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	LHM+
Registration number	-
Synonyms	None.
SDS number	24
Issue date	02-March-2021
Version number	01
Revision date	-
Supersedes date	-

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 bvba
Address:	Prins Boudewijnlaan 5 B-2550 Kontich Belgium
Contact person:	Mario Garelli – Product Manager Braking Products EMEA E-mail: mario.garelli@driv.com
Telephone:	+39 045 8281 354
1.4. Emergency Telephone:	INFOTRAC: 001-352-323-3500 Belgium Poison Center (Centre Antipoison): +32 070 245 245

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: Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics <0.03% aromatics, Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

Hazard pictograms

Signal word Danger

Hazard statements

H304 May be fatal if swallowed and enters airways.

Precautionary statements

Prevention

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 mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 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, C13-C16, n-alkanes, isoalkanes, cyclics <0.03% aromatics	10 - 30	1174522-45-2 934-954-2	-	-	
Classification: Asp. Tox. 1;H304					
(4-nonylphenoxy)acetic acid	< 1	3115-49-9 221-486-2	01-2119982392-31-XXXX	-	
Classification: Acute Tox. 4;H302;(ATE: 500 mg/kg), 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

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.

Note L: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346 "Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions - Dimethyl sulphoxide extraction refractive index method", Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.

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 Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Avoid inhalation of oil mist and contact with skin and eyes. Avoid prolonged and repeated contact with oil, particularly used oil. Wear suitable protective clothing.

For emergency responders Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Do not discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Remove sources of ignition. Absorb spillage with oil-absorbing material. Clean contaminated area with oil-removing material.

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. Wear appropriate personal protective equipment. See Section 8 for personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Storage class (TRGS 510): 10 (Combustible liquids that cannot be assigned to any of the above storage classes)
Store locked up. Keep away from heat, sparks and open flame. Store between 15°C - 30°C. Store away from incompatible materials.

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		

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		

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	

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.
Skin protection	
- Hand protection	Wear suitable gloves tested to EN374. Full contact: Glove material: Nitrile. Use gloves with breakthrough time of > 480 minutes. Minimum glove thickness > 0.2 mm.
- Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with gas filter (type A2).
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

Physical state	Liquid.
Form	Liquid.
Colour	Green.
Odour	Characteristic.
Melting point/freezing point	< -50 °C (< -58 °F)
Boiling point or initial boiling point and boiling range	> 290 °C (> 554 °F)
Flammability	Will burn if involved in a fire.
Lower and upper explosion limit	
Explosive limit - lower (%)	No relevant additional information available.
Explosive limit – upper (%)	No relevant additional information available.
Flash point	> 115.0 °C (> 239.0 °F)
Auto-ignition temperature	No relevant additional information available.
Decomposition temperature	No relevant additional information available.
pH	No relevant additional information available.
Kinematic viscosity	< 20.5 cSt (20 °C (68 °F))
Solubility	
Solubility (water)	Insoluble in water.
Partition coefficient n-octanol/water (log value)	No relevant additional information available.
Vapour pressure	0.1 kPa (20 °C (68 °F))
Density and/or relative density	
Density	0.84 - 0.86 g/cm³ (20 °C (68 °F))
Vapour density	No relevant additional information available.
Particle characteristics	Not applicable, material is a liquid.

9.2. Other information

9.2.1. Information with regard to physical hazard classes	No relevant additional information available.

9.2.2. Other safety characteristics

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.

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.

Skin contact Prolonged and repeated contact with used oil may dry skin and cause redness.

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. Exposed individuals may experience eye tearing, redness, and discomfort. Defats the skin.

11.1. Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways.

Product	Species	Test Results
LHM+ (CAS Mixture)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg
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.

11.2. Information on other hazards

Endocrine disrupting properties The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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	Based on available data, the classification criteria are not met for hazardous to the aquatic 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)	Not available.
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 mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.
12.6. Endocrine disrupting properties	The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
12.7. Other adverse effects	Oil spills are generally hazardous to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	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. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
Hazard No. (ADR)	Not assigned.
Tunnel restriction code	Not assigned.
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

RID

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

ADN

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-

14.4. Packing group Not assigned.
14.5. Environmental hazards No.
14.6. Special precautions for user Not assigned.

IATA

14.1. UN number Not regulated as dangerous goods.
14.2. UN proper shipping name Not regulated as dangerous goods.
14.3. Transport hazard class(es)
Class Not assigned.
Subsidiary risk -
14.4. Packing group Not assigned.
14.5. Environmental hazards No.
14.6. Special precautions for user Not assigned.

IMDG

14.1. UN number Not regulated as dangerous goods.
14.2. UN proper shipping name Not regulated as dangerous goods.
14.3. Transport hazard class(es)
Class Not assigned.
Subsidiary risk -
14.4. Packing group Not assigned.
14.5. Environmental hazards
Marine pollutant No.
EmS Not assigned.
14.6. Special precautions for user Not assigned.

14.7. Maritime transport in bulk according to IMO instruments Not established.

SECTION 15: Regulatory information

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

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

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations	The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.
National regulations	Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.
15.2. Chemical safety assessment	No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

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

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 H-statements 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.
Training information	Follow training instructions when handling this material.
Further information	UFI: KJTW-X17S-U001-61FX
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.