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MSDS 03: Issue 7

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## SAFETY DATA SHEET

According to E.C. Regulation 453-2010

### Section 1: Identification of the substance / mixture and of the company / undertaking.

#### 1.1 Product Identifier

LHM and LHM Plus (LHM+) hydraulic fluids.

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

Identified use: As a suspension and hydraulic fluid in automotive central hydraulic systems.

#### 1.3 Details of the Supplier of the safety data sheet

PH Components Limited, Rossendale House, Station Road Ind Estate, Market Bosworth, Warks, CV13 0PE  
Tel Number: +44 (0) 1455 299788 Email: [sales@phcomponents.com](mailto:sales@phcomponents.com)

#### 1.4 Emergency Telephone Number

+44 (0) 1455 299788. Hours 08:00–17:00 Mon–Fri GMT (Recorded emergency message out of hours).

Alternatively in the UK dial 111 for the medical emergency services.

For contact details of Poisons Centres in other countries, see the World Health Organisation webpage

[http://www.who.int/gho/phe/chemical\\_safety/poisons\\_centres/en/](http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/) from which a directory of Poisons Centres in various member states can be downloaded.

### Section 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008 (CLP/GHS): Aspiration hazard –category 1. H 304 –May be fatal if swallowed and enters airways.

#### 2.2 Label elements

Labelling according to 1272/2008 (CLP/GHS)

Hazard Pictogram/s;



Signal word: “Danger”

Hazard phrases; H304 May be fatal if swallowed and enters airways.

Precautionary phrases recommended; P301 + 310 –If swallowed, immediately call a poison centre or doctor/physician and have container or label at hand. P331 Do NOT induce vomiting. P405 –Store locked up. P501 Dispose of container to a licensed waste oil disposal site.

#### 2.3 Other Hazards

Large spills may contaminate soil or ground water.

Product is not classified as flammable or combustible but will burn.

Product is not classified as PBT or vPvB according to Annex XIII.

### Section 3: Composition/information on ingredients

#### 3.1 Substances

Not Applicable.

### 3.2 Mixtures

#### 3.2.1 General description

Blend of highly refined mineral oils, anti-wear/lubricity additives, and viscosity index improver.

#### 3.2.2. Hazardous Ingredients

Ingredient	EC No.	CAS No.	Registration No.	% w/w	Classification 1272 / 2008
Lubricating oil (petroleum) C15-30 Hydrotreated neutral oil-based	232-455-8	72623-86-0	01-2119474878-16	60-100	Aspiration toxicity –Cat 1; H304
Distillates (petroleum) Hydrotreated light; Kerosine unspecified	265-148-2	64742-46-7	01-2119826592-36	10 - 30	Aspiration toxicity –Cat 1; H304
Ethyl 3-[[Bis(methylethoxy) phosphinothioy]thio] propionate	275-965-6	71735-74-5		0-1	Aquatic chronic –Cat 2; H411.

See Section 16 for explanation of the classification codes.

Petroleum product –DMSO extract <3% by weight.

### Section 4: First aid measures

#### 4.1 Description of first aid measures

##### General Advice:

If at any point aspiration into the lungs is suspected, admit to hospital immediately.

##### Inhalation

Remove to fresh air and keep at rest. Seek medical attention if any discomfort continues.

##### Skin Contact

Remove contaminated clothing. Wash affected skin with soap and water. If irritation persists seek medical attention.

##### Eye Contact

Flush eye with water for at least 10 minutes. Remove any contact lenses and open eyes wide apart. If irritation persists seek medical attention.

##### Ingestion

Obtain medical advice immediately. **DO NOT INDUCE VOMITING.**

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

##### Aspiration

Chemical pneumonia

##### Inhalation

Upper respiratory tract irritation.

##### Skin contact

Prolonged contact may cause redness, irritation and dry skin.

##### Eye contact

Irritation of eyes and mucous membranes.

##### Ingestion

May cause discomfort if swallowed. There is a danger of product being aspirated into the lungs if vomiting occurs.

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

Medical personnel seeking to administer first aid are referred to the services of the Poisons Information Service who can advise in such instances. Treat symptomatically.

### Section 5: Fire fighting measures

## 5.1: Extinguishing Media

**Suitable Extinguishing media:** Foam, Carbon dioxide, dry powder or water (fog or fine spray).

**Unsuitable Extinguishing Media:** Direct water jet (although these may be used to cool adjacent containers).

## 5.2: Special hazards arising from the substance or mixture.

Combustion products may contain harmful or irritant fumes. Heat from a fire could result in drums bursting.

## 5.3: Advice for firefighters

In the event of a large fire self-contained breathing apparatus should be worn. Prevent water spray from entering water courses.

## Section 6: Accidental release measures

### 6.1 Personal Precautions, protective equipment and emergency procedures.

Being a lubricant, spilt product presents a significant slip or skid hazard -prevent any unnecessary personnel or vehicles entering the area. Precautions should be taken to prevent skin and eye contact when cleaning up.

### 6.2 Environmental Precautions

Prevent entry into watercourses (drains, ditches or rivers etc.). If spillage does enter environment inform Environmental Authority immediately (in UK the Environmental Agency). Product is insoluble in water and will spread on the surface –if spilt onto water prevent spread by suitable barrier equipment.

### 6.3 Methods and materials for containment and cleaning Up

Contain spillage using inert material (sand, earth etc.). Product spilled on water may be collected with booms and skimmers. Collection may be by salvage vehicle and/or the use of inert absorbents. Remove all material to an appropriately labelled salvage container for disposal. Clean contaminated area with plenty of water and detergent.

### 6.4 Reference to other sections.

For personal protection see section 8. For disposal methods see section 13.

## Section 7: Handling and storage

### 7.1 Precautions for safe handling

Handling equipment should minimise the formulation of mists. If large quantities of the product are being moved (pumped or decanted) static discharges are possible – especially in dry weather. To avoid this earth bonding of pipework, vessels etc. may be advisable. Do not use oil contaminated clothing or shoes and do not place rags moistened with oil in pocket.

### 7.2 Conditions for safe storage including any incompatibilities

Suitable bulk storage vessels are mild or stainless steel tanks or tight head steel drums. For smaller quantity resealable tinplated steel or HD Polyethylene containers are recommended. Store away from sources of strong heat and strong oxidising agents. Keep containers tightly closed and avoid contact with any other substance. Take precautionary measures to prevent product entering the environment. In the UK the Oil Storage Regulations may apply.

### 7.3 Specific end use

None other than that identified in section 1.2

## Section 8: Exposure control/personal protection

### 8.1 Control Parameters

#### 8.1.1 Occupational exposure limits

**Mixture** (as mineral oil mist) –Due to the low vapour pressure of the preparation vapour is not generally a problem at ambient temperature.

Country	8 hours	15 min
Australia	5 mg/m <sup>3</sup>	

Austria	5 mg/m <sup>3</sup>	
Belgium	5 mg/m <sup>3</sup>	
Canada	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Denmark	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Hungary		5 mg/m <sup>3</sup>
Latvia	5 mg/m <sup>3</sup>	
New Zealand	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Spain	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Sweden	1 mg/m <sup>3</sup>	3 mg/m <sup>3</sup>
The Netherlands	5 mg/m <sup>3</sup>	
USA	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
UK (not current)	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>

## 8.2 Exposure controls

### 8.2.1 General

Employ good industrial hygiene practice as part of a control banding approach.

### 8.2.2 Appropriate engineering controls

Not necessary under normal conditions. If fluid is being heated or atomised, local exhaust ventilation with filter scrubber is recommended.

### 8.2.3 Individual protection measures / personal protective equipment.

**Respiratory Protection** –Not needed under normal conditions. Self contained breathing apparatus or Organic vapour respirators (A2-P2) may be used where product is being heated or atomised and engineering control measures are not practical.

**Hand Protection** -Wear chemically resistant impervious gloves (EN 374) to avoid prolonged or repeated contact. Nitrile rubber and PVC are suitable materials. Because of great variety of types of gloves, see manufacturer's figures for breakthrough times. In the case of prolonged contact a glove with a protection class of 6 (breakthrough time of 480 min) is recommended.

**Eye Protection** -Wear close-fitting goggles (EN 166) or face shield where there is a risk of splashing. Eye baths should be provided at locations where accidental exposure may occur.

**Skin Protection** -Where significant exposure is possible wear impervious body covering. It is recommended that showers are provided at locations where accidental exposure may occur. Barrier creams may be use to prevent skin contact.

### 8.2.3 Environmental Exposure Controls

Appropriate secondary containment should be provided to prevent the product entering the environment. The measures outlined in the Oil Storage Regulations 2001 should be adopted where appropriate.

## Section 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

		Test method
Appearance	Bright green liquid	Visual
Odour	Oil	N/A
Odour Threshold	N/A –very low odour	
pH	N/A (Oil)	
Boiling Range	250– 380 °C.	IP 123
Melting Point	< -50 °C.	ISO 7308
Flash Point:	> 110 °C.	IP35
Auto-Ignition Temperature	> 350 °C. (by analogy)	ASTM D 286
Decomposition temperature	> 250 °C.	
Flammability Limits in air	Not known but expected to be 1–8%	
Evaporation Rate	Negligible	
Density	0.84 kg/l at 20 °C.	
Solubility	Insoluble in water. Soluble in organic solvents	
Partition Coefficient (Log POW)	>3	OECD 117
Kinematic Viscosity	19 cSt at 40 °C.	ASTM D 445
Vapour Pressure	< 0.1 kPa at 20 °C.	Reid
Vapour Density	Not established	

Explosive properties  
Oxidising Properties

Not explosive.  
Not oxidising

## 9.2 Other information

None relevant

## Section 10: Stability and reactivity

### 10.1 Reactivity

No hazardous reactions if stored and handled as indicated.

### 10.2 Chemical Stability

Product is stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Unlikely to occur under normal conditions of use.

### 10.4 Conditions to avoid

Heat, flames and other sources of ignition.

### 10.5 Incompatible materials

Strong oxidising agents or strong acids.

### 10.6 Hazardous Decomposition Products

Decomposition products which can be formed on heating include Carbon monoxide, Carbon dioxide and oxides of nitrogen or sulphur.

## Section 11: Toxicological information (Comments may be based on analogy with similar products)

### 11.1 Information on toxicological effects

#### 11.1.1 Acute Toxicity

**Ingestion** -Product is of low acute oral toxicity – LD50 (oral) Rat = > 2000 mg/kg. Symptoms of overexposure include nausea, vomiting or diarrhoea.

**Inhalation** -Unlikely to be hazardous by inhalation at ambient temperatures due to low vapour pressure. If product is inhaled at elevated temperatures or as an aerosol it may irritate respiratory tract and may cause systemic effects similar to ingestion (see above).

**Aspiration** – Aspiration of the product into the lungs (usually as a result of vomiting) can lead to fatal Oil Pneumoconiosis - seek medical attention immediately. Viscosity <20.5 cSt @40°C.

**Dermal** - Acute percutaneous toxicity is low LD50 (sk) Rabbit = > 2000 mg/kg. Prolonged or repeated contact with used oils can cause serious skin diseases such as skin cancer or dermatitis.

#### 11.1.2 Irritation

**Eye Contact** Based on available data the classification criteria are not met. (Method OECD 405). May cause mild Irritation.

**Skin Contact** Based on available data the classification criteria are not met (Method OECD 404). Prolonged or repeated contact can cause drying or irritation. Mineral oil can block skin pores leading to Oil Acne.

#### 11.1.3 Corrosivity

Based on available data the classification criteria are not met.

#### 11.4 Sensitisation

Based on available data the classification criteria are not met.

#### 11.1.5 Repeated dose toxicity

Not expected to display significant repeated dose toxicity. There are no reports of long term adverse effects in man.

#### 11.1.6 Carcinogenicity

Based on available data the classification criteria are not met. This product contains mineral oils which are considered to be severely refined and not considered to be carcinogenic under IARC. All of the oils in this product have been shown to contain less than 3% extractables (IP346).

#### 11.1.7 Mutagenicity

Not known to be mutagenic

#### 11.1.8 Toxicity for reproduction

Major ingredients have not been shown to cause significant fertility or development problems at levels which are not themselves toxic to the animal concerned.

### Section 12: Ecological information

#### 12.1 Toxicity

Acute toxicity to aquatic or soil organisms is expected to be low, however oil spills can smother and suffocate by preventing passage of oxygen and water. Oil contamination can also foul and smother birds and marine animals.

Fish	Based on knowledge and experience of similar products not expected to be toxic
Aquatic invertebrates	Based on knowledge and experience of similar products not expected to be toxic

#### 12.2 Persistence & Degradability

Product is expected to be inherently but not readily biodegradable based on its ingredients. Should not be admitted into biological waste treatment plants.

The product is based on highly refined mineral oils that are considered stable to hydrolysis.

The product is considered stable in the presence of water.

#### 12.3 Bioaccumulative Potential

Base oil hydrocarbons possibly accumulative. Log POW > 6.

#### 12.4 Mobility in soil

Insoluble in water on which it floats. Does not evaporate from water or soil. Limited mobility in soil but some components may penetrate the soil and cause groundwater pollution.

#### 12.5 Results of PBT and vPvB assessment

Data not available

#### 12.6 Other adverse effects

Not relevant.

### Section 13. Disposal considerations

#### 13.1 Waste treatment methods

Dispose of in accordance with local and national regulations. In the E.U. used mineral oils are classified as hazardous waste (Directive 91/689/EEC), EWC number: 13.01.10.

Controlled incineration or recycling is recommended. Under no circumstances should this product be disposed of to rains, soil or water courses. It may be advisable to seek advice from Local Waste Authority before disposal.

Used mineral oils can be carcinogenic - avoid contact with skin.

### Section 14. Transport information

14.1 UN No. / Class None

14.2 UN Proper shipping name N/A

#### 14.3 Transport hazard classes

##### Land Transport

ADR

Not classified

RID

Not classified

##### Sea Transport

IMO/IMDG		Not classified
Marine Pollutant	No	
<b>Air Transport</b>		
IATA/IACO		Not classified
<b>Inland waterways</b>		
ADN		Not classified

**14.4 Packing Group** N/A

**14.5 Environmental Hazards** Not environmentally hazardous

**14.6 Special precautions for user** None relevant

**14.7 Transport in bulk (Annex II of Marpol)** Not classified.

## Section 15. Regulatory information

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

**15.1.1 Chemical Inventories.**

All ingredients are registered on the following inventories;

E.U. (EINECS / EILINCS)	USA (TSCA)	Canada (DSL/NDSL)	Australia (AICS)
Japan (ENCS)	China (IECSC)	Korea (ECL)	Philippine (PICCS)
New Zealand (NZLoC)			

**15.1.2 WGK Hazard class**

Assessed as WGK 1 (self assessment). Slight hazard to water.

**15.1.3 Other**

Usage should be in accord with all local and national regulations. In the U.K. this would include (not exhaustive);

- Health and Safety at Work Act 1974
- Control of Substances Hazardous to Health regulations 2002 (COSHH.)
- Control of pollution (Oil storage) regulations 2001

**15.2 Chemical safety assessment.**

A chemical safety assessment has not been carried out for this product by the supplier.

## Section 16: Other information

**16.1 Abbreviations and acronyms used in this data sheet.**

DPD –Dangerous Preparations Directive.

CLP –Classification, labelling and packaging of substances and mixtures regulation,

GHS –UN Globally Harmonised system of classification and labelling of chemicals

PBT – Persistent, Bio accumulative and Toxic.

vPvB – Very persistent and very bio accumulative.

R22 –Harmful if swallowed.

R40 –Limited evidence of a carcinogenic effect.

R50/53 –Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

N51/53 -.Toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment

H304 –May be fatal if swallowed and enters airways.

H411 – Toxic to aquatic life with long lasting effects.

**16.2 Classification according to regulation 1999/45/EC (DPD);**

Not Classified.

**16.3 Labelling according to 1999/45/EC (DPD):**

Not classified

**16.4 Revisions**

Changes to this issue of the MSDS are indicated by a bar in the left margin.

#### **165 Legal Disclaimer**

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