

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Trade name : Lucas Octane Booster 444ml
Product code : 40026

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Use of the substance/mixture : Fuel additives
Industrial use
Professional uses
Consumer use

1.2.2. Uses advised against

Restrictions on use : No additional information 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
United Kingdom
T 01248 723 666
Info@LucasOil.co.uk - www.lucasoil.co.uk

1.4. Emergency telephone number

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

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to GB CLP (SI 2019:720 as amended)**

Specific target organ toxicity – single exposure, Category 1	H370
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

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

Adverse physicochemical, human health and environmental effects

Causes damage to organs. May be fatal if swallowed and enters airways. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

2.2. Label elements**Labelling according to GB CLP (SI 2019:720 as amended)**

Hazard pictograms (GB CLP) :



GHS08

GHS09

Signal word (GB CLP) :

Danger

Contains :

Tricarbonyl(methylcyclopentadienyl)manganese; Solvent naphtha (petroleum), heavy arom.; Distillates (petroleum), hydrotreated light

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Hazard statements (GB CLP)	: H304 - May be fatal if swallowed and enters airways. H370 - Causes damage to organs. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (GB CLP)	: P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P273 - Avoid release to the environment. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER, a doctor. P331 - Do NOT induce vomiting. P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Labelling according to GB CLP (SI 2019:720 as amended)
Distillates (petroleum), hydrotreated light	CAS-No.: 64742-47-8 EC-No.: 265-149-8 UK Index-No.: 649-422-00-2	$\geq 40 - < 60$	Asp. Tox. 1, H304
Tricarbonyl(methylcyclopentadienyl)manganese	CAS-No.: 12108-13-3 EC-No.: 235-166-5	$\geq 2.5 - < 5$	Acute Tox. 3 (Oral), H301 (ATE=51.8 mg/kg bodyweight) Acute Tox. 1 (Dermal), H310 (ATE=5 mg/kg bodyweight) Acute Tox. 1 (Inhalation), H330 (ATE=0.076 mg/l/4h) STOT SE 1, H370 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Solvent naphtha (petroleum), heavy arom.	CAS-No.: 64742-94-5 EC-No.: 265-198-5 UK Index-No.: 649-424-00-3	$\geq 1 - < 5$	Asp. Tox. 1, H304
Benzene	CAS-No.: 71-43-2 EC-No.: 200-753-7 UK 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	CAS-No.: 108-88-3 EC-No.: 203-625-9 UK Index-No.: 601-021-00-3	< 0.1	Flam. Liq. 2, H225 Repr. 2, H361d Asp. Tox. 1, H304 STOT RE 2, H373 Skin Irrit. 2, H315 STOT SE 3, H336

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Name	Product identifier	%	Labelling according to GB CLP (SI 2019:720 as amended)
Ethylbenzene	CAS-No.: 100-41-4 EC-No.: 202-849-4 UK Index-No.: 601-023-00-4	< 0.1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 (ATE=1.5 mg/l/4h) Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304
Cumene	CAS-No.: 98-82-8 EC-No.: 202-704-5 UK Index-No.: 601-024-00-X	< 0.1	Flam. Liq. 3, H226 Carc. 1B, H350 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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 after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Wash skin thoroughly with mild soap and water. Take off contaminated clothing and wash it before reuse. Get medical attention if symptoms occur.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.
- First-aid measures after ingestion : If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting/risk of damage to lungs exceeds poisoning risk. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person.

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

- Symptoms/effects after inhalation : At high concentrations, the vapours can be irritating to the respiratory system.
- Symptoms/effects after skin contact : Rednesses. Itching. Swelling.
- Symptoms/effects after eye contact : Blurred vision. Redness, itching, tears.
- Symptoms/effects after ingestion : May be fatal if swallowed and enters airways. Ingestion may cause nausea and vomiting. Swallowing the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis.
- Chronic symptoms : Causes damage to organs.

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 : Dry powder. Carbon dioxide. Water spray. Foam. Use extinguishing agent suitable for surrounding fire.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Presents no particular fire or explosion hazard. Burning produces stinking and toxic fumes. In case of fire and/or explosion do not breathe fumes.
- Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon dioxide. Carbon monoxide.

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5.3. Advice for firefighters

- Firefighting instructions : Evacuate the danger area. Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers. Fight fire from safe distance and protected location. Use extinguishing media appropriate for surrounding fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flammable resistant/retardant clothing. Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Avoid all contact with skin, eyes, or clothing.

6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area. Avoid contact with skin and eyes. Avoid breathing vapours. Do not touch or walk on the spilled product. No action shall be taken without appropriate training or involving any personal risk.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment.
- Emergency procedures : Evacuate unnecessary personnel. Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Stop leak without risks if possible. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Caution : this product can cause the floor to be slippery.
- Methods for cleaning up : Move containers from spill area. Recover small spills with a suitable absorbent, like diatomaceous earth. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. Ventilate spillage area. Clean contaminated surfaces with an excess of water. Prevent entry to sewers and public waters.
- Other information : Dispose of via an authorised person/ licensed waste disposal contractor or by other suitable waste treatment techniques. Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Ensure good ventilation of the work station. Provide local exhaust or general room ventilation. Do not breathe vapours. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. 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. Wash contaminated clothing before reuse.

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7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Strong acids, Strong bases, Strong oxidizing agents, Store in a dry place. Keep away from food, drink and animal feedingstuffs. Keep container tightly closed. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store in accordance with local, regional, national or international regulation.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Benzene (71-43-2)	
United Kingdom - Occupational Exposure Limits	
Local name	Benzene
WEL TWA (OEL TWA)	3.25 mg/m ³ 1 ppm
Remark	Carc (Capable of causing cancer and/or heritable genetic damage), Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Toluene (108-88-3)	
United Kingdom - Occupational Exposure Limits	
Local name	Toluene
WEL TWA (OEL TWA)	191 mg/m ³ 50 ppm
WEL STEL (OEL STEL)	384 mg/m ³ 100 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Ethylbenzene (100-41-4)	
United Kingdom - Occupational Exposure Limits	
Local name	Ethylbenzene
WEL TWA (OEL TWA)	441 mg/m ³ 100 ppm
WEL STEL (OEL STEL)	552 mg/m ³ 125 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Cumene (98-82-8)	
United Kingdom - Occupational Exposure Limits	
Local name	Cumene
WEL TWA (OEL TWA)	125 mg/m ³
	25 ppm
WEL STEL (OEL STEL)	250 mg/m ³
	50 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Refer to all applicable national, international and local regulations or provisions. Workplace exposure - General requirements for the performance of procedures for the measurement of chemical agents. Workplace atmospheres. Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy. Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation. Ensure exposure is below occupational exposure limits (where available). Handle in accordance with good industrial hygiene and safety procedures. Avoid all unnecessary exposure.

8.2.2. Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.

8.2.2.1. Eye and face protection

Eye protection:

Safety glasses. ISO 16321-1

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing. Skin protection appropriate to the conditions of use should be provided

Hand protection:

Chemical resistant gloves (according to European standard ISO 374-1 or equivalent). Nitrile rubber gloves. Please follow the instructions related to the permeability and the penetration time provided by the manufacturer

8.2.2.3. Respiratory protection

Respiratory protection:

No respiratory protection needed under normal use conditions. Where excessive vapour, mist, or dust may result, use approved respiratory protection equipment. EN 149

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment. Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Gold. Amber.
Odour	: petroleum.
Odour threshold	: Not available
pH	: Not available
Melting point	: Not available
Freezing point	: Not available
Boiling point	: Not available
Flash point	: 76.67 °C
Explosive limits	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: Not available
Relative density	: Not available
Density	: 0.863 g/cm ³
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
Viscosity, kinematic	: 17.54 mm ² /s @ 40 °C
Explosive properties	: Not available

9.2. Other information

Particle characteristics : Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerisation: Will not occur.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Protect from sunlight. Overheating. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Lucas Octane Booster 444ml	
LD50 oral rat	3636 mg/kg
LD50 dermal rat	4753.82 mg/kg
LC50 Inhalation - Rat (Vapours)	417 mg/l/4h

Tricarbonyl(methylcyclopentadienyl)manganese (12108-13-3)	
LD50 oral rat	51.8 mg/kg
LD50 oral	58 mg/kg
LD50 dermal rabbit	140 mg/kg
LD50 dermal	795 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	0.076 mg/l/4h male

Distillates (petroleum), hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 Inhalation - Rat	> 5.28 mg/l/4h

Benzene (71-43-2)	
LD50 oral rat	5970 mg/kg OECD 401
LD50 dermal rabbit	> 9.4 mg/kg OECD 402
LC50 Inhalation - Rat	43.7 mg/l/4h OECD 403

Toluene (108-88-3)	
LD50 oral rat	5580 mg/kg (OECD 401)
LD50 dermal rabbit	> 5000 mg/kg
LC50 Inhalation - Rat	> 28.1 mg/l/4h

Cumene (98-82-8)	
LD50 oral rat	4000 mg/kg
LD50 dermal rabbit	10600 mg/kg
LC50 Inhalation - Rat	22.1 mg/l
LC50 Inhalation - Rat [ppm]	4510 ppm

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)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Causes damage to organs.
Additional information : Classification of this mixture as STOT-Single Exposure, Category 1 based on sections 3.8.3.3.1 and 1.1.3.1 of (EC) No. 1272/2008 [CLP].

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Tricarbonyl(methylcyclopentadienyl)manganese (12108-13-3)	
STOT-single exposure	Causes damage to organs.
Toluene (108-88-3)	
STOT-single exposure	May cause drowsiness or dizziness.
Cumene (98-82-8)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Benzene (71-43-2)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Toluene (108-88-3)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Ethylbenzene (100-41-4)	
STOT-repeated exposure	May cause damage to organs (hearing organs) through prolonged or repeated exposure.
Aspiration hazard	: May be fatal if swallowed and enters airways.
Lucas Octane Booster 444ml	
Viscosity, kinematic	17.54 mm ² /s @ 40 °C

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP at a concentration equal to or greater than 0,1 %

11.2.2. Other information

Other information : No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.
Additional information : No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation.

Tricarbonyl(methylcyclopentadienyl)manganese (12108-13-3)	
LC50 - Fish [1]	0.21 mg/l 96h
EC50 - Crustacea [1]	0.83 mg/l 48h
Distillates (petroleum), hydrotreated light (64742-47-8)	
LC50 - Fish [1]	> 1 mg/l
LC50 - Fish [2]	2200 µg/l <i>Lepomis macrochirus</i>
NOEC chronic fish	0.01 – 0.1 mg/l

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Distillates (petroleum), hydrotreated light (64742-47-8)	
NOEC chronic crustacea	0.01 – 0.1 mg/l
Benzene (71-43-2)	
LC50 - Fish [1]	5.3 mg/l OECD 203
EC50 - Crustacea [1]	10 mg/l Daphnia sp. OECD 202
ErC50 algae	100 mg/l OECD 201
LOEC (chronic)	1.6 mg/l
NOEC chronic crustacea	3 mg/l
Cumene (98-82-8)	
LC50 - Fish [1]	4.8 mg/l
LC50 - Fish [2]	4.8 mg/l (96 h, Oncorhynchus mykiss)
EC50 - Crustacea [1]	2.14 mg/l (48 h, Daphnia magna)
EC50 - Other aquatic organisms [1]	2.14 mg/l
EC50 72h - Algae [1]	2.01 mg/l (72 h, Desmodesmus subspicatus)
EC50 72h - Algae [2]	1.29 mg/l (72 h, Desmodesmus subspicatus)
NOEC (chronic)	0.35 mg/l (21 d, Daphnia magna)
NOEC chronic fish	0.38 mg/l (28 d)
12.2. Persistence and degradability	
Lucas Octane Booster 444ml	
Persistence and degradability	Biodegradability in water: no data available.
Toluene (108-88-3)	
Persistence and degradability	Readily biodegradable, in water.
Biochemical oxygen demand (BOD)	2.15 g O ₂ /g substance
Chemical oxygen demand (COD)	2.52 g O ₂ /g substance
ThOD	3.13 g O ₂ /g substance
BOD (% of ThOD)	0.69 % ThOD
12.3. Bioaccumulative potential	
Lucas Octane Booster 444ml	
Bioaccumulative potential	No data available concerning bioaccumulation.
Tricarbonyl(methylcyclopentadienyl)manganese (12108-13-3)	
Partition coefficient n-octanol/water (Log Pow)	3.4
Distillates (petroleum), hydrotreated light (64742-47-8)	
Partition coefficient n-octanol/water (Log Kow)	2.1 – 5
Benzene (71-43-2)	
BCF - Fish [1]	3.5 – 4.4
Bioconcentration factor (BCF REACH)	0
Partition coefficient n-octanol/water (Log Pow)	1.83

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Toluene (108-88-3)	
BCF - Fish [2]	90 (72h; Leuciscus idus)
Partition coefficient n-octanol/water (Log Pow)	2.73 (20°C)
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

Lucas Octane Booster 444ml	
Ecology - soil	No additional information available.

Toluene (108-88-3)	
Surface tension	0.03 N/m (20°C)

12.5. Results of PBT and vPvB assessment

Lucas Octane Booster 444ml	
Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with UK REACH Annex XIII	

12.6. Other adverse effects

Other adverse effects	: No additional information available.
Adverse effects on the environment caused by endocrine disrupting properties	: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of UK REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in GB BPR and GB PPP at a concentration equal to or greater than 0,1 %.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecological waste information	: Avoid release to the environment.
European List of Waste (LoW, EC 2000/532)	: Disposal must be carried out using appropriate EWC code

SECTION 14: Transport information






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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 3082	UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tricarbonyl(methylcyclopentadienyl)manganese)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tricarbonyl(methylcyclopentadienyl)manganese)	Environmentally hazardous substance, liquid, n.o.s. (Tricarbonyl(methylcyclopentadienyl)manganese)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tricarbonyl(methylcyclopentadienyl)manganese)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tricarbonyl(methylcyclopentadienyl)manganese)
14.3. Transport hazard class(es)				
9	9	9	9	9

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ADR	IMDG	IATA	ADN	RID
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: True	Dangerous for the environment: True Marine pollutant: Yes	Dangerous for the environment: True	Dangerous for the environment: True	Dangerous for the environment: True
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: M6
Special provisions (ADR)	: 274, 335, 375, 601
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Special packing provisions (ADR)	: PP1
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1, TP29
Tank code (ADR)	: LGBV
Vehicle for tank carriage	: AT
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13
Hazard identification number (Kemler No.)	: 90
Orange plates	: 

Tunnel restriction code (ADR)	: -
EAC code	: •3Z

Transport by sea

Special provisions (IMDG)	: 274, 335, 969
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP01, P001
Special packing provisions (IMDG)	: PP1
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1, TP29
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-F
Stowage category (IMDG)	: A

Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y964
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 964

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PCA max net quantity (IATA)	: 450L
CAO packing instructions (IATA)	: 964
CAO max net quantity (IATA)	: 450L
Special provisions (IATA)	: A97, A158, A197, A215
ERG code (IATA)	: 9L

Inland waterway transport

Classification code (ADN)	: M6
Special provisions (ADN)	: 274, 335, 375, 601
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: M6
Special provisions (RID)	: 274, 335, 375, 601
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Special packing provisions (RID)	: PP1
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1, TP29
Tank codes for RID tanks (RID)	: LGBV
Transport category (RID)	: 3
Special provisions for carriage – Packages (RID)	: W12
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW31
Colis express (express parcels) (RID)	: CE8
Hazard identification number (RID)	: 90

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

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

UK REACH Annex XVII (Restriction List)

This product contains no substance(s) listed on UK REACH Annex XVII (Restriction List) equal to or above the level of SDS disclosure

UK REACH Annex XIV (Authorisation List)

This product contains no substance(s) listed on UK REACH Annex XIV (Authorisation List) equal to or above the 0.1% level of disclosure

UK REACH Candidate List (SVHC)

Contains no substance(s) listed on the UK REACH Candidate List

GB PIC regulation (Prior Informed Consent)

Not applicable.

POP Regulation (Persistent Organic Pollutants)

Not applicable.

Ozone Regulation (S.I. No. 168 of 2015)

This product contains no substance(s) listed on the GB Ozone Depletion List equal to or above the level of SDS disclosure

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Control of Poisons and Explosives Precursors Act

This product contains no substance(s) listed as a reportable poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a regulated poison on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

This product contains no substance(s) listed as a reportable explosive precursor on the Control of Poisons and Explosives Precursors Regulations equal to or above the level of SDS disclosure

Drug Precursors Regulation (273/2004)

This product contains no substance(s) listed on the GB Drug Precursors List equal to or above the level of SDS disclosure

15.1.2. Other information

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

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Data sources : CLP Regulation (EC) No 1272/2008, as retained and amended in UK law. Supplier's safety documents.

Training advice : Training staff on good practice.

Full text of H- and EUH-statements:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation)	Acute toxicity (inhal.), Category 1
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 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Carc. 1B	Carcinogenicity, Category 1B
Carc. 2	Carcinogenicity, Category 2
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.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal 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.
H361d	Suspected of damaging the unborn child.
H370	Causes 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.

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According to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law.

Full text of H- and EUH-statements:

H411	Toxic to aquatic life with long lasting effects.
Muta. 1B	Germ cell mutagenicity, Category 1B
Repr. 2	Reproductive toxicity, Category 2
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 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]:

STOT SE 1	H370	Supplier information
Asp. Tox. 1	H304	Weight of evidence
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

Safety Data Sheet (SDS), UK

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.