

Safety Data Sheet

Product name : LHM ELF Page : 1/6
SDS n° :33245-33 Version :2.00 Version of :2009-06-30
This sheet supersedes the one dated :2008-12-18

PRODUCT LABELS

LABELLING (standard or EU): Concerned

R-phrases : R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases : S-61 Avoid release to the environment. Refer to special instructions/Safety Data Sheets.

TRANSPORT LABELLING: Not applicable.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY UNDERTAKING

Name of the product : LHM ELF

Code No. : FSW

Product application : Hydraulic fluid
Brake fluid

Supplier : TOTAL LUBRIFIANTS
562, Avenue du Parc de l'Ile
92029 Nanterre Cedex - France
Tel: +33 (0)1 41 35 40 00
Fax: +33 (0)1 41 35 84 71
rm.msds-lubs@total.com

See local details at end of sheet :

2. HAZARDS IDENTIFICATION

The product is classified as dangerous in accordance with directive 1999/45/EC.

Health effects : This product does not present a danger of intoxication.

Environmental impact : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do not discharge this product into the environment.

Physico-chemical hazards : No specific risk of fire or explosion under normal conditions of use

Product classification : Dangerous for the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

PREPARATION

Chemical nature : Product containing mineral oil with less than 3 % DMSO extract as measured by IP 346

Substances presenting a health hazard	EC No.	CAS No.	Content	Symbol(s)	R-phrases
Mineral oil strongly hydrogenated	232-455-8	8042-47-5	0-10 %	Xn	R-65, 66
Distillates (petroleum) hydrotreated middle	265-148-2	64742-46-7	40-50 %	Xn	R-65
Distillates, hydrotreated light paraffinic (petroleum)	265-158-7	64742-55-8	30-40 %	-	
2,6-di-tert-butylphenol	204-884-0	128-39-2	<1 %	Xi ,N	R-50/53, 38
Tris(methylphenyl)phosphate	215-548-8	1330-78-5	<0,25 %	Xn ,N	R-21/22, 51/53
Triphenyl phosphate	204-112-2	115-86-6	<0,005 %	N	R-50/53

See section 16 for explanations of R-phrases :

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4. FIRST AID MEASURES

IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.

Inhalation :	Inhalation of heavy concentrations of vapour, fumes or spray, may cause mild irritation of the throat. Transport the person into fresh air, keep warm and allow to rest.
Ingestion :	Possible risk of vomiting and diarrhoea. Do not induce vomiting to avoid the risk of aspiration into the respiratory tract. Give nothing to drink
Skin contact :	If the skin is exposed to high-pressure spray, the product may enter the human body. In all such cases the affected person must be taken to hospital, even if no sign of injury can be detected. Immediately remove all soiled or stained clothing. Wash the affected area immediately and repeatedly with soap and water.
Eye contact :	Keep eyes open and rinse immediately and repeatedly with water for at least 15 minutes.
Aspiration :	If the product is believed to have entered the lungs (in case of vomiting, for example), take the person to hospital for immediate care.

5. FIRE FIGHTING MEASURES

Flash point:
See heading 9

Extinguishing media :	- suitable: Foam, carbon dioxide (CO ₂), powder. - not recommended: Do not use water jets (stick jets) for extinguishing fire, as this may help the spread of flames.
Specific hazards :	Vapours can build explosive mixtures with air. Vapours are heavier than air and may spread on the ground to sources of ignition.
Hazardous combustion products :	Incomplete combustion and thermolysis may produce potentially toxic gases such as carbon monoxide, carbon dioxide, different hydrocarbons, aldehydes, etc. and soot. The inhalation of these materials is very dangerous.
Protective measures for firefighters :	Insulated breathing apparatus must be worn in confined premises with heavy concentrations of fumes and gases.
Other :	All combustion residues and contaminated water from fire-fighting should be disposed of according to local regulations.

6. ACCIDENTAL RELEASE MEASURES

See sections 8 and 13.

Personal protection :	Ensure good ventilation. Remove sources of ignition. Do not smoke.
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After spillage / leakage :

- On land:
Surfaces on which the product has been spilled may become slippery.
Do not allow the product to enter sewers or rivers or contaminate the soil.
Recover with mechanical means such as pumps and skimmers.
Contain and collect the spilled product with sand or any other inert absorbant material.
- On water:
Floating absorbant material, then mechanical recovery.
If the product is spilt into rivers or sewers, notify the authorities of the possible presence of surface effluent.

7. HANDLING AND STORAGE

HANDLING :

Prevention of user exposure :

Ventilate extensively if the formation of vapours, fumes, mists or aerosol is a risk.
Make all the necessary arrangements in order to reduce exposure risk, notably to products in use or to wastes.
Keep away from combustible substances; keep away from food and beverages.

Prevention of fire and explosion :

Empty containers may contain flammable or explosive vapours.
There is a fire hazard associated with rags, paper or any other material used to remove spills which become soaked with product.
Avoid accumulation of these: they are to be disposed off safely after use.

Precautions :

Avoid static electricity build up with connection to earth.
Set up machinery and equipment so as to avoid the risk of accidental spills or splashes onto hot machine parts and electrical contacts (on joint failure, for example).
. Oil leaks in a pressured circuit may result in a fine inflammable spray (the flammability limit for oil mist is depressed when concentrations of about 45g/m3 are reached).

STORAGE :

Technical measures :

Make the necessary arrangements to prevent water and soil pollution.

Storage precautions :

- Suitable:
Store at ambient temperature, protected against contact with water and moisture, and away from any source of ignition.
Keep containers closed when not in use
- To be avoided:
Do not store exposed to the elements.

Incompatible products :

Dangerous reaction with strong oxidizing agents.

Packaging materials :

- Recommended:
Use only hydrocarbon-resistant containers, joints, pipes, etc.
Keep in original container if possible.
Otherwise, transfer all indications on the regulatory label to the new container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Technical measures :

Use the product in a properly ventilated atmosphere.
When working on enclosed place (tanks, reservoirs...), make sure that atmosphere is not suffocating and/or wear recommended equipment.

Composant	N°. CAS	Référence	VME 8 h	VLE 15 mn	Date
Triphenyl phosphate	115-86-6	VLEP.	3 mg/m3		

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Hand protection :

Impermeable hydrocarbon-proof gloves.
recommended material: nitrile , neoprene.
The break through times of the same type of glove of different manufacturers can be very different - even if the layer thickness is similar. Therefore the break through times have to be found out from the manufacturer of the protective gloves themselves.
The demands on the gloves are determined by the conditions in practice (e.g. multiple use, mechanical load, temperature, strength and duration of exposition).
Before choosing suitable gloves, it is recommended that the user tests the gloves.

Eye protection :

Goggles, in case of risk of splashing.

Skin and body (other than the hands) protection :

As required, wear a face mask, hydrocarbon-proof clothing, and safety boots (when handling drums).
Don't wear rings, watches or anything similar which can retain the product and may give rise to skin conditions.

Hygienic work practices :

Avoid prolonged or repeated contact with the skin, particularly with used or waste oil.
Immediately remove all soiled or stained clothing.
If the product comes into contact with the skin, wash the affected area immediately and copiously with soap and water.
Do not use abrasives, solvents or fuels.
Do not dry hands with rags that have been contaminated with product.
Do not put product contaminated rags into workwear pockets.
Do not eat, drink or smoke whilst handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :

Liquid.

Colour :

Fluorescent yellowish-green

Odour :

Characteristic.

Density/specific gravity :

845 kg/m³
Temperature (°C) 15

Flash point :

105 °C (ASTM D 93)

Température d'auto-inflammation :

> 250 °C (ASTM E 659-78)

Comments on autoignition temperature :

This temperature may be significantly lower under particular conditions (slow oxidation on finely divided materials...).

Comments on explosivity :

The lower flammable limit of oil mist is reached at concentrations in the range of 45 g/m³.

Solubility :

- in water :
Insoluble and immiscible.
- in organic solvents :
Soluble in many common solvents.

Partition coefficient (log Pow) :

Log Pow > 6
Temperature (°C) 20°C

Viscosity :

18 mm²/s
Temperature (°C) 40

10. STABILITY AND REACTIVITY

Stability :

The product is stable at normal storage, handling and use temperatures.

Conditions to avoid :

Heat (temperatures above flash point), sparks, ignition points, flames, static electricity

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Materials to avoid :	Avoid contact with strong oxidizers
Hazardous decomp. products :	Incomplete combustion and thermolysis produces potentially toxic gases such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot.

11. TOXICOLOGICAL INFORMATION

Acute toxicity / Local effect :

Inhalation, comments:

- Inhalation :
Not classified according to the criteria of classification in force.
Inhalation of high concentrations of vapour or aerosols may cause irritation of the upper respiratory tract.

Skin contact, comments:

- Contact with skin :
Not classified according to the criteria of classification in force.
If the skin is exposed to high-pressure spray, the product may enter the body. In all such cases the affected person must be taken to hospital, even if no sign of injury can be detected

Ingestion, comments:

Swallowing the product can cause serious gastric lesions.
In case of ingestion of small quantities, no important effect observed. in case of ingestion of larger amounts: abdominal pain, diarrhea, ...

CHRONIC TOXICITY OR LONG-TERM TOXICITY :

Skin contact :

Characteristic skin affections (oil blisters) may develop following prolonged and repeated exposure through contact with stained clothing

Sensitization :

To our knowledge, the product does not cause aggravated sensitivity.

12. ECOLOGICAL INFORMATION

Comments about ecotoxicity :

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Experimental data on the finished product are not available.
no information available for used product

Mobility :

- Air:
there is a slow loss by evaporation.
- Soil:
Given its physical and chemical characteristics, the product generally shows little mobility in the ground.
- Water:
The product is insoluble; it spreads on the surface of the water

Persistence and degradability :

No experimental information about the finished product.
However the "mineral oil" fraction of the new product is intrinsically biodegradable.
Some components of the product may not be biodegradable.

13. DISPOSAL CONSIDERATIONS

Waste disposal :

Prevent from entering sewers or the immediate environment.
Dispose of in a safe manner, in accordance with local regulations.
If need be, collection by an authorised waste contractor and regeneration or incineration at an approved installation.

Waste class :

13 01 10
The waste classification is dependant on the composition of the product at the time of disposal.
The waste classification mentioned here represents only a recommendation. The waste producer is responsible for the correct specification of the waste. The specification of the waste classification should be in arrangement with the authorised waste disposal company.



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Disposal of contaminated packaging :	Proceed in compliance with the prevailing regulations.
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14. TRANSPORT INFORMATION

Not concerned by the transport regulations below.

Road (ADR) / Rail (RID) :

Transport by barge (ADNR) :

Marine (IMO-IMDG) :

Air (ICAO/IATA) :

15. REGULATORY INFORMATION

Risk phrases :	R-52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases :	S-61 Avoid release to the environment. Refer to special instructions/Safety Data Sheets.
EU directives :	Hazardous preparations directive 1999/45/EC modified (Directive 2001/60/EC).
Social Security code :	- Art. L 461-6, Art. D.461-1, annexe A, n° 601 Table of occupational illnesses and diseases No. 36
Labor code :	- Art. R 241-50, decree of 07.11.1977 (special medical surveillance).

16. OTHER INFORMATION

For France, in case of poisoning call the Antipoison Centre (if possible in your area) and/or the SAMU (15), see ORFILA number below - Tel : Angers 02.41.48.21.21 - Bordeaux 05.56.96.40.80 - Lille 03.20.44.44.44 - Lyon 04.72.11.69.11 - Marseille 04.91.75.25.25 - Nancy 03.83.32.36.36 - Paris 01.40.05.48.48 - Rennes 02.99.59.22.22 - Strasbourg 03.88.37.37.37 - Toulouse 05.61.77.74.47
This safety data sheet complies with article 31 of the REACH directive 1907/2006/EC

Explanations of R-phrases in section 2 :	R-65 Harmful: may cause lung damage if swallowed. R-66 Repeated exposure may cause skin dryness or cracking. R-50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R-38 Irritating to skin. R-21/22 Harmful in contact with skin and if swallowed. R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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Revision date:	2009-06-30
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Supersedes the data sheet of:	2008-12-18
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* Information revised since the previous version of the SDS :

This safety data sheet serves to complete but not to replace the technical product sheets. The information contained herein is given in good faith and is accurate to the best of knowledge at the date indicated above. It is understood by the user that any use of the product for purposes other than those for which it was designed entails potential risk. The information given herein in no way dispenses the user from knowing and applying all provisions regulating his activity. The user bears sole liability for the precautions required when using the product. The regulatory texts indicated herein are intended to aid the user to fulfil his obligations. This list is not to be considered complete and exhaustive. It is the user's responsibility to ensure that he is subject to no other obligations than those mentioned.