



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

SDS # : 30408

LUNARIA FR 46

Date of the previous version: 2015-03-10

Revision Date: 2016-03-23

Version 3

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name	LUNARIA FR 46
Number	1KY
Substance/mixture	Mixture

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

Identified uses	Lubricant, refrigerating compressors.
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1.3. Details of the supplier of the safety data sheet

Supplier	TOTAL LUBRIFIANTS 562 Avenue du Parc de L'île 92029 Nanterre Cedex FRANCE Tél: +33 (0)1 41 35 40 00 Fax: +33 (0)1 41 35 84 71
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For further information, please contact:

Contact Point	HSE
E-mail Address	rm.msds-lubs@total.com

1.4. Emergency telephone number

+33 1 49 00 00 49 (24h/24, 7d/7)
France - ORFILA (INRS) Tél : +33 (0)1 45 42 59 59
In France : - PARIS : Hôpital Fernand Widal 200, rue du Faubourg Saint-Denis 75475 Paris Cédex 10 , Tel : 01.40.05.48.48. -
MARSEILLE : Hopital Salvator, 249 bd Ste Marguerite 13274 Marseille cedex 5, Tel : 04.91.75.25.25. - LYON : Hopital Edouard
Herriot, 5 place d'Arsonvol, 69437 Lyon cedex 3, Tel : 04.72.11.69.11. - NANCY : Hopital central, 29 Av du Mal De Lattre de
Tassigny, 54000 Nancy, Tel : 03.83.32.36.36 ou le SAMU : Tel (15)

Section 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*****

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008***

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2.2. Label elements

Labelled according to REGULATION (EC) No 1272/2008***

Hazard Statements ***

None***

Precautionary Statements

None***

Supplemental Hazard Statements

EUH210 - Safety data sheet available on request***

2.3. Other hazards

Physical-Chemical Properties Contaminated surfaces will be extremely slippery.***

Environmental properties Should not be released into the environment.***

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture**Hazardous ingredients** ***

Chemical Name	EC-No	REACH registration No	CAS-No	Weight %	Classification (Reg. 1272/2008)
Benzene, mono-C15-36-branched alkyl derivs., C24-rich***	290-544-7	-	90171-05-4	10-<20	Aquatic Chronic 4 (H413)

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

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

Section 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.

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Ingestion Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center 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 vapors in high concentration may cause irritation of respiratory system.

Ingestion Not classified. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

Notes to physician Treat symptomatically.

Section 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Carbon dioxide (CO₂). 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

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. Advice 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.

Section 6: ACCIDENTAL RELEASE MEASURES
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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

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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-combustible 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.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

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 vapors 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. Keep preferably in the original container. Otherwise reproduce all indication of the regulation label on 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 oxidizing agents.*****

7.3. Specific end uses

Specific use(s) No information available.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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8.1. Control parameters

Exposure limits

Mineral oil mist:
USA: OSHA (PEL) TWA 5 mg/m³, NIOSH (REL) TWA 5 mg/m³, STEL 10 mg/m³, ACGIH (TLV) TWA 5 mg/m³ (highly refined)

Legend

See section 16

8.2. Exposure controls

Occupational Exposure Controls

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 14387), Type A/P1. 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: Fluorinated rubber, Nitrile rubber. In case of prolonged contact with the product, it is recommended to wear gloves complying with EN 420 and EN 374 standards, protecting at least for 480 minutes and having a thickness of 0,38 mm at least. These values are indicative only. The level of protection is provided by the material of the glove, its technical characteristics, its resistance to the chemicals to be handled, the appropriateness of its use and its replacement frequency.***

Environmental exposure controls

General Information

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

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance Color

limpid***
yellow To amber

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Physical State @20°C		liquid	
Odor		Characteristic	
Odor Threshold		No information available***	
Property	Values	Remarks	Method
pH ***	***	Not applicable***	***
Melting point/range ***		Not applicable***	***
Boiling point/boiling range		No information available***	***
Flash point	171 °C 340 °F		ISO 2592 ISO 2592
Evaporation rate		No information available	
Flammability Limits in Air		No information available	
upper ***	***	No information available***	***
Lower ***	***	No information available***	***
Vapor Pressure		No information available	
Vapor density		No information available	
Relative density ***	*** 0.833*** -*** 0.913***	@ 15 °C***	ISO 12185***
Density	833*** - *** 913*** kg/m ³	@ 15 °C	ISO 12185***
Water solubility		Insoluble	
Solubility in other solvents		No information available	
logPow		No information available***	
Autoignition temperature ***		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic	41.6*** -*** 50.4*** mm ² /s	@ 40 °C	ISO 3104
Explosive properties	Not explosive		
Oxidizing Properties	Not applicable		
Possibility of hazardous reactions	No information available***		

9.2. Other information

Freezing Point	***	No information available***
Pour point ***	*** -33*** °C***	ISO 3016***

Section 10: STABILITY AND REACTIVITY10.1. Reactivity**General Information** No information available.***10.2. Chemical stability**Stability** Stable under recommended storage conditions.10.3. Possibility of hazardous reactions

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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 oxidizing agents.***10.6. Hazardous Decomposition Products**Hazardous Decomposition Products** None under normal use.**Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effectsAcute toxicity Local effects Product Information

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

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzene, mono-C15-36-branched alkyl derivs., C24-rich***	LD50 > 10000 mg/kg***	LD50 > 3160 mg/kg (Rabbit - OECD 402)	LD50 (6h) > 0.5 mg/L (Mouse)

Sensitization**Sensitization** Not classified as a sensitizer.Specific effects

Carcinogenicity This product is not classified carcinogenic.
Mutagenicity This product is not classified as mutagenic.
Reproductive toxicity This product does not present any known or suspected reproductive hazards.

Repeated Dose Toxicity**Subchronic toxicity** No information available.

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Target Organ Effects (STOT)**Target Organ Effects (STOT)** No information available.**Other information****Other adverse effects** Characteristic skin lesions (pimples) may develop following prolonged and repeated exposures (contact with contaminated clothing).

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Not classified.

Acute aquatic toxicity - Product Information

No experimental data available .

Acute aquatic toxicity - Component Information

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to microorganisms
Benzene, mono-C15-36-branched alkyl derivs., C24-rich*** 90171-05-4		EC50 (48h) > 1000 mg/l (Daphnia magna - static - OECD 202)***	LC50 (96h) > 10000 mg/l (Cyprinodon variegatus - semi static - OECD 203)***	

Chronic aquatic toxicity - Product Information

No information available.

Chronic aquatic toxicity - Component Information

No information available.

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** No information available*****Component Information**

Chemical Name	log Pow
Benzene, mono-C15-36-branched alkyl derivs., C24-rich*** - 90171-05-4	12.4

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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.***

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products	Should not be released into the environment. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
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.

Section 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

Section 15: REGULATORY INFORMATION

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

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Further information

No information available***

15.2. Chemical Safety Assessment**Chemical Safety Assessment** No information available

Section 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H413 - May cause long lasting harmful effects to aquatic life***

Abbreviations, acronyms

ACGIH = American Conference of Governmental Industrial Hygienists

bw = body weight

bw/day = body weight/day

EC x = Effect Concentration associated with x% response

GLP = Good Laboratory Practice

IARC = International Agency for Research of Cancer

LC50 = 50% Lethal concentration - Concentration of a chemical in air or a chemical in water which causes the death of 50% (one half) of a group of test animals

LD50 = 50% Lethal Dose - Chemical amount, given at once, which causes the death of 50% (one half) of a group of test animals

LL = Lethal Loading

NIOSH = National Institute of Occupational Safety and Health

NOAEL = No Observed Adverse Effect Level

NOEC = No Observed Effect Concentration

NOEL = No Observed Effect Level

OECD = Organization for Economic Co-operation and Development

OSHA = Occupational Safety and Health Administration

UVCB = Substance of unknown or Variable composition, Complex reaction products or Biological material

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

dw = dry weight

fw = fresh water

mw = marine water

or = occasional release

Legend Section 8

TWA: Time Weight Average

STEL: Short Time Exposure Limit

PEL: Permissible exposure limit

REL: Recommended exposure limit

TLV: Threshold Limit Values

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Sensitizer

*

Skin designation

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**	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 the Safety Data Sheet

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