section 3.1 - Health**

No exposure assessment presented for human health.

**Section 3.2 - Environment**



**Trade name: ZF LifeguardFluid 6**

Used ECETOC TRA model.

**SECTION 4**

**GUIDANCE TO CHECK COMPLIANCE  
WITH THE EXPOSURE SCENARIO**

**Section 4.1 - Health**

No exposure assessment presented for human health.

**Section 4.2 -Environment**

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Further details on scaling and control technologies are provided in SpERC factsheet (<http://cefic.org>).

If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

For further information see [www.ATIEL.org/REACH\\_GES](http://www.ATIEL.org/REACH_GES).