SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006

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

1.1. Product identifier

Trade name or designation of the mixture	FERODO Hydraulic Fluid LHM Plus
Registration number	-
UFI:	3220-X070-E00S-JFYK
Synonyms	None.
SDS number	24
Product code	FBM100, FBM500
Issue date	23-July-2024
Version number	02
Revision date	23-July-2024
Supersedes date	23-July-2024

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

Identified uses	Hydraulic fluid.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier

Company name	Federal-Mogul Global Aftermarket EMEA bv
Address	Prins Boudewijnlaan 5 B-2550 Kontich Belgium
Telephone	+32 3 450 83 10
Contact person	Braking_EMEA@DRiV.com

1.4. Emergency telephone number

3E Global Incident Response Hotline

+44 20 35147487

Access code: 335908

General emergency	112 or 999 SDS/Product information may not be available for the Emergency Service.
Non-emergency medical helpline	111 SDS/Product information may not be available for the Emergency Service.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Aspiration hazard	Category 1	H304 - May be fatal if swallowed and enters airways.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based, Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics

Hazard pictograms

Signal word Danger

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

Prevention

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.

Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE/doctor.
P331 Do NOT induce vomiting.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental information on the label EUH208 - Contains (4-nonylphenoxy)acetic acid. May produce an allergic reaction.

2.3. Other hazards This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	60 - 100	72623-86-0 276-737-9	01-2119474878-16-XXXX	649-482-00-X	
Classification: Asp. Tox. 1;H304					L
Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics	25 - 40	- 927-632-8	01-2119457736-27-XXXX	-	
Classification: Asp. Tox. 1;H304					
Hydrocarbons, C16-C20, n-alkanes, isoalkanes, cyclics,	3 - 5	1174522-19-0 919-029-3	01-2119457735-29-XXXX	-	
Classification: Asp. Tox. 1;H304					
(4-nonylphenoxy)acetic acid	< 0.05	3115-49-9 221-486-2	01-2119982392-31-XXXX	-	
Classification: Acute Tox. 4;H302, Skin Corr. 1B;H314, Eye Dam. 1;H318, Skin Sens. 1A;H317, Aquatic Acute 1;H400(M=1), Aquatic Chronic 1;H410(M=1)					

List of abbreviations and symbols that may be used above

M: M-factor
Note L - The harmonised classification as a carcinogen does not apply because the substance contains less than 3 % DMSO extractable material as measured by IP 346.

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. In case of persistent throat irritation or coughing or after inhalation of oil mist: Seek medical attention and bring along these instructions.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth thoroughly with water and give large amounts of milk or water to people not unconscious. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician or poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed Aspiration may cause pulmonary oedema and pneumonitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure. Defats the skin. Exposed individuals may experience eye tearing, redness, and discomfort.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards Will burn if involved in a fire.

5.1. Extinguishing media

Suitable extinguishing media Water spray, dry powder or carbon dioxide.

Unsuitable extinguishing media 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 protective equipment for firefighters Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials. Containers close to fire should be removed immediately or cooled with water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Follow standard emergency procedure. Avoid inhalation of oil mist and contact with skin and eyes. Avoid prolonged and repeated contact with oil, particularly used oil. Wear appropriate personal protective equipment (See Section 8).

For emergency responders Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Remove sources of ignition.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage with oil-absorbing material. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated area with oil-removing material.

Never return spills to original containers for re-use.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Avoid inhalation of oil mist and contact with skin and eyes. Avoid prolonged and repeated contact with oil, particularly used oil. Always remove oil with soap and water or skin cleaning agent, never use organic solvents. Do not use oil-contaminated clothing or shoes, and do not put rags moistened with oil into pockets. Use work methods which minimise oil mist production. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protection, see Section 8 of the SDS. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat, sparks and open flame. Store between 15°C - 30°C. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Hydraulic fluid.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
(4-nonylphenoxy)acetic acid (CAS 3115-49-9)			
Long-term, Systemic, Dermal	0.25 mg/kg bw/day	240	Repeated dose toxicity
Long-term, Systemic, Inhalation	0.43 mg/m3	60	Repeated dose toxicity

Long-term, Systemic, Oral	0.25 mg/kg bw/day	240	Repeated dose toxicity
Short-term, Systemic, Inhalation	4.3 mg/m3		

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

Long-term, Local, Inhalation	1.19 mg/m3	75	Repeated dose toxicity

Workers

Components	Value	Assessment factor	Notes
(4-nonylphenoxy)acetic acid (CAS 3115-49-9)			
Long-term, Systemic, Dermal	0.5 mg/kg bw/day	120	Repeated dose toxicity
Long-term, Systemic, Inhalation	1.76 mg/m3	30	Repeated dose toxicity
Short-term, Systemic, Inhalation	17.6 mg/m3		
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)			
Long-term, Local, Inhalation	5.58 mg/m3	45	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
(4-nonylphenoxy)acetic acid (CAS 3115-49-9)			
Freshwater	0.001 mg/l	1000	
Intermittent releases	0.009 mg/l		
Marine water	0 mg/l	10000	
Sediment (freshwater)	0.02 mg/kg		
Sediment (marine water)	0.002 mg/kg		
Soil	0.004 mg/kg		
STP	1 mg/l	100	
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0)			
Secondary poisoning	9.33 mg/kg		Oral

8.2. Exposure controls

Appropriate engineering controls
Good general ventilation should be used. 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
Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection
Risk of splashes: Wear approved safety goggles. Eye protection should meet standard EN 166.

Skin protection

- Hand protection
Wear appropriate chemical resistant gloves. Full contact: Glove material: Nitrile. Use gloves with breakthrough time of > 480 minutes. Minimum glove thickness > 0.2 mm. Always wear chemical-resistant protective gloves that comply with EN 374 to handle this product. Observe good industrial hygiene practices and wash gloves with soap and water before removing them. Assess the working conditions and always consult your glove supplier for information on the most suitable type of glove for each task and the required material, thickness, and breakthrough time specifications. The use of type-B gloves in accordance with EN 374 is recommended as a minimum protection against intermittent or splash contact. Consult your supplier to find the most suitable option for the product in question. The requirements of EN 388 must be taken into account for applications involving mechanical hazards with the risk of abrasion or incision. The requirements outlined in EN 407 must be taken into consideration for tasks involving thermal hazards.

- Other
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
In case of inadequate ventilation or risk of inhalation of oil mist, suitable respiratory equipment with combination filter (type A2/P2) can be used. Respiratory protection should meet standard EN 14387.

Thermal hazards
When material is heated, wear gloves to protect against thermal burns.

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 and protective equipment to remove contaminants.

Environmental exposure controls
Environmental manager must be informed of all major releases.
Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state
Liquid.

Form	Liquid.
Colour	Green.
Odour	Characteristic.
Odour threshold	Not available.
pH	No relevant additional information available.
Melting point/freezing point	< -52 °C (< -61.6 °F)
Initial boiling point and boiling range	> 320 °C (> 608 °F)
Flash point	124 °C (255.2 °F) Pensky-Martens Closed Cup
Evaporation rate	No relevant additional information available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	No relevant additional information available.
Explosive limit – upper (%)	No relevant additional information available.
Vapour pressure	0.1 kPa (20 °C (68 °F))
Vapour density	No relevant additional information available.
Relative density	No relevant additional information available.
Solubility(ies)	
Solubility (water)	Insoluble in water.
Partition coefficient (n-octanol/water)	Property has not been measured.
Auto-ignition temperature	No relevant additional information available.
Decomposition temperature	No relevant additional information available.
Viscosity	No relevant additional information available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	
Density	0.853 g/cm³ (15.6 °C (60.1 °F))
Kinematic viscosity	19.1 cSt (40 °C (104 °F))

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Stable under normal temperature conditions.
10.3. Possibility of hazardous reactions	Will not occur.
10.4. Conditions to avoid	Avoid exposure to high temperatures or direct sunlight. Contact with incompatible materials.
10.5. Incompatible materials	Strong oxidizers, strong acids, and strong bases. Strong reducing agents.
10.6. Hazardous decomposition products	None expected under normal conditions of use.

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	Prolonged inhalation may be harmful. Inhalation of oil mist or vapours formed during heating of the product will irritate the respiratory system and provoke coughing.
Skin contact	Prolonged and repeated contact with used oil may dry skin and cause redness. The harmful effects may increase in used oil.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms	Aspiration may cause pulmonary oedema and pneumonitis. Be aware that symptoms of chemical pneumonia (shortness of breath) may occur several hours after exposure. Defats the skin. Exposed individuals may experience eye tearing, redness, and discomfort.

11.1. Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways.

Product	Species	Test Results
FERODO Hydraulic Fluid LHM Plus (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
(4-nonylphenoxy)acetic acid (CAS 3115-49-9)		
Acute		
Oral		
LD50	Rat	1674 mg/kg
Hydrocarbons, C14-C18, n-alkanes, isoalkanes, cyclics, <2% aromatics (CAS -)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Rat	> 5000 mg/kg
Hydrocarbons, C16-C20, n-alkanes, isoalkanes, cyclics, (CAS 1174522-19-0)		
Acute		
Dermal		
LD50	Rabbit	> 3160 mg/kg
Inhalation		
LC50	Rat	> 5266 mg/m³, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Based on available data, the classification criteria are not met.

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

Skin sensitisation The product contains a small amount of sensitising substance which may provoke an allergic reaction among sensitive individuals.

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

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

IARC Monographs. Overall Evaluation of Carcinogenicity

Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (CAS 72623-86-0) 3 Not classifiable as to carcinogenicity to humans.

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

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard May be fatal if swallowed and enters airways.

Mixture versus substance information No information available.

Other information Prolonged and repeated contact with used oil may cause serious skin diseases, such as dermatitis and skin cancer.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability Expected to be inherently biodegradable.

12.3. Bioaccumulative potential No data available for this product.

Partition coefficient n-octanol/water (log Kow) Property has not been measured.

Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	The product is insoluble in water.
12.5. Results of PBT and vPvB assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6. Other adverse effects	Oil spills are generally hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	13 01 13* The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

SECTION 15: Regulatory information

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

Retained direct EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended - Conditions of restriction given for the associated entry number should be considered

Not listed.

Other regulations

This product is classified and labelled in accordance with the retained CLP Regulation (EC) No 1272/2008, as amended for Great Britain.

This Safety Data Sheet is compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758.

Follow the requirements of the Control of Substances Hazardous to Health Regulations 2002 [SI 2002/2677], as amended, when using this material.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

ADN: European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstract Service.
CEN: European Committee for Standardization.
DNEL: Derived No-Effect Level.
IATA: International Air Transport Association.
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.
IMDG: International Maritime Dangerous Goods.
LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.
MARPOL: International Convention for the Prevention of Pollution from Ships.
PBT: Persistent, bioaccumulative and toxic.
PNEC: Predicted No-Effect Concentration.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very persistent and very bioaccumulative.

References

HSDB® - Hazardous Substances Data Bank
ECHA: European Chemical Agency.
Registry of Toxic Effects of Chemical Substances (RTECS)

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

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.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

This SDS contains revisions in the following section(s):

1, 16.

Training information

Follow training instructions when handling this material.

Disclaimer

The information provided on this data sheet was abstracted from supplier safety data sheets and standard references in occupational health and toxicology. Federal-Mogul makes no representation or warranty with respect to the information obtained from such references. The information is however, as of the date provided, true and accurate to the best of Federal-Mogul's knowledge, and should be used to make an independent determination of the methods to safeguard workers and the environment.