



Lucas Extreme Duty Marine Engine Oil Semi Synthetic 20W-50

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 2/18/2022 Revision date: 3/15/2022 Version: 2.0

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

1.1. Product identifier

Name : Lucas Extreme Duty Marine Engine Oil Semi Synthetic 20W-50
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 additional information

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

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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

Serious eye damage/eye irritation, Category 1	H318
Skin sensitisation, Category 1	H317
Hazardous to the aquatic environment — Chronic Hazard, Category 3	H412
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.)



GHS05

GHS07

Signal word (CLP)

: Danger

Contains

: Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts, Oxymolybdenum di-2-ethylhexyl phosphorodithioate, sulfurized

Hazard statements (CLP)

: H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP)

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

P102 - Keep out of reach of children.

P103 - Read label before use.

P261 - Avoid breathing mist, spray, vapours.

P280 - Wear protective clothing, eye protection, protective gloves.

P305+P351+P338+P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Unknown hazards to the aquatic environment (CLP)

: Contains 0.5 % of components with unknown hazards to the aquatic environment

Child-resistant fastening

: Not applicable

Tactile warning

: Not applicable

2.3. Other hazards

Other hazards not contributing to the classification : No additional hazards have been identified.

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

Component	
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (64742-54-7)	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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (KV > 20.5 cSt) substance with a Community workplace exposure limit (Note L)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627-0018	50 – 70	Not classified
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) substance with a Community workplace exposure limit (Note L)	CAS-No.: 64742-54-7 EC-No.: 265-157-1 EC Index-No.: 649-467-00-8 REACH-no: 01-2119484627-0018	0 – 14	Asp. Tox. 1, H304
1-Decene, homopolymer, hydrogenated	CAS-No.: 68037-01-4 EC-No.: 212-819-2	5 – 10	Asp. Tox. 1, H304
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts	CAS-No.: 84605-29-8 EC-No.: 283-392-8	0.5 – 5	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 2, H411
Oxymolybdenum di-2-ethylhexyl phosphorodithioate, sulfurized	CAS-No.: 72030-25-2 EC-No.: 615-708-0	0.75 – 3.75	Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts	CAS-No.: 68649-42-3 EC-No.: 272-028-3	< 3	Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 3, H412
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene	CAS-No.: 68411-46-1 EC-No.: 270-128-1	< 2	STOT RE 2, H373 Aquatic Chronic 3, H412
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters	CAS-No.: 125643-61-0 EC-No.: 406-040-9 EC Index-No.: 607-530-00-7	< 2	Aquatic Chronic 4, H413
Mineral oil (DMSO <3%) substance with national workplace exposure limit(s) (IE); substance with a Community workplace exposure limit	CAS-No.: mixture	0.01 – 0.5	Not classified
Diphenylamine substance with national workplace exposure limit(s) (IE, GB)	CAS-No.: 122-39-4 EC-No.: 204-539-4 EC Index-No.: 612-026-00-5	< 0.2	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Acute Tox. 3 (Inhalation:dust,mist), H331 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
4-methylpentan-2-ol substance with national workplace exposure limit(s) (IE, GB)	CAS-No.: 108-11-2 EC-No.: 203-551-7 EC Index-No.: 603-008-00-8	0.001 – 0.05	Flam. Liq. 3, H226 STOT SE 3, H335
1-decene	CAS-No.: 872-05-9 EC-No.: 212-819-2	< 0.01	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Isopropanol substance with national workplace exposure limit(s) (IE, GB)	CAS-No.: 67-63-0 EC-No.: 200-661-7 EC Index-No.: 603-117-00-0	< 0.005	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336

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Specific concentration limits		
Name	Product identifier	Specific concentration limits
4-methylpentan-2-ol	CAS-No.: 108-11-2 EC-No.: 203-551-7 EC Index-No.: 603-008-00-8	(25 ≤C < 100) STOT SE 3, H335

Note L: The harmonised classification as a carcinogen applies unless it can be shown that the substance contains less than 3 % of dimethyl sulphoxide extract as measured by IP 346 ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions – Dimethyl sulphoxide extraction refractive index method" Institute of Petroleum, London), in which case a classification in accordance with Title II of this Regulation shall be performed also for that hazard class.

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 : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin thoroughly with mild soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/effects after skin contact : May cause an allergic skin reaction. Skin rash/inflammation.
- Symptoms/effects after eye contact : Causes serious eye burns.

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

Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Burning produces irritating, toxic and noxious fumes.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all eye and skin contact and do not breathe vapour and mist. Use personal protective equipment as required.

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.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

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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.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid all eye and skin contact and do not breathe vapour and mist. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Keep only in the original container in a cool well ventilated place.
- Incompatible products : Strong oxidizers. Strong bases. Strong acids.

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (KV > 20.5 cSt) (64742-54-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	5 mg/m ³ 8-h (inhalable)
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (64742-54-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	5 mg/m ³ 8-h (inhalable)
Diphenylamine (122-39-4)	
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	10 mg/m ³
OEL (15 min ref) (mg/m ³)	20 mg/m ³
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	10 mg/m ³
WEL STEL (mg/m ³)	20 mg/m ³
Mineral oil (DMSO <3%) (mixture)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	5 mg/m ³ 8 h
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	5 mg/m ³ 8 h
Isopropanol (67-63-0)	
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (ppm)	200 ppm

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Isopropanol (67-63-0)	
OEL (15 min ref) (ppm)	400 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	999 mg/m ³
WEL TWA (ppm)	400 ppm
WEL STEL (mg/m ³)	1250 mg/m ³
WEL STEL (OEL STEL) [ppm]	500 ppm
4-methylpentan-2-ol (108-11-2)	
Ireland - Occupational Exposure Limits	
OEL (8 hours ref) (mg/m ³)	100 mg/m ³
OEL (8 hours ref) (ppm)	25 ppm
OEL (15 min ref) (mg/m ³)	160 mg/m ³
OEL (15 min ref) (ppm)	40 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m ³)	106 mg/m ³
WEL TWA (ppm)	25 ppm
WEL STEL (mg/m ³)	170 mg/m ³
WEL STEL (OEL STEL) [ppm]	40 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 creating mist or spray. Avoid splashing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

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. EN166

8.2.2.2. Skin protection

Skin and body protection:

Long sleeved protective clothing

Hand protection:

Wear suitable gloves resistant to chemical penetration. Nitrile rubber gloves. neoprene. EN374

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8.2.2.3. Respiratory protection

Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Approved organic vapour respirator. Appropriate dust or mist respirator should be used if airborne particles are generated when handling this material. EN 12083

8.2.2.4. Thermal hazards

No data available

8.2.3. Environmental exposure controls

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Not available
Odour	: Not available
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flammability	: Not available
Explosive limits	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: 215 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: 155 mm ² /s @ 40C
Solubility	: Not available
Log Kow	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: Not available
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

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

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10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong bases.

10.6. Hazardous decomposition products

None under normal use.

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 heavy paraffinic (DMSO < 3%) (KV > 20.5 cSt) (64742-54-7)	
LD50 Oral rat	> 5000 mg/kg
LD50 Dermal rabbit	> 2000 mg/kg
LC50 Inhalation rat	> 5.53 mg/l/4h
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (64742-54-7)	
LD50 Oral rat	> 5000 mg/kg
LD50 Dermal rabbit	> 2000 mg/kg
LC50 Inhalation rat	> 5.53 mg/l/4h
1-Decene, homopolymer, hydrogenated (68037-01-4)	
LD50 Oral rat	> 5000 mg/kg bodyweight
LD50 Dermal rat	> 2000 mg/kg
LC50 Inhalation rat (dust/mist)	> 5.2 mg/l/4h
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene (68411-46-1)	
LD50 Oral rat	> 5000 mg/kg
LD50 Dermal rat	> 2000 mg/kg
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)	
LD50 Oral rat	26100 mg/kg
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)	
LD50 Oral rat	> 2000 mg/kg
LD50 Dermal rat	> 2000 mg/kg
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts (84605-29-8)	
LD50 Oral rat	3100 mg/kg
LD50 Dermal rat	> 2002 mg/kg
LC50 Inhalation rat	> 2.3 mg/l/4h
Mineral oil (DMSO <3%) (mixture)	
LD50 Oral rat	> 5000 mg/kg
LD50 Dermal rabbit	> 5000 mg/kg
LC50 Inhalation rat	> 5000 mg/m ³ 4 h
Isopropanol (67-63-0)	
LD50 Oral rat	5840 mg/kg

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Isopropanol (67-63-0)	
LD50 Dermal rabbit	16.4 ml/kg
LC50 Inhalation rat [ppm]	> 10000 ppm/4h
4-methylpentan-2-ol (108-11-2)	
LD50 Oral rat	2590 mg/kg
LD50 Dermal rabbit	2870 mg/kg
LC50 Inhalation rat	> 16000 mg/m ³ 4 h
Oxymolybdenum di-2-ethylhexyl phos-phorodithioate, sulfurized (72030-25-2)	
LD50 Oral rat	6.81 ml/kg
LD50 Dermal rabbit	10 ml/kg
1-decene (872-05-9)	
LD50 Oral rat	> 5600 mg/kg
LD50 Dermal rabbit	> 2000 mg/kg
LC50 Inhalation rat (vapours)	> 20 mg/l/4h
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
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)
Isopropanol (67-63-0)	
IARC group	3 - Not classifiable
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)
Isopropanol (67-63-0)	
STOT-single exposure	May cause drowsiness or dizziness.
4-methylpentan-2-ol (108-11-2)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene (68411-46-1)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Diphenylamine (122-39-4)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Lucas Extreme Duty Marine Engine Oil Semi Synthetic 20W-50	
Viscosity, kinematic	155 mm ² /s @ 40C

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

- Unknown hazards to the aquatic environment (CLP) : Contains 0.5 % of components with unknown hazards to the aquatic environment
- Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
- Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

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Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (KV > 20.5 cSt) (64742-54-7)	
EC50 crustacea	> 10000 mg/l
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (64742-54-7)	
EC50 crustacea	> 10000 mg/l
1-Decene, homopolymer, hydrogenated (68037-01-4)	
LC50 fish 1	> 750 mg/l
EC50 crustacea	190 mg/l
NOEC (acute)	1000 mg/l
Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts (68649-42-3)	
LC50 fish 1	10 (10 – 35) mg/l Pimephales promelas OECD GDL 203 (water accomodated fraction)
EC50 crustacea	1 (1 – 1.5) mg/l OECD GDL 202 (water accomodated fraction)
NOEC (acute)	10 mg/l Pimephales promelas OECD GDL 203 (water accomodated fraction)
NOEC chronic crustacea	< 1 mg/l
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)	
LC50 fish 1	> 74 mg/l
EC50 crustacea	4.3 mg/l
ErC50 algae	> 3 mg/l
NOEC (acute)	100 mg/l
Diphenylamine (122-39-4)	
LC50 fish 1	4.14 ppm
EC50 crustacea	2.46 mg/l
EC50 other aquatic organisms 1	0.36 mg/l
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts (84605-29-8)	
LC50 fish 1	4.5 mg/l
EC50 crustacea	23 mg/l
ErC50 algae	21 mg/l
NOEC (acute)	1.8 mg/l
NOEC chronic crustacea	0.8 mg/l
Isopropanol (67-63-0)	
LC50 fish 1	10000 mg/l
Oxymolybdenum di-2-ethylhexyl phos-phorodithioate, sulfurized (72030-25-2)	
LC50 fish 1	100 mg/l 96 h
EC50 crustacea	100 mg/l 48 h
EC50 72h - Algae [1]	100 mg/l 72 h
1-decene (872-05-9)	
LC50 fish 1	5.6 mg/l 96 h
EC50 crustacea	0.56 – 1 mg/l 48 h

12.2. Persistence and degradability

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1-Decene, homopolymer, hydrogenated (68037-01-4)	
Persistence and degradability	Readily biodegradable.
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)	
Persistence and degradability	Not readily biodegradable. May cause long-term adverse effects in the environment.
Diphenylamine (122-39-4)	
Persistence and degradability	Not established.
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts (84605-29-8)	
Biodegradation	1.5 % 28 days
Isopropanol (67-63-0)	
Persistence and degradability	Readily biodegradable.
Oxymolybdenum di-2-ethylhexyl phos-phorodithioate, sulfurized (72030-25-2)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	11 % 28 d
1-decene (872-05-9)	
Persistence and degradability	Readily biodegradable.
Biodegradation	> 67 % 28 d

12.3. Bioaccumulative potential

1-Decene, homopolymer, hydrogenated (68037-01-4)	
Bioaccumulative potential	Not expected to bioaccumulate.
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters (125643-61-0)	
Bioaccumulative potential	Bioaccumulative potential. Not established.
Diphenylamine (122-39-4)	
Bioaccumulative potential	Not established.
Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts (84605-29-8)	
Log Kow	0.56
Isopropanol (67-63-0)	
Bioaccumulative potential	Not expected to bioaccumulate.
4-methylpentan-2-ol (108-11-2)	
Log Pow	1.43
1-decene (872-05-9)	
Log Pow	5.12

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

Component	
Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) (64742-54-7)	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

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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.
Ecology - waste materials	: Avoid release to the environment.
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	: HP4 - "Irritant — skin irritation and eye damage:" waste which on application can cause skin irritation or damage to the eye. HP13 - "Sensitising:" waste which contains one or more substances known to cause sensitising effects to the skin or the respiratory organs.

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.
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.
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IMDG

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

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

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

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

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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
3(a)	Isopropanol ; 4-methylpentan-2-ol ; 1-decene	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 Extreme Duty Marine Engine Oil Semi Synthetic 20W-50 ; Distillates (petroleum), hydrotreated heavy paraffinic (DMSO < 3%) ; Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts ; Isopropanol ; 4-methylpentan-2-ol ; Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene ; Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts ; 1-Decene, homopolymer, hydrogenated ; 1-decene ; Oxymolybdenum di-2-ethylhexyl phos-phorodithioate, sulfurized ; Solvent naphtha (petroleum), heavy arom.	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)	Lucas Extreme Duty Marine Engine Oil Semi Synthetic 20W-50 ; Phosphorodithioic acid, mixed O,O-bis(1,3-dimethylbutyl and iso-Pr) esters, zinc salts ; Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene ; Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts ; benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, C7-9-branched alkyl esters ; 1-decene ; Oxymolybdenum di-2-ethylhexyl phos-phorodithioate, sulfurized ; Solvent naphtha (petroleum), heavy arom.	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.	Isopropanol ; 4-methylpentan-2-ol ; 1-decene	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.

Contains no substance on the REACH candidate list

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: Diphenylamine (122-39-4)

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

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15.1.2. National regulations

No data available

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Abbreviations and acronyms	
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	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
	STEL: Short Term Exposure Limits
	TWA: Time Weighted Average

Data sources

: ACGIH (American Conference of Government Industrial Hygienists). 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. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

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 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment — Chronic Hazard, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment — Chronic Hazard, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.

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Full text of H- and EUH-statements	
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
Skin Sens. 1B	Skin sensitisation, category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]		
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
Aquatic Chronic 3	H412	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.