



Product name: ZF LifeguardFluid 7.4 DCT

ZF Aftermarket

1. Product and company identification

1.1 Product identifier

Product name: ZF LifeguardFluid 7.4 DCT

Product number: 5961.308.591

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

Identified uses: Hydraulic/transmission fluid

Uses advised against: No uses advised against identified.

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

1.4 Emergency number

24/7h Emergency information/ emergency number:

(+49) 89 19 240 (Poison emergency call – Information in German and English)

2. Hazards identification

2.1 Classification of the substance or mixture

The product has been classified and labelled as hazardous according to the legislation in force.

Health Hazards

Carcinogenicity Category 2

Environmental Hazards

Chronic hazards to the aquatic environment Category 3

Hazard summary

No data available.

Physical Hazards:



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2.2 Label Elements

Signal Words: Warning

Hazard Statement(s): H351: Suspected of causing cancer.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P281: Use personal protective equipment as required.
P273: Avoid release to the environment.

Response: P308+P313: IF exposed or concerned: Get medical advice/attention.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other hazards

By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (item 7) and personal protective equipment (item 8) are kept. The product may not be released into the environment without control.

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

3. Composition/ Information on ingredients



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General information: Mixture containing severely refined base oils and additives.

Chemical name	Identifier	Concentration *	Notes
base oil, low viscous	72623-87-1	50,00 - <100,00%	
Solvent Naphtha, low viscous	64742-94-5	0,10 - <1,00%	
Alkyl amine	61791-44-4	0,10 - <0,25%	
prim. alkanolamine ether	218141-16-3	0,01 - <0,10%	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Identifier	Classification
base oil, low viscous	72623-87-1	Asp. Tox. 1;H304
Solvent Naphtha, low viscous	64742-94-5	Asp. Tox. 1;H304, STOT SE 3;H336, Carc. 2;H351, Aquatic Chronic 2;H411
Alkyl amine	61791-44-4	Skin Corr. 1C;H314, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic Chronic 1;H410, Acute Tox. 4;H302; M-Factor (aquatic acute): 10; M-Factor (aquatic chronic): 1
prim. alkanolamine ether	218141-16-3	Acute Tox. 4;H302, Skin Corr. 1B;H314, Eye Dam. 1;H318, Aquatic Acute 1;H400, Aquatic Chronic 1;H410; M-Factor (aquatic acute): 100; M-Factor (aquatic chronic): 1

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 Note L of Annex VI of Regulation EC 1272/2008."

4. First aid measures



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General: Instantly remove any clothing soiled by the product.

4.1 Description of first aid measures

Inhalation: Supply fresh air; consult doctor in case of symptoms.

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

Skin Contact: Wash with soap and water.

Ingestion: Rinse mouth thoroughly.

4.2 Most important symptoms and effects, both acute and delayed

May cause skin and eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Get medical attention if symptoms occur.

5. Firefighting measures

5.1 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.

5.2 Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

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



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regulations. Collect contaminated fire fighting water separately. It must not enter drains.

Special protective equipment for fire-fighters:

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

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental Precautions

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.

6.3 Methods and material 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.

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.

7. Handling and storage

7.1 Precautions for safe handling

Prevent formation of aerosols. Do not eat, drink or smoke when working with the product. Take usual precautions when handling mineral oil products or chemical products. Observe good industrial hygiene practices. Provide adequate ventilation.

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end use(s)

Not applicable



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8. Exposure controls/ personal protection

8.1 Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
base oil, low viscous - Inhalable fraction	TWA	5 mg/m ³	US. ACGIH Threshold Limit Values, as amended (03 2014)
base oil, low viscous	PEL	500 ppm 2,000 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
base oil, low viscous - Mist.	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
base oil, low viscous	TWA	400 ppm 1,600 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
base oil, low viscous - Mist.	TWA	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Solvent Naphtha, low viscous – Non-aerosol. - as total hydrocarbon vapor	TWA	200 mg/m ³	US. ACGIH Threshold Limit Values, as amended (03 2014)

8.2 Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

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



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	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.
Eye/face protection:	Safety glasses (EN 166) recommended during refilling. Avoid contact with skin and eyes. Goggles/face shield are recommended. If risk of splashing, wear safety goggles or face shield.
Skin protection 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:	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.
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



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contaminated footwear that cannot be cleaned.

Environmental Controls: No data available.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Color:	Amber
Odor:	Characteristic
Odor Threshold:	Not applicable for mixtures
pH:	Not applicable
Freezing point:	Not applicable for mixtures
Boiling Point:	Value not relevant for classification
Flash Point:	> 200 °C
Evaporation Rate:	Not applicable for mixtures
Flammability (solid, gas):	Value not relevant for classification
Flammability Limit - Upper (%)-:	Not applicable for mixtures
Flammability Limit - Lower (%)-:	Not applicable for mixtures
Vapor pressure:	Not applicable for mixtures
Vapor density (air=1):	Not applicable for mixtures
Density:	0.83 - 0.85 g/cm ³ (15 °C)
Solubility(ies)	
Solubility in Water:	Insoluble in water
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Not applicable for mixtures
Autoignition Temperature:	Value not relevant for classification
Decomposition Temperature:	Value not relevant for classification
Kinematic viscosity:	33 - 37 mm ² /s (40 °C)
Explosive properties:	Value not relevant for classification
Oxidizing properties:	Value not relevant for classification

9.2 Other information

No data available.

10. Stability and reactivity

10.1 Reactivity Stable under normal use conditions.

10.2 Chemical Stability Stable under normal use conditions.



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10.3 Possibility of hazardous reactions	Stable under normal use conditions.
10.4 Conditions to avoid	Stable under normal use conditions.
10.5 Incompatible Materials	Strong oxidizing substances. Strong acids. Strong bases.
10.6 Hazardous Decomposition Products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

11.1 Information on likely routes of exposure

Inhalation:	No data available.
Ingestion:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.

Acute toxicity

Oral Product: Specified substance(s) Alkyl amine	Not classified for acute toxicity based on available data. LD 50 (Rat): 1,350 mg/kg (OECD 401)
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Dermal Product: Specified substance(s) Solvent Naphtha, low viscous	Not classified for acute toxicity based on available data. LD 50 (Rabbit): > 31,600 mg/kg
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Inhalation Product:	Not classified for acute toxicity based on available data.
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Skin Corrosion/Irritation

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

Serious Eye Damage/Eye Irritation

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

Respiratory or Skin Sensitization

Product:



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

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

Specified substance(s) No sensitizing effect (guinea pig);
Alkyl amine OECD 406

Germ Cell Mutagenicity

Product:

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

Carcinogenicity

Product:

Based on available data, the classification criteria are 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

OSHA: US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Reproductive toxicity

Product:

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

Specific Target Organ Toxicity - Single Exposure

Product:

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

Specific Target Organ Toxicity - Repeated Exposure

Product:

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

Aspiration Hazard

Product:

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

12. Ecological information

12.1 Toxicity



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Acute toxicity Product:	Based on available data, the classification criteria are not met.
Fish Specified substance(s) Alkyl amine	LC 50 (Fish, 96 h): 0.1 mg/l (OECD 203)
Aquatic Invertebrates Specified substance(s) Solvent Naphtha, low viscous Alkyl amine	EC 50 (Water Flea, 48 h): 3 - 10 mg/l EC 50 (Water Flea, 48 h): 0.043 mg/l (OECD 202)
Chronic Toxicity Product:	Based on available data, the classification criteria are met.
Fish Specified substance(s) base oil, low viscous	NOEC (Fish, 14 d): > 1,000 mg/l
Aquatic Invertebrates Specified substance(s) base oil, low viscous Alkyl amine	NOEC (Water Flea, 21 d): 10 mg/l (OECD 211) EC 10 (Water Flea, 21 d): 0.0107 mg/l (OECD 211)
Toxicity to Aquatic Plants Specified substance(s) base oil, low viscous Alkyl amine	NOEC (Alga, 72 h): > 100 mg/l (OECD 201) EC 50 (Alga, 72 h): 0.0538 mg/l (OECD 201) NOEC (Alga, 72 h): 0.0156 mg/l

12.2 Persistence and Degradability

Biodegradation Product:	Not applicable for mixtures
Specified substance(s) Alkyl amine	63 % (28 d, OECD 301D) Readily biodegradable

12.3 Bioaccumulative potential

Product:	Not applicable for mixtures
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12.4 Mobility in soil

Product:	Not applicable for mixtures
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12.5 Results of PBT and vPvB assessment

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

12.6 Other adverse effects

Harmful to aquatic life with long lasting effects.

13. Disposal considerations

13.1 Waste treatment methods

General information: Dispose in accordance with all applicable regulations.

Disposal methods: Discharge, treatment, or disposal may be subject to national, state, or local laws.

14. Transport information

DOT

Not regulated.

IMDG - International Maritime Dangerous Goods Code

Not regulated.

IATA

Not regulated.

15. Regulatory information

US Federal Regulations

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Inventory Status

DSL	On or in compliance with the inventory
TSCA	On or in compliance with the inventory



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16. Other information

Revision Information: Vertical lines in the margin indicate an amendment.

Wording of the H-statements in section 2 and 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.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

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.

SAFETY DATA SHEET
acc.to ISO/DIS 11014 for USA



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