



LHM +

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 3-7-2018 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Trade name : LHM +
Product code : 06.30.20
Type of product : Use in lubricants
Product group : Trade product

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

1.2.1. Relevant identified uses

Intended for general public
Main use category : Industrial use, Professional use, Consumer use
Use of the substance/mixture : Hydraulic oil

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Kroon Oil BV
Dollegoorweg 15
7602 EC Almelo - Netherlands
T 0031 (0)546 81 81 65
vib@kroon_oil.nl

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Cardiff Centre) Gwenwyn Ward, Llandough Hospital	Penarth CF64 2XX Cardiff	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures/Substances: SDS EU 2015: According to Regulation (EU) 2015/830 (REACH Annex II)

Aspiration hazard, Category 1 H304

Hazardous to the aquatic environment — Chronic Hazard, Category 3 H412

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

May be fatal if swallowed and enters airways. Harmful to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS08

Signal word (CLP) :

Danger

Hazardous ingredients :

Distillates (petroleum), hydrotreated light paraffinic - Base oil; Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics; Gas oils (petroleum), hydrodesulfurized

Hazard statements (CLP) :

H304 - May be fatal if swallowed and enters airways.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP) :

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children.
P273 - Avoid release to the environment.
P301+P310+P331 - IF SWALLOWED: Immediately call a doctor. Do NOT induce vomiting.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : Highly refined mineral oils and additives.

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated light paraffinic - Base oil	(CAS-No.) 64742-55-8 (EC-No.) 265-158-7 (EC Index-No.) 649-468-00-3 (REACH-no) 01-2119487077-29	25 - 50	Asp. Tox. 1, H304
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	(EC-No.) 934-954-2 (REACH-no) 01-2119826592-36	25 - 50	Asp. Tox. 1, H304
Gas oils (petroleum), hydrodesulfurized	(CAS-No.) 64742-79-6 (EC-No.) 265-182-8 (EC Index-No.) 649-222-00-5 (REACH-no) 01-2119471311-49	5 - 10	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
2,6-di-tert-butylphenol	(CAS-No.) 128-39-2 (EC-No.) 204-884-0 (REACH-no) 01-2119490822-33	0,1 - 1	Skin Irrit. 2, H315 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Tris(methylphenyl) phosphate	(CAS-No.) 1330-78-5 (EC-No.) 215-548-8 (REACH-no) 01-2119531335-46	0,1 - 1	Repr. 2, H361fd Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Phenol, dodecyl-, branched	(CAS-No.) 121158-58-5 (EC-No.) 310-154-3 (REACH-no) 01-2119513207-49	< 0,1	Skin Corr. 1C, H314 Eye Dam. 1, H318 Repr. 1B, H360FD Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=10)
naphthalene substance with a Community workplace exposure limit substance with national workplace exposure limit(s) (GB)	(CAS-No.) 91-20-3 (EC-No.) 202-049-5 (EC Index-No.) 601-052-00-2 (REACH-no) 01-2119561346-37	< 0,1	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Comments : The highly refined mineral oil contains <3% (w/w) DMSOextract, according to IP346.

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: No irritant effect. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Do not induce vomiting. Call a physician immediately. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Risk of lung oedema. May result in aspiration into the lungs, causing chemical pneumonia.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Combustible liquid.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases.

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 7. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature : < 40 °C

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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EU	Exposure limits/standards for materials that can be formed when handling this product. When mists/aerosols can occur the following is recommended: 5 mg/m ³ - ACGIH TLV (inhalable fraction).	
naphthalene (91-20-3)		
EU	Local name	Naphthalene
EU	IOELV TWA (mg/m ³)	50 mg/m ³
EU	IOELV TWA (ppm)	10 ppm
EU	Notes	(Year of adoption 2010)
EU	Regulatory reference	COMMISSION DIRECTIVE 91/322/EEC; SCOEL Recommendations
United Kingdom	WEL TWA (mg/m ³)	50 mg/m ³

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Hand protection:

Hand protection : skin cream may be used. waterproof gloves. PVC gloves. Nitrile rubber gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Reusable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR), Viton® II	4 (> 120 minutes), 5 (> 240 minutes), 6 (> 480 minutes)	>=0,35	3 (> 0.65)	EN 374

Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Droplet	clear	EN 166

Skin and body protection:

Wear suitable protective clothing

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Green.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: Not applicable
Freezing point	: -51 °C - ASTM D5950 (pour point)
Boiling point	: No data available
Flash point	: 105 °C - ASTM D93 (PM)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 0,1 hPa (20°C)
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0,847 g/cm ³ (15 °C) - ASTM D4052
Solubility	: Water : Material nearly insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: 18 mm ² /s (40 °C) - ASTM D7279
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 0,5 vol %
Upper explosive limit (UEL)	: 5 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known. Reacts violently with (strong) oxidizers.

10.4. Conditions to avoid

No decomposition if stored normally.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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Distillates (petroleum), hydrotreated light paraffinic - Base oil (64742-55-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (Dust/Mist - mg/l/4h)	5,53 mg/l/4h

Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	
LD50 oral rat	> 5000 mg/kg (OECD 401 method)
LD50 dermal rabbit	> 3160 mg/kg (24h) [OECD 402]
LC50 inhalation rat (mg/l)	> 5266 mg/l/4h (aerosol, 4h) [OECD 403]

2,6-di-tert-butylphenol (128-39-2)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Gas oils (petroleum), hydrodesulfurized (64742-79-6)	
LC50 inhalation rat (mg/l)	1 - 5 mg/l

Phenol, dodecyl-, branched (121158-58-5)	
LD50 oral rat	2100 mg/kg (OECD 401 method)
LD50 dermal rabbit	15000 mg/kg (OECD 402 method)

Tris(methylphenyl) phosphate (1330-78-5)	
LD50 oral rat	> 20000 mg/kg
LD50 dermal rabbit	> 10000 mg/kg
LC50 inhalation rat (mg/l)	> 11,1 mg/l (aerosol, 1h)

naphthalene (91-20-3)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

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Viscosity, kinematic	18 mm ² /s (40 °C) - ASTM D7279

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Harmful to aquatic life with long lasting effects.

Distillates (petroleum), hydrotreated light paraffinic - Base oil (64742-55-8)	
LC50 fish 1	> 100 mg/l 96h
LC50 other aquatic organisms 1	> 100 mg/l

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ErC50 (algae)	> 100 mg/l 48h
NOEC chronic fish	100 mg/l

Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	
LC50 fish 1	> 1028 mg/l (Scophthalmus maximus, 96h) [OECD 203]
EC50 Daphnia 1	> 3193 mg/l (Acartia tonsa, 48h) [ISO 14669]
EC50 72h algae (1)	> 10000 mg/l (Skeletonema costatum, 72h) [ISO 10253]
NOEC chronic fish	> 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox, 28d)
NOEC chronic crustacea	> 1000 mg/l (Daphnia magna - QSAR Petrotox, 21d)

2,6-di-tert-butylphenol (128-39-2)	
EC50 Daphnia 1	0,45 mg/l (Daphnia magna, freshwater, 48h)
EC50 72h algae (1)	1,4 mg/l (Selenastrum capricornutum, freshwater)

Gas oils (petroleum), hydrodesulfurized (64742-79-6)	
LC50 fish 1	1 - 10 mg/l
EC50 Daphnia 1	1 - 10 mg/l
ErC50 (algae)	1 - 10 mg/l

Phenol, dodecyl-, branched (121158-58-5)	
LC50 fish 1	40 mg/l (Pimephales promelas, 96h) (OECD 203 method)
EC50 Daphnia 1	0,037 mg/l (Daphnia magna, 48h) (OECD 202 method)
EC50 72h algae (1)	0,15 mg/l (Desmodesmus subspicatus, 72h) (OECD 201 method)
NOEC (chronic)	0,0037 mg/l (Daphnia magna, 21d) (OECD 211 method)

Tris(methylphenyl) phosphate (1330-78-5)	
LC50 fish 1	0,6 mg/l
EC50 Daphnia 1	146 µg/l (Daphnia magna, 48h)
EC50 72h algae (1)	0,4042 mg/l (Desmodesmus subspicatus, 72h)
NOEC (chronic)	0,01 mg/l (Jordanelia floridae, 28d)

naphthalene (91-20-3)	
LC50 fish 1	0,51 mg/l 96h
EC50 Daphnia 1	3,4 mg/l Daphnia magna - 48h

12.2. Persistence and degradability

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Persistence and degradability	Readily biodegradable.

Distillates (petroleum), hydrotreated light paraffinic - Base oil (64742-55-8)	
Persistence and degradability	Not established.

2,6-di-tert-butylphenol (128-39-2)	
Biodegradation	5 % Sturm (28 d)

Phenol, dodecyl-, branched (121158-58-5)	
Biodegradation	25 % Sturm (28 d)

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Tris(methylphenyl) phosphate (1330-78-5)	
Biodegradation	80 % (28d) (OECD 301C method)

12.3. Bioaccumulative potential

Distillates (petroleum), hydrotreated light paraffinic - Base oil (64742-55-8)	
Log Pow	> 6
Bioaccumulative potential	Not established.

2,6-di-tert-butylphenol (128-39-2)	
Log Kow	4,5 Octanol/water (0,1 d)

Phenol, dodecyl-, branched (121158-58-5)	
Bioconcentration factor (BCF REACH)	2,9 (27 d)
Log Pow	7,1
Log Kow	7,1 Octanol-water coefficient (0.1 d)

Tris(methylphenyl) phosphate (1330-78-5)	
Log Pow	5,93

naphthalene (91-20-3)	
Log Pow	3,01

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
Distillates (petroleum), hydrotreated light paraffinic - Base oil (64742-55-8)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code : 13 01 10* - mineral based non-chlorinated hydraulic oils

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

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14.6. Special precautions for user

Overland transport

No data available

Transport by sea

No data available

Air transport

No data available

Inland waterway transport

No data available

Rail transport

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail

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vPvB	Very Persistent and Very Bioaccumulative
Full text of H- and EUH-statements:	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1C	Skin corrosion/irritation, Category 1C
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product