



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 14.02.2023

Version number 9 (replaces version 8)

Revision: 13.02.2023

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

· **1.1 Product identifier**

· **Trade name:** TRW Hydraulic Fluid synthetic SSF

· **Article number:** PFS801, PFS801CE, PFS801SE, PFS801RE

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

No further relevant information available.

· **Application of the substance / the mixture** Hydraulic fluid

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

ZF Aftermarket UK Ltd.

Abbeyfield Road

Lenton

Nottingham, NG7 2SX

Tel +44 333 240 1123

Fax +44 115 986 92 61

<https://www.zf.com>

· **Informing department:**

Phone: +49 (0) 7541 77 0

E-Mail adress of the competent person for the safety data sheet:

reach@dekra.com

· **1.4 Emergency telephone number:**

Poison Information Center Munich

Phone: +49 (0) 89 - 19 240

Information in German and English

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



Acute Tox. 4 H332 Harmful if inhaled.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

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· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Dec-1-ene, dimers, hydrogenated
Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics
Distillates (petroleum), hydrotreated middle

· **Hazard statements**

H332 Harmful if inhaled.
H304 May be fatal if swallowed and enters airways.

· **Precautionary statements**

P102 Keep out of reach of children.
P260 Do not breathe mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

Packaging supplied to the general public shall be fitted with child-resistant closures regardless of its capacity.
Packaging of whatever capacity that is delivered to the general public shall be fitted with a tactile warning of danger according to EN ISO 11683.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of the substances listed below including additives not requiring identification.

· **Dangerous components:**

CAS: 68649-11-6 NLP: 500-228-5 Reg.nr.: 01-2119493069-28-X	Dec-1-ene, dimers, hydrogenated ⚠ Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	50 - 100%
CAS: 1174522-45-2 EC number: 934-954-2 Reg.nr.: 01-2119458871-30-X 01-2119826592-36-X	Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics ⚠ Acute Tox. 3, H331; ⚠ Asp. Tox. 1, H304	2.5 - 10%

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CAS: 64742-46-7 EINECS: 265-148-2 Reg.nr.: 01-2119489867-12-X	Distillates (petroleum), hydrotreated middle ☠ Asp. Tox. 1, H304	2.5 - 10%
EC number: 947-129-7	Amines, C16-18 and C18-unsatd. alkyl, O,O-di- Bu phosphorothioates ☠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 2, H411; ☠ Eye Irrit. 2, H319	≥ 0.25 - ≤ 1%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information** Instantly remove any clothing contaminated by the product.
- **After inhalation**
Supply fresh air.
In case of persistent symptoms consult doctor.
- **After skin contact**
Wash intensively with water and soap. Use protective skin ointment.
If skin irritation continues, consult a doctor.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing**
Do not induce vomiting.
Rinse out mouth.
Instantly call for doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Danger**
In case of ingestion or vomiting product may enter the lung.
Aspiration may cause pulmonary oedema and pneumonitis.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
Extinguishing powder, foam or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Inhalation of combustion gases may cause serious health hazards.
During incomplete combustion carbon monoxide can be formed.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**
Remove goods in stock from incendiary zone, if possible.
Use water to keep fire exposed containers cool.

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Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Do not inhale vapours.
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:**
Prevent from spreading (e.g. by damming-in or oil barriers).
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, acid binders, universal binders).
Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Prevent formation of aerosols.
Use only in well ventilated areas.
Do not inhale gases/vapours/aerosols.
- **Information about protection against explosions and fires:** Do not heat close to flash point.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Store only in the original container.
Prevent any penetration into the ground.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store container in a well ventilated position.
Store under dry conditions.
- **7.3 Specific end use(s)** No further relevant information available.

* SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

• DNELs**64742-46-7 Distillates (petroleum), hydrotreated middle**

Oral | DNEL (consumer, long-term, systemic) | 1.25 mg/kg bw/day (human)

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Dermal	DNEL (worker, long-term, systemic)	2.91 mg/kg bw/day (human)
Inhalative	DNEL (worker, short-term, systemic)	5,003 mg/m ³ (human)
	DNEL (worker, long-term, systemic)	16.4 mg/m ³ (human)

· PNECs**64742-46-7 Distillates (petroleum), hydrotreated middle**

PNEC oral 17,000 mg/kg food (.)

· Additional information: The lists that were valid during the compilation were used as basis.**· 8.2 Exposure controls****· Individual protection measures, such as personal protective equipment****· General protective and hygienic measures**

Avoid close or long term contact with the skin.

Do not carry cleaning cloths impregnated with the product in trouser pockets.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Do not inhale gases / fumes / aerosols.

· Breathing equipment:

Not necessary if room is well-ventilated.

Use a breathing protection if high concentrations are present.

Filter A/P2.

· Hand protection Use gloves of stable material (i.e. nitril rubber).**· Material of gloves**

Chloroprene rubber, CR

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.2 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection Safety glasses recommended during refilling.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties**· General Information****· Colour:**

Not determined.

· Odour:

Mineral-oil-like

· Odour threshold:

Not determined.

· Melting point/freezing point:

- 55 °C

· Boiling point or initial boiling point and boiling range

250 - 380 °C

· Flammability

Not applicable.

· Lower and upper explosion limit**· Lower:**

Not determined.

· Upper:

Not determined.

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· Flash point:	> 150 °C
· Ignition temperature:	> 350 °C
· Decomposition temperature:	Thermally in general stable.
· SADT	
· pH	Not determined.
· Viscosity:	
· Kinematic viscosity at 40 °C	16 - 20 mm ² /s
· dynamic:	Not determined.
· Solubility	
· Water:	Insoluble
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C	0.84 - 0.89 g/cm ³
9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Self-inflammability:	Product is not selfigniting.
· Explosive properties:	Product is not explosive.
· Change in condition	
· Evaporation rate	Not determined.
Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Avoid contact with strong oxidizing agents.
acid
- **10.6 Hazardous decomposition products:**
None in case of intended use and storage in compliance with instructions.

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**
Harmful if inhaled.

LD/LC50 values that are relevant for classification:**68649-11-6 Dec-1-ene, dimers, hydrogenated**

Oral	LD50	> 5,000 mg/kg (rat) (16 CFR 1500)
Dermal	LD50	> 3,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50	> 1.81 mg/l/4h (rat) (OECD 403)

1174522-45-2 Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics

Oral	LD50	> 5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	> 3,160 mg/kg (rabbit) (OECD 402)
Inhalative	LC50	> 5.266 mg/l/4h (rat) (OECD 403)

64742-46-7 Distillates (petroleum), hydrotreated middle

Oral	LD50	> 5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	> 2,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50	4.6 mg/l/4h (rat) (OECD 403)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **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**
May be fatal if swallowed and enters airways.
- **Additional toxicological information:**
Smallest amounts which can get into the lungs by means of swallowing or subsequent vomiting can cause a pulmonary oedema or pneumonia.

Repeated dose toxicity**68649-11-6 Dec-1-ene, dimers, hydrogenated**

Oral	NOAEL (90d)	4,159 mg/kg bw/day (rat) (OECD 408)
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1174522-45-2 Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromaticsOral NOAEL (90d) \geq 5,000 mg/kg bw/day (rat) (OECD 408)Dermal NOAEL (90d) \geq 495 mg/kg bw/day (rat) (OECD 410)**11.2 Information on other hazards****Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:****68649-11-6 Dec-1-ene, dimers, hydrogenated**

EC50 (static) > 1,000 mg/l/48h (Daphnia magna) (OECD 202)

LC50 > 1,000 mg/l/96h (Oncorhynchus mykiss) (OECD 203)

EC50 (static) > 1,000 mg/l/72h (Selenastrum capricornutum)

64742-46-7 Distillates (petroleum), hydrotreated middle

EC50 7.38 mg/l/48h (Daphnia magna) (QSAR)

LC50 65 mg/l/96h (Oncorhynchus mykiss) (OECD 203)

12.2 Persistence and degradability Heavily biodegradable**Other information:** There are no data available about the preparation.**Behaviour in environmental systems:****Components:**

A product that has flown out can lead to the formation of a film on the water surface which reduces the oxygen exchange and results in the organisms dying-off.

12.3 Bioaccumulative potential No further relevant information available.**12.4 Mobility in soil** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects**Additional ecological information:****General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

* SECTION 13: Disposal considerations

13.1 Waste treatment methods**Recommendation**

Must be specially treated under adherence to official regulations.

The waste code numbers mentioned are recommendations based on the probable use of the product.

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· European waste catalogue	
13 00 00	OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19)
13 01 00	waste hydraulic oils
13 01 10*	mineral based non-chlorinated hydraulic oils
13 00 00	OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19)
13 02 00	waste engine, gear and lubricating oils
13 02 05*	mineral-based non-chlorinated engine, gear and lubricating oils
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

· **Uncleaned packagings:**· **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR/RID, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR/RID, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR/RID, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR/RID, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	Void

* SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Chemical safety assessment**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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· REGULATION (EU) 2019/1148**· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· National regulations

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H304 May be fatal if swallowed and enters airways.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

· Department issuing data specification sheet:

- ▶ **DEKRA** This Safety Data Sheet has been drawn up in cooperation with:
DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,
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· Abbreviations and acronyms:

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (UK REACH)
- PNEC: Predicted No-Effect Concentration (UK REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Asp. Tox. 1: Aspiration hazard – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· * Data compared to the previous version altered.

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