



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

SDS # : 32897

LHM PLUS (TOTAL)

Date of the previous version: 2009-09-09

Revision Date: 2012-03-21

Version 3

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

1.1. Product identifier

Product name	LHM PLUS (TOTAL)
Number	529
Pure substance/mixture	Mixture

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

Identified uses	Hydraulic oil, Brake fluid.
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1.3. Details of the supplier of the safety data sheet

Supplier	TOTAL UK LIMITED 40 Clarendon Road Watford. Hertfordshire. WD17 1TQ UNITED KINGDOM Tel: +44 (0)1923 427700 Fax: +44 (0)1923 427701
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For further information, please contact

Contact Point	Specific Product Related Info : 01977 636200
E-mail Address	rm.gb-msds@total.co.uk

1.4. Emergency telephone number

+33 1 49 00 00 49 (24h/24, 7d/7)
Total UK - 01923 427700
NHS Direct: 0845 46 47 / Textphone: 0845 606 46 47

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

For the full text of the H-Statements mentioned in this Section, see Section 2.2.

Classification

DIRECTIVE 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16.



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The substance/mixture is classified as dangerous in accordance with Directive(s) 67/548/EEC with amendments and/or 1999/45/EC with amendments

Classification

R52-53

2.2. Label elements

Labelled according to:

Directive 1999/45/EC

R-phrases(s)

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

S-phrases(s)

S61 - Avoid release to the environment. Refer to special instructions/ Safety data sheets

2.3. Other hazards**Physical-Chemical Properties**

Contaminated surfaces will be extremely slippery.

Environmental properties

Should not be released into the environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS3.2. Mixture

Chemical Name	EC-No	REACH Registration Number	CAS-No	Weight %	Classification (Dir. 67/548)	GHS Classification
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	934-954-2	01-2119826592-36	^	<50	Xn;R65	Asp. Tox. 1 (H304)
White mineral oil (petroleum)	232-455-8	no data available	8042-47-5	<10	Xn;R65 R66	Asp. Haz. 1 (H304)
2,6-di-tert-butylphenol	204-884-0	no data available	128-39-2	<0.6	Xi;R38 N;R50-53	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Skin Irrit. 2 (H315)
tricresyle phosphate	247-693-8	no data available	1330-78-5	<0.2	Xn;R21/22 N;R51-53	

Additional information

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



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For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids.
Skin contact	Remove contaminated clothing and shoes. Wash off with soap and water. Wash contaminated clothing before reuse.
Inhalation	Move to fresh air.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

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

Eye contact	Not classified.
Skin contact	Not classified.
Inhalation	Not classified. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media	Carbon dioxide (CO ₂). ABC powder. Foam. Water spray or fog.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire

5.2. Special hazards arising from the substance or mixture

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Special hazard

Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration.

5.3. Precautions for fire-fighters

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit.

Other information

Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

General Information

Do not touch or walk through spilled material. Contaminated surfaces will be extremely slippery. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition.

6.2. Environmental precautions

General Information

Do not allow material to contaminate ground water system. Try to prevent the material from entering drains or water courses. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up

Dam up. Contain spillage, and then collect with non-combustable absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Personal protective equipment

See Section 8 for more detail

Waste treatment

See section 13

7. HANDLING AND STORAGE

7.1. Precautions for safe handling



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Advice on safe handling	When using, do not eat, drink or smoke. For personal protection see section 8. Use only in well-ventilated areas. Do not breathe vapours or spray mist. Avoid contact with skin, eyes and clothing.
Prevention of fire and explosion	Take precautionary measures against static discharges. Ground/bond containers, tanks and transfer/receiving equipment.
Hygiene measures	Ensure the application of strict rules of hygiene by the personnel exposed to the risk of contact with the product. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. 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.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions	Keep away from food, drink and animal feedingstuffs. Keep in a bunded area. Keep container tightly closed. Preferably keep in the original container. Otherwise, reproduce all the statutory information from the labels onto the new container. Do not remove the hazard labels of the containers (even if they are empty). Design the installations in order to avoid accidental emissions of product (due to seal breakage, for example) onto hot casings or electrical contacts. Protect from frost, heat and sunlight. Protect from moisture.
Materials to avoid	Strong oxidising agents.

7.3. Specific use(s)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parametres

Exposure limits	oil mist : 10mg/m ³ , for 15 minutes oil mist : 5mg/m ³ , for 8 hours
Legend	See section 16

8.2. Exposure controls

Occupational Exposure Controls



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Engineering measures

Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

General Information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Respirator with combination filter for vapour/particulate (EN 141). The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye protection

If splashes are likely to occur, wear: Safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Protective shoes or boots. Long sleeved clothing.

Hand protection

Hydrocarbon-proof gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Environmental exposure controls

General Information

The product should not be allowed to enter drains, water courses or the soil.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Colour		Fluorescent yellowish-green	
Physical state @20°C		Liquid	
Odour		No information available	
Property	Values	Remarks	Method
pH		not applicable	
Boiling point/boiling range		not applicable	
Flash point	105 °C		ASTM D 93
	221 °F		ASTM D 93.
Evapouration rate		No information available	
Flammability Limits in Air		No information available	



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Vapour pressure		No information available
Vapour density		No information available
Density	845 kg/m ³	@ 15 °C
Water solubility		not applicable
Solubility in other solvents		No information available
logPow		
Autoignition Temperature		No information available
Viscosity, kinematic	18 mm ² /s	@ 40 °C
Explosive properties	Not explosive	
Oxidising Properties	not applicable	
Possibility of hazardous reactions	not applicable	

9.2. Other information

10. STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stability Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions None under normal processing

10.4. Conditions to Avoid

Conditions to Avoid Heat (temperatures above flash point), sparks, ignition points, flames, static electricity.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents.

10.6. Hazardous Decomposition Products

Hazardous Decomposition Products None under normal use

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects



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Acute toxicity Local effects Product Information

Skin contact	Not classified.
Eye contact	Not classified.
Inhalation	Not classified. Inhalation of vapours in high concentration may cause irritation of respiratory system.
Ingestion	Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Acute toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics	LD50 > 5000 mg/kg bw (rat - OECD 401)	LD50 (24h) > 3160mg/kg bw (rabbit - OECD 402)	LC50 (4h) > 5266 mg/m ³ (aerosol) (rat - OECD 403)
White mineral oil (petroleum)	> 5000 mg/kg (Rat)		
2,6-di-tert-butylphenol	> 5000 mg/kg (Rat)	= 10000 mg/kg (Rabbit)	
tricresyle phosphate	= 3 g/kg (Rat)		

Sensitisation

Sensitisation Not classified as a sensitizer.

Specific effects

Carcinogenicity This product is not classified carcinogenic. During use in engines, contamination of oil with low levels of combustion products occurs. Used motor oils have been shown to cause skin cancer in mice following repeated application and continuous exposure. Brief or intermittent skin contact with used motor oil is not expected to have serious effects in humans if the oil is thoroughly removed by washing with soap and water.

Mutagenicity This product is not classified as mutagenic.

Toxicity for reproduction This product does not contain any known or suspected reproductive hazards.

Repeated Dose Toxicity

Subchronic Toxicity No information available.

Target Organ Effects (STOT)

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Target Organ Effects (STOT) No information available.

Other information

Other adverse effects Characteristic skin lesions (oil blisters) may develop following prolonged and repeated exposures (contact with contaminated clothing).

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Acute aquatic toxicity Product Information

No information available.

Acute aquatic toxicity Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics ^	ErL50 (72h) > 10000 mg/l (Skeletonema costatum - ISO 10253)	LL50 (48h) > 3193 mg/l (Acartia tonsa - ISO 14669)	LL50 (96h) > 1028 mg/l (Scophthalmus maximus - OECD 203)	
White mineral oil (petroleum) 8042-47-5			LC50 (96h) > 10000 mg/L Lepomis macrochirus ()	
2,6-di-tert-butylphenol 128-39-2		EC50 (48h) = 0.45 mg/L Daphnia magna		
tricesyle phosphate 1330-78-5			LC50 (96h) < 3.2 - <10 mg/L Oryzias latipes (semi-static) LC50 (96h) 0.21 - 0.32 mg/L Oncorhynchus mykiss (flow-through) LC50 (96h) 3.3 - 6.2 mg/L Oncorhynchus mykiss (static) LC50 (96h) 0.1 - 0.22 mg/L Lepomis macrochirus (flow-through) LC50 (96h) 4.8 - 6.4 mg/L Poecilia reticulata (semi-static) LC50 (96h) 20.4 - 41.2 mg/L Lepomis macrochirus (static)	

Chronic aquatic toxicity Product Information

No information available.

Chronic aquatic toxicity Component Information



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Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to microorganisms
Hydrocarbons, C13-C16, n-alkanes, isoalkanes, cyclics, < 0.03% aromatics ^		NOELR (21d) > 1000 mg/l (Daphnia magna - QSAR Petrotox)	NOELR (28d) > 1000 mg/l (Oncorhynchus mykiss - QSAR Petrotox)	

Effects on terrestrial organisms

No information available.

12.2. Persistence and Degradability**General Information**

No information available

12.3. Bioaccumulative potential**Product Information**

No information available

logPow**Component Information**

Chemical Name	log Pow
White mineral oil (petroleum) - 8042-47-5	6

12.4. Mobility in soil**Soil**

Given its physical and chemical characteristics, the product generally shows low soil mobility.

Air

Loss by evaporation is limited.

Water

Insoluble. The product spreads on the surface of the water.

12.5. Results of PBT and vPvB assessment**PBT and vPvB assessment**

No information available.

12.6. Other adverse effects**General Information**

No information available.



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13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Where possible recycling is preferred to disposal or incineration. After use, this oil must be sent to a licensed waste oil facility. Incorrect disposal of used oil poses a risk to the environment. Mixture with other waste types such as solvents, brake- and cooling liquids is forbidden.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal
EWC Waste Disposal No	The following Waste Codes are only suggestions: 13 02 05. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

<u>ADR/RID</u>	not regulated
<u>IMDG/IMO</u>	not regulated
<u>ICAO/IATA</u>	not regulated
<u>ADN</u>	not regulated

15. REGULATORY INFORMATION

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

European Union

International Inventories

EINECS/ELINCS	-
TSCA	-

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DSL	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-
NZIoC	-

Legend

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

Further information

15.2. Chemical Safety Assessment

Chemical Safety Assessment No information available

15.3. National regulatory information

The United Kingdom

Avoid exceeding occupational exposure limits (see section 8).

Ireland

Avoid exceeding occupational exposure limits (see section 8).

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R38 - Irritating to skin

R65 - Harmful: may cause lung damage if swallowed

R66 - Repeated exposure may cause skin dryness or cracking

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

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R21/22 - Harmful in contact with skin and if swallowed

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment



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Abbreviations, acronyms

Legend Section 8

+	Sensitiser	*	Skin designation
**	Hazard Designation	C:	Carcinogen
M:	Mutagen	R:	Toxic to reproduction

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Revision Note *** Indicates updated section

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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.

End of Safety Data Sheet