



SAFETY DATA SHEET

according to Regulation (EU) 2020/878

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STAR MARINER MGO 31-A5 Fuel Stabiliser

Revision 3
Revision date 2022-11-30

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

1.1. Product identifier

Product name	STAR MARINER MGO 31-A5 Fuel Stabiliser
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Product Use	[SU22] Professional uses: Public domain (administration, education, entertainment, services, craftsmen);
Description	Diesel & Petrol fuel stabiliser & performance enhancer.

1.3. Details of the supplier of the safety data sheet

Company	Star International
Address	Star House Turbine Industrial Park Turbine Road Birkenhead U.K CH41 9BA
Web	www.star-international.co.uk
Telephone	+44 (0)1244 504500
Fax	+44 (0)1244 504509
Email	enquiries@star-international.co.uk
Email address of the competent person	matt.ball@star-international.co.uk

1.4. Emergency telephone number

Emergency telephone number	+ 44 (0) 1244 504 500
	For medical advice or information you should contact your GP or NHS 111 (or NHS 24 in Scotland) on 111 (for 24 hour health advice)
	If you are a healthcare professional with an enquiry please visit www.TOXBASE.org

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.2. Classification - EC 1272/2008	: EUH066; EUH208; Asp. Tox. 1: H304; Acute Tox. 4: H312; Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; STOT SE 3: H336; Repr. 1B: H360FD; Aquatic Chronic 2: H411;
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2.2. Label elements

Hazard pictograms	
Signal Word	Danger

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2.2. Label elements

Hazard Statement	EUH066 - Repeated exposure may cause skin dryness or cracking. EUH208 - Contains n,n-disalicylidene, 1,2-propanediamine. May produce an allergic reaction. Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways. Acute Tox. 4: H312 - Harmful in contact with skin. Skin Irrit. 2: H315 - Causes skin irritation. Eye Irrit. 2: H319 - Causes serious eye irritation. STOT SE 3: H335 - May cause respiratory irritation. STOT SE 3: H336 - May cause drowsiness or dizziness. Repr. 1B: H360FD - May damage fertility. May damage the unborn child. Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Precautionary Statement: Prevention	P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary Statement: Response	P301+P310+P330+P331 - IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting. P302+P352 - IF ON SKIN: Wash with plenty of water/ . P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
SUPPLEMENTAL HAZARD INFORMATION	Contains - 2-butoxyethanol, Reaction mass of 2,6-di-tert-butylphenol and 2,4,6-tri-tert-butylphenol, Reaction mass of ethylbenzene and xylene, Hydrocarbons, C9, Aromatics, $\acute{\alpha}$, $\acute{\alpha}$ - propylenedinitilodi-o-cresol.

2.3. Other hazards

Other hazards	This substance/mixture is not classified as PBT or vPvB according to current criteria. The substance/mixture does not contain substances with endocrine disrupting properties.
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Further information

	RECOMMENDED SHELF LIFE 1 YEAR FROM DATE OF DELIVERY.
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SECTION 3: Composition/information on ingredients

3.2. Mixtures

EC 1272/2008

Chemical Name	Index No.	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
2-butoxyethanol	603-014-00-0	111-76-2	203-905-0	01-2119475108-36	70 - 80%	Acute Tox. 4: H332; Acute Tox. 4: H312; Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315;
Reaction mass of 2,6-di-tert-butylphenol and 2,4,6-tri-tert-butylphenol		128-39-2	204-884-0	01-2119538013-51	1 - 10%	Eye Dam. 1: H318; Aquatic Acute 1: H400; Aquatic Chronic 1: H410;
Reaction mass of ethylbenzene and xylene (Xylene, o-,m-,p-or mixed isomers)		1330-20-7	215-535-7	01-2119488216-32	1 - 10%	Flam. Liq. 3: H226; Asp. Tox. 1: H304; Acute Tox. 4: H312+H332; Skin Irrit. 2: H315; Eye Irrit. 2: H319; STOT SE 3: H335; STOT RE 2: H373; Aquatic Chronic 3: H412;
Hydrocarbons, C9, Aromatics			918-668-5	01-2119455851-35	10 - 20%	: EUH066; Flam. Liq. 3: H226; Asp. Tox. 1: H304; STOT SE 3: H335; STOT SE 3: H336; Aquatic Chronic 2: H411;
$\acute{\alpha}$, $\acute{\alpha}$ - propylenedinitilodi-o-cresol		94-91-7	202-374-2	01-2119958970-25	0.5 - 1%	Acute Tox. 4: H302; Skin Sens. 1: H317; Repr. 1B: H360FD; Aquatic Chronic 3: H412;
						Reaction mss of 2,6-di-tert0butylphenol and 2,4,6-tri-tert-butylphenol, CAS No. 128-39-2 - M Factor (Acute/Chronic) = 1.

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SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move the exposed person to fresh air.
Eye contact	Rinse immediately with plenty of water. Contact lenses should be removed.
Skin contact	Remove contaminated clothing. Wash with water and soap as a precaution.
Ingestion	DO NOT INDUCE VOMITING. Rinse mouth thoroughly.

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

Inhalation	Harmful by inhalation. May cause irritation to respiratory system. May cause drowsiness or dizziness.
Eye contact	Harmful. Causes serious eye irritation.
Skin contact	Harmful in contact with skin. Causes skin irritation. May cause allergic reactions in susceptible people.
Ingestion	May be fatal if swallowed and enters airways. May cause damage to mouth, throat and stomach.

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

Inhalation	Move the exposed person to fresh air. Seek medical attention. Show this safety data sheet to the doctor in attendance.
Eye contact	Contact lenses should be removed. Rinse immediately with plenty of water. Seek medical attention. Show this safety data sheet to the doctor in attendance.
Skin contact	Remove contaminated clothing. Seek medical attention. Show this safety data sheet to the doctor in attendance.
Ingestion	If swallowed, seek medical advice immediately and show this container or label. Show this safety data sheet to the doctor in attendance.

General information

	If you feel unwell, seek medical advice (show the label where possible). Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

	This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.
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5.2. Special hazards arising from the substance or mixture

	Burning produces irritating, toxic and obnoxious fumes.
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5.3. Advice for firefighters

	Fire fighters should wear self contained positive pressure breathing apparatus (SCBA) and full turnout gear.
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Further information

	In the event of a fire and/or explosion do not breath fumes. Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

	Wear suitable protective equipment.
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6.2. Environmental precautions

	Advise local authorities if large spills cannot be contained.
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6.3. Methods and material for containment and cleaning up

	For large spills: Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water. For small spills: Flush down the drain with plenty of water.
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6.4. Reference to other sections

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6.4. Reference to other sections

See section 2, 7, 8, 13 for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with eyes and skin. Do not breathe vapours or spray mist. Adopt best Manual Handling considerations when handling, carrying and dispensing.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry area. Keep container tightly closed. Keep out of the reach of children. Store in original container.

7.3. Specific end use(s)

Diesel & Petrol fuel stabiliser & performance enhancer.

Suitable packaging

Plastic containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure controls.

8.1.1. Exposure Limit Values

2-butoxyethanol	WEL 8-hr limit ppm: 25	WEL 8-hr limit mg/m3: 123
	WEL 15 min limit ppm: 50	WEL 15 min limit mg/m3: 101.2
	WEL 8-hr limit mg/m3 total - inhalable dust:	WEL 15 min limit mg/m3 total - inhalable dust:
	WEL 8-hr limit mg/m3 total - respirable dust:	WEL 15 min limit mg/m3 total - respirable dust:
Reaction mass of ethylbenzene and xylene (Xylene, o-,m-,p-or mixed isomers)	WEL 8-hr limit ppm: 50	WEL 8-hr limit mg/m3: 220
	WEL 15 min limit ppm: 100	WEL 15 min limit mg/m3: 441
	WEL 8-hr limit mg/m3 total - inhalable dust:	WEL 15 min limit mg/m3 total - inhalable dust:
	WEL 8-hr limit mg/m3 total - respirable dust:	WEL 15 min limit mg/m3 total - respirable dust:

DNEL: Derived no-effect level.

Exposure Pattern - Workers

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Exposure Pattern - Workers

2-butoxyethanol	Acute inhalation - Systemic effects 1091 mg/m ³ Acute inhalation - Local effects 246 mg/m ³ Long-term - inhalation - Systemic effects 98 mg/m ³	Acute dermal - Systemic effects 89 mg/kg Long-term - dermal - Systemic effects 125 mg/kg
Hydrocarbons, C9, Aromatics	Long-term - inhalation - Systemic effects 150 mg/m ³ Long-term - dermal - Systemic effects 25 mg/kg	
Reaction mass of ethylbenzene and xylene	Acute inhalation - Systemic effects 442 mg/m ³ Acute inhalation - Local effects 289 mg/m ³ Long-term - inhalation - Local effects 221 mg/m ³ Long-term - dermal - Local effects 180 mg/kg	Long-term - inhalation - Systemic effects 77 mg/m ³ Long-term - dermal - Systemic effects 3182 mg/kg

Exposure Pattern - General population

2-butoxyethanol	Acute inhalation - Systemic effects 426 mg/m ³ Acute dermal - Systemic effects 89 mg/kg Long-term - inhalation - Systemic effects 59 mg/m ³ Long-term - dermal - Systemic effects 75 mg/kg	Acute oral - Systemic effects 26.7 mg/kg Long-term - inhalation - Local effects 147 mg/m ³ Long-term - oral - Systemic effects 6.3 mg/kg
Hydrocarbons, C9, Aromatics	Long-term - inhalation - Systemic effects 32 mg/m ³ Long-term - dermal - Systemic effects 11 mg/kg	Long-term - oral - Systemic effects 11 mg/kg
Reaction mass of ethylbenzene and xylene	Long-term - inhalation - Systemic effects 65.3 mg/m ³ Long-term - dermal - Systemic effects 1872 mg/kg	Long-term - oral - Systemic effects 12.5 mg/kg

8.2. Exposure controls

	
	Adopt best Manual Handling considerations when handling, carrying and dispensing. Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Use appropriate personal protective equipment. Wear suitable protective clothing and eye/face protection.
8.2.1. Appropriate engineering controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure eyewash stations and safety showers are close to the workstation location.
Eye / face protection	Avoid contact with eyes. If splashes are likely to occur, wear: safety glasses with side-shields. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Skin protection - Handprotection	Rubber gloves. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.
Skin protection - Other	Wear suitable protective clothing.

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8.2. Exposure controls

Respiratory protection	No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment.
8.2.3. Environmental exposure controls	Prevent further leakage or spillage if safe to do so.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid
Colour	Clear
Odour	Characteristic
pH	No data available
Melting point	No data available
Initial boiling point	No data available
Flash point	61 °C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Relative Vapour Density	No data available
Density / Relative Density	0.8 - 0.9 (H2O = 1 @ 20 °C)
Partition coefficient	No data available
Autoignition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available
Solubility	No data available

9.2. Other information

Conductivity	No data available
Surface tension	No data available
Gas group	No data available
Benzene Content	No data available
Lead content	No data available
VOC (Volatile organic compounds)	No data available

9.2.1. Information with regard to physical hazard classes

	No data is available on this product.
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9.2.2. Other safety characteristics

	No data is available on this product.
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SECTION 10: Stability and reactivity

10.1. Reactivity

	Stable under normal conditions.
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10.2. Chemical stability

	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

	Strong acids. Strong oxidising agents.
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10.4. Conditions to avoid

	Protect from frost.
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10.5. Incompatible materials

No incompatible groups noted.

10.6. Hazardous decomposition products

No Hazardous decomposition products when stored and handled correctly.

SECTION 11: Toxicological information

11.1 Information on hazard classes

Acute toxicity	This mixture has not been tested as a whole for health effects. The health effects have been calculated using the methods outlined in Regulation (EC) No 1272/2008 (CLP).
	Acute Tox. 4: H312 - Harmful in contact with skin. Oral ATE = 1716.8012 mg/kg. Dermal ATE = 1458.2502 mg/kg. Inhalation - Gases ATE ppmV = >10,000. Inhalation - Dust/Mist ATE = 14.67 mg/l.
Skin corrosion/irritation	Skin Irrit. 2: H315 - Causes skin irritation.
Serious eye damage/irritation	Eye Irrit. 2: H319 - Causes serious eye irritation.
Respiratory or skin sensitisation	based on available data the classification criteria are not met.
Germ cell mutagenicity	based on available data the classification criteria are not met.
Carcinogenicity	based on available data the classification criteria are not met.
Reproductive toxicity	Repr. 1B: H360FD - May damage fertility. May damage the unborn child.
STOT-single exposure	STOT SE 3: H335 - May cause respiratory irritation. STOT SE 3: H336 - May cause drowsiness or dizziness.
STOT-repeated exposure	based on available data the classification criteria are not met.
Aspiration hazard	Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.
Repeated or prolonged exposure	EUH066 - Repeated exposure may cause skin dryness or cracking.

11.1.2. Mixtures

No data available.

11.1.3. Hazard Information

No data available.

11.1.4. Toxicological Information

No data available

11.2 Information on other hazards

No data is available on this product.

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

Substance biodegrades at a moderate rate and inherently biodegradable according to the OECD guide lines.

12.3. Bioaccumulative potential

The product is not bioaccumulating.

Partition coefficient

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Partition coefficient

	STAR MARINER MGO 31-A5 Fuel Stabiliser Reaction mass of ethylbenzene and xylene	No data available 3.12 Log Pow	2-butoxyethanol 0.8 log P
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12.4. Mobility in soil

	No data is available on this product.
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12.5. Results of PBT and vPvB assessment

	This substance/mixture is not classified as PBT or vPvB according to current criteria.
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12.6 Endocrine disrupting properties

	No data is available on this product.
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12.7. Other adverse effects

	No data is available on this product.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

	Dispose of waste and residues in accordance with local authority requirements.
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General information

	Dispose of in compliance with all local and national requirements.
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Disposal of packaging

	Do NOT reuse empty containers. Empty containers can be sent to landfill after cleaning, if in compliance with local and national regulations.
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SECTION 14: Transport information

Hazard pictograms

	
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14.1. UN number

	UN3082
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14.2. UN proper shipping name

	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains phenol, 2,6-di-tert-butyl-, Butylphenols)
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14.3. Transport hazard class(es)

ADR/RID	9
Subsidiary risk	-
IMDG	9
Subsidiary risk	-
IATA	9
Subsidiary risk	-

14.4. Packing group

Packing group	III
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14.5. Environmental hazards

Environmental hazards	Yes
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14.5. Environmental hazards

Marine pollutant	Yes
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ADR/RID

Hazard ID	90
Tunnel Category	(E)

IMDG

EmS Code	F-A S-F
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IATA

Packing Instruction (Cargo)	964
Maximum quantity	450 L
Packing Instruction (Passenger)	964
Maximum quantity	450 L

SECTION 15: Regulatory information

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

Regulations	<p>REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.</p> <p>COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.</p> <p>COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).</p>
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15.2. Chemical safety assessment

	No information available.
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SECTION 16: Other information

Other information

Revision	<p>This document differs from the previous version in the following areas:.</p> <ul style="list-style-type: none"> 2 - Other hazards. 2 - 2.1.2. Classification - EC 1272/2008. 2 - Further information. 2 - SUPPLEMENTAL HAZARD INFORMATION. 9 - 9.2.2. Other safety characteristics. 9 - 9.2.1. Information with regard to physical hazard classes. 10 - 10.2. Chemical stability. 10 - 10.1. Reactivity. 11 - Acute toxicity. 11 - 11.2 Information on other hazards. 12 - 12.1. Toxicity. 12 - 12.6 Endocrine disrupting properties. 12 - 12.7. Other adverse effects. 15 - Regulations.
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Other information

Data sources	<p>Classification and Procedure used to derive the classification for mixtures according to Regulation (EC) No. 1272/2008, as retained and amended in UK law.</p> <p>Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways. - Calculation Method.</p> <p>Acute Tox. 4: H312 - Harmful in contact with skin. - Calculation Method.</p> <p>Skin Irrit. 2: H315 - Causes skin irritation. - Calculation Method.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation. - Calculation Method.</p> <p>Acute Tox. 4: H332 - Harmful if inhaled. - Calculation Method.</p> <p>STOT SE 3: H335 - May cause respiratory irritation. - Calculation Method.</p> <p>STOT SE 3: H336 - May cause drowsiness or dizziness. - Calculation Method.</p> <p>Repr. 1B: H360FD - May damage fertility. May damage the unborn child. - Calculation Method.</p> <p>Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects. - Calculation Method, See section 3 for M Factors.</p>
Text of Hazard Statements in Section 3	<p>Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled</p> <p>Skin Irrit. 2: H315 - Causes skin irritation.</p> <p>Eye Irrit. 2: H319 - Causes serious eye irritation.</p> <p>Eye Dam. 1: H318 - Causes serious eye damage.</p> <p>Aquatic Acute 1: H400 - Very toxic to aquatic life.</p> <p>Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.</p> <p>Flam. Liq. 3: H226 - Flammable liquid and vapour.</p> <p>Asp. Tox. 1: H304 - May be fatal if swallowed and enters airways.</p> <p>Acute Tox. 4: H312+H332 - Harmful in contact with skin or if inhaled</p> <p>STOT SE 3: H335 - May cause respiratory irritation.</p> <p>STOT RE 2: H373 - May cause damage to organs through prolonged or repeated exposure .</p> <p>Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.</p> <p>EUH066 - Repeated exposure may cause skin dryness or cracking.</p> <p>STOT SE 3: H336 - May cause drowsiness or dizziness.</p> <p>Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.</p> <p>Acute Tox. 4: H302 - Harmful if swallowed.</p> <p>Skin Sens. 1: H317 - May cause an allergic skin reaction.</p> <p>Repr. 1B: H360FD - May damage fertility. May damage the unborn child.</p>
Further information	<p>The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.</p>