



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

Printing date 14.09.2021

Version number 8 (replaces version 7)

Revision: 14.09.2021

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

· **1.1 Product identifier**

· **Trade name:** TRW Hydraulic Fluid LHM plus premium

· **Article number:**

PFM201, PFM205, PFM201CE, PFM201SE, PFM201RE, PFM205CE, PFM205SE, PFM205RE

· **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.

· **2.2 Label elements**

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

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

· **Hazard pictograms**



GHS08

· **Signal word** Danger

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Hazard-determining components of labelling:

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based
Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics
Distillates (petroleum), hydrotreated middle

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P261 Avoid breathing 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.
P312 Call a POISON CENTER/doctor if you feel unwell.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local / regional / national / international regulations.

Additional information:

Contains 4-Nonylphenoxyessigsäure. May produce an allergic reaction.

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: 72623-86-0 EINECS: 276-737-9	Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based ⚠ Asp. Tox. 1, H304	50 - 100%
CAS: 1174522-45-2 EC number: 918-973-3 Reg.nr.: 01-2119458871-30-X	Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics ⚠ Asp. Tox. 1, H304	25 - 50%
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%
CAS: 3115-49-9 EINECS: 221-486-2	4-Nonylphenoxyessigsäure ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; ⚠ Skin Sens. 1, H317	≥ 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.

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- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
 - **After skin contact**
Wash intensively with water and soap. Use protective skin ointment.
In case of skin irritations or sensitizing effects, consult 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.
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**
Avoid contact with the product.
Particular danger of slipping on leaked/spilled product.
- **6.2 Environmental precautions:**
Do not allow to enter drainage system, surface or ground water.
Prevent from spreading (e.g. by damming-in or oil barriers).
- **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**
No dangerous materials are released.
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.

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See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Prevent formation of 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)	1.3 mg/kg bw/day (human)
Dermal	DNEL (worker, long-term, systemic)	2.9 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		
72623-86-0 Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based		
PNEC oral	9.33 mg/kg food (.)	
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.

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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: | Light green |
| • Odour: | Mineral-oil-like |
| • Odour threshold: | Not determined. |
| • Boiling point or initial boiling point and boiling range | > 320 °C |
| • Flammability | Not applicable. |
| • Lower and upper explosion limit | |
| • Lower: | Not determined. |
| • Upper: | Not determined. |
| • Flash point: | 124 °C (Pensky Martens Closed Cup) |
| • Self-inflammability: | Product is not selfigniting. |
| • SADT | |
| • pH | Not determined. |
| • Viscosity: | |
| • Kinematic viscosity at 40 °C | 19.1 cSt |
| • dynamic: | Not determined. |
| • Solubility | |
| • Water: | Insoluble |
| • Partition coefficient n-octanol/water (log value) | Not determined. |
| • Vapour pressure at 20 °C: | < 0.1 kPa |
| • Density and/or relative density | |
| • Density | Not determined |
| • Relative density at 15.6 °C | 0.853 |

9.2 Other information

- | | |
|--|-----------------------|
| • Appearance: | |
| • Form: | Fluid |
| • Important information on protection of health and environment, and on safety. | |
| • Ignition temperature: | > 350 °C (ASTM D 286) |

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· Explosive properties:	Product is not explosive.
· Change in condition	
· Softening point/range	
· Pour point:	-52 °C
· 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.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Possible formation of peroxide
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Avoid contact with strong oxidizing agents.
- **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** Based on available data, the classification criteria are not met.

· LD/LC50 values that are relevant for classification:

72623-86-0 Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

Oral	LD50	> 5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	> 2,000 mg/kg (rabbit) (OECD 402)

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Inhalative	LC50	2.18 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)
3115-49-9 4-Nonylphenoxyessigsäure		
Oral	LD50	1,674 mg/kg (rat)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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		
1174522-45-2 Hydrocarbons, C13-C16, isoalkanes, cyclics, <2% aromatics		
Oral	NOAEL (90d)	≥ 5,000 mg/kg bw/day (rat) (OECD 408)
Dermal	NOAEL (90d)	≥ 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:		
72623-86-0 Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based		
EC50 (static)	> 10,000 mg/l/48h (Daphnia magna) (OECD 202)	
LC50 (static)	> 100 mg/l/96h (Pimephales promelas) (OECD 203)	
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)	

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3115-49-9 4-Nonylphenoxyessigsäure

LC50	9 mg/l (Brachydario rerio)
EC50	7 mg/l/24h (Daphnia magna)

- **12.2 Persistence and degradability** Heavily biodegradable
- **Other information:** There are no data available about the preparation.
- **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 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

*** SECTION 13: Disposal considerations**

- **13.1 Waste treatment methods**
- **Recommendation** Must be specially treated under adherence to official regulations.
- **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/ADN, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR/ADN, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR/ADN, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR/ADN, 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.

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· 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**

· **National regulations**

· **Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning women of child-bearing age must be observed.

· **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

· **Substances of very high concern (SVHC) according to REACH, Article 57**

None of the ingredients is contained.

· **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**

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.
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,
phone: (+49) 511 42079 - 0, reach@dekra.com.

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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 (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic

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SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Sens. 1: Skin sensitisation – Category 1

Asp. Tox. 1: Aspiration 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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