



Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Reference number: LUK1606008
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Name : Lucas Complete Engine Treatment
Product code :

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 : Lubricant

1.2.2. Uses advised against

Restrictions on use : No data available

1.3. Details of the supplier of the safety data sheet

Supplier

Lucas Oil Products UK Ltd
Unit 4 Cunliffe Drive
Llangefni Industrial Estate
LL77 7JA Llangefni
Anglesey - UK
T 01248 723 666
Info@LucasOil.co.uk - www.lucasoil.co.uk

Supplier

Lucas Oil Products Europe Ltd
Block 3 Harcourt Centre
Harcourt Road
Dublin 2
Ireland
T +44 344 225 5400
info@lucasoil.eu.com www.lucasoil.eu.com

1.4. Emergency telephone number

Emergency number : ChemTel
1-800-255-3924 (USA, Canada, Puerto Rico, US V.I.)
+1-813-248-0585 (International)

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals- 24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX Llandough	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA Edinburgh	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB Newcastle	0344 892 0111	Only for healthcare professionals

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Only for healthcare professionals

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Aspiration hazard, Category 1

H304

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No data available

2.2. Label elements

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

Hazard pictograms (CLP: Classification, Labelling, Packaging.)



GHS08

Signal word (CLP)

: Danger

Contains

: Distillates (petroleum), hydrotreated light

Hazard statements (CLP)

: H304 - May be fatal if swallowed and enters airways.

Precautionary statements (CLP)

: P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read carefully and follow all instructions.

P301+P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or 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.

Child-resistant fastening

: Applicable

Tactile warning

: Applicable

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

Component	
Propylene oxide (75-56-9)	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
Benzene (71-43-2)	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
Toluene (108-88-3)	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
Methanol (67-56-1)	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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Component	
Propylene oxide(75-56-9)	The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated light	CAS-No.: 64742-47-8 EC-No.: 265-149-8 EC Index-No.: 649-422-00-2	30 - 50	Asp. Tox. 1, H304
Phenol, (dimethylamino)methyl-,polyisobutylene derivs.	EC-No.: polymer	0.9 – 4.5	Aquatic Chronic 3, H412
Naphthalene substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit	CAS-No.: 91-20-3 EC-No.: 202-049-5 EC Index-No.: 601-052-00-2	< 0.1	Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ethylbenzene substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit	CAS-No.: 100-41-4 EC-No.: 202-849-4 EC Index-No.: 601-023-00-4	< 0.1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 STOT RE 2, H373 Asp. Tox. 1, H304
Propylene oxide substance listed as REACH Candidate (Methyloxirane (Propylene oxide)) substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit	CAS-No.: 75-56-9 EC-No.: 200-879-2 EC Index-No.: 603-055-00-4	< 0.1	Flam. Liq. 1, H224 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1B, H350 STOT SE 3, H335
Benzene substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit (Note E (obsolete))	CAS-No.: 71-43-2 EC-No.: 200-753-7 EC Index-No.: 601-020-00-8	< 0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 STOT RE 1, H372 Asp. Tox. 1, H304
Toluene substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit	CAS-No.: 108-88-3 EC-No.: 203-625-9 EC Index-No.: 601-021-00-3	< 0.1	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 3, H412
Ethylene oxide substance with national workplace exposure limit(s) (IE, GB); substance with a Community workplace exposure limit (Note U)	CAS-No.: 75-21-8 EC-No.: 200-849-9 EC Index-No.: 603-023-00-X	< 0.1	Press. Gas Flam. Gas 1, H220 Carc. 1B, H350 Muta. 1B, H340 Repr. 1B, H360Fd Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Oral), H301 STOT SE 3, H335

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
			STOT SE 3, H336 STOT RE 1, H372 Skin Corr. 1, H314 Eye Dam. 1, H318
Methanol	CAS-No.: 67-56-1 EC-No.: 200-659-6 EC Index-No.: 603-001-00-X	< 0.1	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370

Specific concentration limits		
Name	Product identifier	Specific concentration limits
Methanol	CAS-No.: 67-56-1 EC-No.: 200-659-6 EC Index-No.: 603-001-00-X	(3 ≤C < 10) STOT SE 2, H371 (10 ≤C < 100) STOT SE 1, H370

Note E : Substances with specific effects on human health (see Chapter 4 of Annex VI to Directive 67/548/EEC) that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word 'Also'. (obsolete)

Note U (Table 3): When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If medical advice is needed, have product container or label at hand. Never give anything by mouth to an unconscious person.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Gently wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
- First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing.
- First-aid measures after ingestion : Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Risk of aspiration pneumonia. If vomiting occurs have person lean forward.

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

- Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Abdominal cramps. Risk of aspiration 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 : Carbon dioxide. Dry chemical. Foam.
- 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

- Fire hazard : Combustible liquid. Flammable vapours may accumulate in the container. Heavier than air, vapours may travel long distances along ground, ignite and flash back to source.
- Explosion hazard : May form flammable/explosive vapour-air mixture. Flammable vapours heavier than air/can accumulate.

5.3. Advice for firefighters

- Firefighting instructions : Cool adjacent structures and containers with water spray to protect and prevent ignition.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flammable resistant/retardant clothing. EN469.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment : Refer to section 8.2.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Refer to section 8.2.
Emergency procedures : Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak if safe to do so.

Methods for cleaning up : Absorb and/or contain spill with inert material, then place in suitable container.

6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable. Keep away from Sources of ignition. No smoking. Flammable vapours heavier than air/can accumulate. Vapour could travel to source of ignition and flash back.

Precautions for safe handling : No open flames. No smoking. Avoid all eye and skin contact and do not breathe vapour and mist. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety procedures.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep in fireproof place. Keep container closed when not in use.

Incompatible products : Oxidizer.

Incompatible materials : Heat sources.

Heat and ignition sources : Keep away from heat, sparks and flame.

Prohibitions on mixed storage : Incompatible materials.

Storage area : Store in dry, cool, well-ventilated area.

7.3. Specific end use(s)

Cleaner. Lubricant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Naphthalene (91-20-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Naphthalene
IOEL TWA	50 mg/m ³
IOEL TWA [ppm]	10 ppm
Notes	(Year of adoption 2010)

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Naphthalene (91-20-3)	
Regulatory reference	COMMISSION DIRECTIVE 91/322/EEC; SCOEL Recommendations
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	50 mg/m ³
OEL (8 hours ref) (ppm)	10 ppm
OEL (15 min ref) (mg/m ³)	75 mg/m ³
OEL (15 min ref) (ppm)	15 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	53 mg/m ³
WEL TWA (ppm)	10 ppm
WEL STEL (mg/m ³)	80 mg/m ³
WEL STEL (OEL STEL) [ppm]	15 ppm
Remark	The UK Advisory Committee on Toxic Substances has expressed concern that, for these OELs, health may not be adequately protected because of doubts that the limit was not soundly-based. These OELs were included in the published UK 2002 list and its 2003 supplement, but are omitted from the published 2005 list.
ethylbenzene (100-41-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ethylbenzene
IOEL TWA	442 mg/m ³
IOEL TWA [ppm]	100 ppm
IOELV STEL (mg/m ³)	884 mg/m ³
IOELV STEL (ppm)	200 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	442 mg/m ³
OEL (8 hours ref) (ppm)	100 ppm
OEL (15 min ref) (mg/m ³)	884 mg/m ³
OEL (15 min ref) (ppm)	200 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	441 mg/m ³
WEL TWA (ppm)	100 ppm
WEL STEL (mg/m ³)	552 mg/m ³
WEL STEL (OEL STEL) [ppm]	125 ppm
Remark	(Sk)
Propylene oxide (75-56-9)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	1,2-Epoxypropane
IOEL TWA	2.4 mg/m ³ (BOEL)
Notes	SCOEL Recommendations (2010)

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Propylene oxide (75-56-9)	
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	1,2-Epoxypropane
BOEL TWA	2.4 mg/m ³
BOEL TWA [ppm]	1 ppm
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Biological Limit Value (BLV)	
Local name	Propylene oxide
BLV	1.3 Parameter: N-(3-hydroxypropyl) valine - Medium: blood
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	12 mg/m ³
OEL (8 hours ref) (ppm)	5 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	12 mg/m ³
WEL TWA (ppm)	5 ppm
Remark	(Carc)
Benzene (71-43-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Benzene
IOEL TWA	3.25 mg/m ³
IOEL TWA [ppm]	1 ppm
Notes	Skin
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Benzene
BOEL TWA	3.25 mg/m ³
BOEL TWA [ppm]	1 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Biological Limit Value (BLV)	
Local name	Benzene
BLV	28 µg/l Parameter: benzene - Medium: blood - Sampling time: immediately end of shift 46 µg/g creatinine Parameter: phenylmercapturic - Medium: urine - Sampling time: end of exposure/shift
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	3 mg/m ³
OEL (8 hours ref) (ppm)	1 ppm
United Kingdom - Occupational Exposure Limits	

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Benzene (71-43-2)	
WEL TWA (mg/m ³)	3.25 mg/m ³
WEL TWA (ppm)	1 ppm
Remark	Carc, Sk
Toluene (108-88-3)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Toluene
IOEL TWA	192 mg/m ³
IOEL TWA [ppm]	50 ppm
IOELV STEL (mg/m ³)	384 mg/m ³
IOELV STEL (ppm)	100 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	192 mg/m ³
OEL (8 hours ref) (ppm)	50 ppm
OEL (15 min ref) (mg/m ³)	384 mg/m ³
OEL (15 min ref) (ppm)	100 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	191 mg/m ³
WEL TWA (ppm)	50 ppm
WEL STEL (mg/m ³)	384 mg/m ³
WEL STEL (OEL STEL) [ppm]	100 ppm
Remark	(Sk)
Ethylene oxide (75-21-8)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ethylene oxide
IOEL TWA	1.8 mg/m ³ (BOEL)
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
EU - Binding Occupational Exposure Limit (BOEL)	
Local name	Ethylene oxide
BOEL TWA	1.8 mg/m ³
BOEL TWA [ppm]	1 ppm
Notes	Skin (Substantial contribution to the total body burden via dermal exposure possible)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	10 mg/m ³
OEL (8 hours ref) (ppm)	5 ppm
United Kingdom - Occupational Exposure Limits	

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Ethylene oxide (75-21-8)	
WEL TWA (mg/m ³)	9.2 mg/m ³
WEL TWA (ppm)	5 ppm
Remark	(Carc)
Methanol (67-56-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Methanol
IOEL TWA	260 mg/m ³
IOEL TWA [ppm]	200 ppm
Notes	Skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	260 mg/m ³
OEL (8 hours ref) (ppm)	200 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	266 mg/m ³
WEL TWA (ppm)	200 ppm
WEL STEL (mg/m ³)	333 mg/m ³
WEL STEL (OEL STEL) [ppm]	250 ppm
Remark	(Sk)

8.1.2. Recommended monitoring procedures

No data available

8.1.3. Air contaminants formed

No data available

8.1.4. DNEL and PNEC

No data available

8.1.5. Control banding

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Avoid splashing. Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. EN 166

8.2.2.2. Skin protection

Hand protection:

Use rubber gloves. nitrile rubber gloves. neoprene gloves. EN 374

8.2.2.3. Respiratory protection

Respiratory protection:

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Disposable half mask. Use an approved respirator equipped with oil/mist cartridges. Appropriate self-contained breathing apparatus may be required. EN 136/140

8.2.2.4. Thermal hazards

No data available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Prevent leakage or spillage. Prevent contaminated water run-off.

Other information:

Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: amber.
Odour	: petroleum.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Combustible liquid
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: ≥ 71.1 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 8.52 mm ² /s @ 40 °C
Solubility	: insoluble in water.
Log Kow	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: 0.837
Relative vapour density at 20 °C	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle aggregation state	: Not applicable
Particle agglomeration state	: Not applicable
Particle specific surface area	: Not applicable
Particle dustiness	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No data available

9.2.2. Other safety characteristics

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Combustible liquid. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

10.4. Conditions to avoid

Open flame. Overheating. Direct sunlight. Heat. Sparks.

10.5. Incompatible materials

Oxidizer.

10.6. Hazardous decomposition products

May release flammable gases. Incomplete combustion will generate : Carbon oxides (CO, CO₂). Aldehydes. hydrogen sulphide. Mercaptans.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Distillates (petroleum), hydrotreated light (64742-47-8)	
LD50 Oral rat	> 5000 mg/kg
LD50 Dermal rabbit	> 2000 mg/kg
LC50 Inhalation rat (dust/mist)	> 5.28 mg/l/4h
Naphthalene (91-20-3)	
LD50 Oral rat	490 mg/kg
LD50 Dermal rabbit	20 g/kg
LC50 Inhalation rat	> 340 mg/m ³ 1 hour
ethylbenzene (100-41-4)	
LD50 Oral rat	3500 mg/kg
LD50 Dermal rabbit	17.8 ml/kg
LC50 Inhalation rat [ppm]	< 1500 ppm
Benzene (71-43-2)	
LD50 Oral rat	5970 mg/kg OECD Guideline 401 (Acute Oral Toxicity)
LD50 Dermal rabbit	> 9.4 mg/kg OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation rat	43.7 mg/l/4h OECD Guideline 403 (Acute Inhalation Toxicity)
Toluene (108-88-3)	
LD50 Oral rat	5580 mg/kg EU Method B.
LC50 Inhalation rat	> 20 mg/l/4h OECD Guideline 403
Ethylene oxide (75-21-8)	
LD50 Oral rat	330 mg/kg bodyweight
LC50 Inhalation rat [ppm]	1741 ppm/4h
Methanol (67-56-1)	
LD50 Oral rat	≥ 2528 mg/kg
LD50 Dermal rabbit	17100 mg/kg
LC50 Inhalation rat	43.68 mg/l 6 h

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Naphthalene (91-20-3)	
IARC group	2B - Possibly carcinogenic to humans
ethylbenzene (100-41-4)	
IARC group	2B - Possibly carcinogenic to humans
Propylene oxide (75-56-9)	
IARC group	2B - Possibly carcinogenic to humans
Benzene (71-43-2)	
IARC group	1 - Carcinogenic to humans
Toluene (108-88-3)	
IARC group	3 - Not classifiable
Ethylene oxide (75-21-8)	
IARC group	1 - Carcinogenic to humans
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
Propylene oxide (75-56-9)	
STOT-single exposure	May cause respiratory irritation.
Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.
Ethylene oxide (75-21-8)	
STOT-single exposure	May cause respiratory irritation. May cause drowsiness or dizziness.
Methanol (67-56-1)	
STOT-single exposure	Causes damage to organs (eyes, optic nerve, gastro-intestinal tract, central nervous system, respiratory system, liver, spleen, kidneys, blood).
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
ethylbenzene (100-41-4)	
NOAEL (oral, rat, 90 days)	75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
STOT-repeated exposure	May cause damage to organs (hearing organs) through prolonged or repeated exposure.
Benzene (71-43-2)	
LOAEL (oral, rat, 90 days)	25 mg/kg bodyweight/day OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEL (oral, rat, 90 days)	100 mg/kg bodyweight/day OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
NOAEC (inhalation, rat, gas, 90 days)	30 ppmv/6h/day OECD Guideline 412 / 413
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Toluene (108-88-3)	
LOAEC (inhalation, rat, gas, 90 days)	1250 ppmv/6h/day
NOAEL (oral, rat, 90 days)	625 mg/kg bodyweight/day EU Method B.26.
NOAEC (inhalation, rat, gas, 90 days)	300 ppmv/6h/day OECD Guideline 453
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Ethylene oxide (75-21-8)	
Affected organs	nervous system
Methanol (67-56-1)	
LOAEL, Oral, monkey	2340 mg/kg bw/day (3 days)
Aspiration hazard	: May be fatal if swallowed and enters airways.
Lucas Complete Engine Treatment	
Viscosity, kinematic	8.52 mm ² /s @ 40 °C

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No ecotoxicological data about this product are known.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

Naphthalene (91-20-3)	
LC50 fish 1	0.91 (0.91 – 2.82) mg/l <i>Oncornhynchus mykiss</i>
LC50 - Fish [2]	1 (1 – 6.5) mg/l <i>Pimpephales promelas</i>
EC50 crustacea	1.96 mg/l
EC50 other aquatic organisms 1	33 mg/l
LOEC (acute)	3.2 mg/l
NOEC (acute)	1.8 mg/l
ethylbenzene (100-41-4)	
LC50 fish 1	5.1 mg/l
EC50 other aquatic organisms 1	7.7 mg/l
EC50 72h - Algae [1]	5.4 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>)
EC50 72h - Algae [2]	4.9 mg/l Test organisms (species): <i>Skeletonema costatum</i>
EC50 96h - Algae [1]	3.6 mg/l Test organisms (species): <i>Pseudokirchneriella subcapitata</i> (previous names: <i>Raphidocelis subcapitata</i> , <i>Selenastrum capricornutum</i>)
EC50 96h - Algae [2]	7.7 mg/l Test organisms (species): <i>Skeletonema costatum</i>
LOEC (chronic)	1.7 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d'
NOEC (acute)	3.3 mg/l
NOEC (chronic)	0.96 mg/l Test organisms (species): <i>Ceriodaphnia dubia</i> Duration: '7 d'
Benzene (71-43-2)	
LC50 fish 1	5.3 mg/l OECD Guideline 203 (Fish, Acute Toxicity Test)
EC50 crustacea	10 mg/l OECD Guideline 202 (<i>Daphnia</i> sp. Acute Immobilisation Test)
ErC50 algae	100 mg/l OECD Guideline 201 (Alga, Growth Inhibition Test)
LOEC (chronic)	1.6 mg/l 32 d
NOEC chronic crustacea	3 mg/l

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Toluene (108-88-3)	
LC50 fish 1	5.5 mg/l
EC50 - Crustacea [2]	3.78 mg/l
ErC50 algae	134 mg/l
LOEC (chronic)	2.77 mg/l
NOEC chronic fish	1.39 mg/l
NOEC chronic crustacea	0.74 mg/l
Methanol (67-56-1)	
LC50 fish 1	15400 mg/l 96 h <i>Lepomis macrochirus</i>
EC50 crustacea	18260 mg/l 96 h
LOEC (chronic)	11850 mg/l 200 h <i>Oryzias latipes</i>

12.2. Persistence and degradability

Lucas Complete Engine Treatment	
Persistence and degradability	Not established.
ethylbenzene (100-41-4)	
Persistence and degradability	Not established.
Benzene (71-43-2)	
Persistence and degradability	Readily biodegradable.
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable.
Ethylene oxide (75-21-8)	
Persistence and degradability	Readily biodegradable.
Methanol (67-56-1)	
Persistence and degradability	Readily biodegradable.
Biodegradation	69 – 97 %

12.3. Bioaccumulative potential

Lucas Complete Engine Treatment	
Bioaccumulative potential	Not established.
Distillates (petroleum), hydrotreated light (64742-47-8)	
Log Kow	2.1 – 5
Bioaccumulative potential	Bioaccumulative potential.
Naphthalene (91-20-3)	
BCF fish 1	≥ 427 (427 – 1158)
ethylbenzene (100-41-4)	
Bioaccumulative potential	Not established.
Benzene (71-43-2)	
BCF fish 1	3.5 – 4.4
Bioconcentration factor (BCF REACH)	0
Log Pow	1.83

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Toluene (108-88-3)	
Bioconcentration factor (BCF REACH)	90
Log Kow	2.73
Ethylene oxide (75-21-8)	
Log Pow	-0.3

12.4. Mobility in soil

Lucas Complete Engine Treatment	
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

Lucas Complete Engine Treatment	
PBT: not yet assessed	
vPvB: not yet assessed	

Component	
Propylene oxide (75-56-9)	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
Benzene (71-43-2)	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
Toluene (108-88-3)	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
Methanol (67-56-1)	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. Endocrine disrupting properties

No data available

12.7. Other adverse effects

Additional information : No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Sewage disposal recommendations	: Do not dispose of waste into sewer.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Hazardous waste due to toxicity.
European List of Waste (LoW) code	: For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.
HP Code	: HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.

SECTION 14: Transport information

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

14.1. UN number or ID number

UN-No. (ADR)	: Not regulated.
UN-No. (IMDG)	: Not regulated.
UN-No. (IATA)	: Not regulated.
UN-No. (ADN)	: Not regulated.
UN-No. (RID)	: Not regulated.

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated.
Proper Shipping Name (IMDG)	: Not regulated.
Proper Shipping Name (IATA)	: Not regulated.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Proper Shipping Name (ADN) : Not regulated.
Proper Shipping Name (RID) : Not regulated.

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated.

IMDG

Transport hazard class(es) (IMDG) : Not regulated.

IATA

Transport hazard class(es) (IATA) : Not regulated.

ADN

Transport hazard class(es) (ADN) : Not regulated.

RID

Transport hazard class(es) (RID) : Not regulated.

14.4. Packing group

Packing group (ADR) : Not regulated.
Packing group (IMDG) : Not regulated.
Packing group (IATA) : Not regulated.
Packing group (ADN) : Not regulated.
Packing group (RID) : Not regulated.

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

Inland waterway transport

Not regulated.

Rail transport

Not regulated.

14.7. Maritime transport in bulk according to IMO instruments

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

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
5.	Benzene	Benzene
28.	Propylene oxide ; Benzene ; Ethylene oxide	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
29.	Propylene oxide ; Benzene ; Ethylene oxide	Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively.
3(a)	ethylbenzene ; Propylene oxide ; Benzene ; Toluene ; Methanol	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F
3(b)	Lucas Complete Engine Treatment ; Distillates (petroleum), hydrotreated light ; ethylbenzene ; Propylene oxide ; Benzene ; Toluene ; Methanol	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Toluene	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1
40.	ethylbenzene ; Propylene oxide ; Benzene ; Toluene ; Methanol	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.
48.	Toluene	Toluene
69.	Methanol	Methanol
72.	Benzene	The substances listed in column 1 of the Table in Appendix 12

Contains substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Methyloxirane (Propylene oxide) (EC 200-879-2, CAS 75-56-9)

Contains no REACH Annex XIV substances

Substances subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals: Benzene (71-43-2), Ethylene oxide (Oxirane) (75-21-8)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

All ingredients are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Indication of changes			
Section	Changed item	Change	Comments
	SDS EU format	Modified	

Abbreviations and acronyms	
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Abbreviations and acronyms	
	STEL: Short Term Exposure Limits
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

Data sources : ACGIH (American Conference of Government Industrial Hygienists). Component Supplier SDSs. European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. Manufacturer Information. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard.

Other information : None.

Full text of H- and EUH-statements	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
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 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Gas 1	Flammable gases, Category 1
Flam. Liq. 1	Flammable liquids, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
H220	Extremely flammable gas.
H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

Lucas Complete Engine Treatment

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878

Full text of H- and EUH-statements	
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H360Fd	May damage fertility. Suspected of damaging the unborn child.
H361d	Suspected of damaging the unborn child.
H370	Causes damage to organs.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Muta. 1B	Germ cell mutagenicity, Category 1B
Press. Gas	Gases under pressure
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
Skin Corr. 1	Skin corrosion/irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 1	Specific target organ toxicity — single exposure, Category 1
STOT SE 2	Specific target organ toxicity — Single exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Asp. Tox. 1	H304	Calculation method

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.