

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 26-Jun-2024

Revision date 02-Apr-2025

Revision Number 8

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

1.1. Product identifier

Product Code(s)	46374
Safety data sheet number	46374
Product Name	DOWSIL IE 6694 WATER REPELLENT
Synonyms	DOW CORNING IE 6694 WATER REPELLENT
Pure substance/mixture	Mixture

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

Recommended use	Formulation or re-packing: Formulation & (re)packing of substances and mixtures. Industrial use Professional use Consumer use road and construction products. Coatings Water-based process Non-metal surface treatment products.
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1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address	SDS.EMEA@univarsolutions.com
Non-Emergency Telephone Number	+44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone	SGS - +32 (0)3 575 55 55 (24h)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flammable liquids	Category 3 - (H226)
Skin corrosion/irritation	Category 2 - (H315)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements



Signal word

Warning

Hazard statements

H315 - Causes skin irritation

H412 - Harmful to aquatic life with long lasting effects

H226 - Flammable liquid and vapour

EUH208 - Contains 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1). May produce an allergic reaction.

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P261 - Avoid breathing vapours/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

P370 + P378 - In case of fire: Use dry chemical, CO2, water spray or alcohol-resistant foam to extinguish

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
TRIETHOXYOCTYL SILANE 2943-75-1	>= 10.0 - <= 12.0 %	220-941-2	-	Skin Irrit. 2 (H315)	-	-	-
DIMETHYL SILOXANE WITH AMINOETHYLAMIN	>= 1.4 - <= 2.5 %	614-604-2	-	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-	-	-

OPROPYL SILSESQUIOXANE, HYDROXY TERM 68554-54-1							
DODECAN-1-OL, ETHOXYLATED 9002-92-0	>= 0.9 - <= 2.0 %	-	-	Eye Irrit. 2 (H319) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)	-	1	-
OCTAMETHYLCYC LOTETRASIOXAN E 556-67-2	>= 0.11 - <= 0.19 %	209-136-7 (014-018-00 -1)	-	Flam. Liq. 3 (H226) Aquatic Chronic 1 (H410) Repr. 2 (H361f)	-	-	10
METHANOL 67-56-1	>= 0.1 - <= 0.16 %	200-659-6 (603-001-00 -X)	-	Flam. Liq. 2 (H225) Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) STOT SE 1 (H370)	STOT SE 1 :: C>=10% STOT SE 2 :: 3%<=C<10%	-	-
DECAMETHYLCYC LOPENTASIOXAN E 541-02-6	>= 0.09 - <= 0.16 %	208-764-9	01-3283125615-4-XXX X	Not Classified	-	-	-
CETRIMONIUM CHLORIDE 112-02-7	>= 0.08 - <= 0.15 %	203-928-6	-	Acute Tox. 4 (H302) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	10	1
DODECAMETHYLC YCLOHEXASIOXA NE 540-97-6	>= 0.05 - <= 0.11 %	208-762-8	-	Not Classified	-	-	-
HEXADECYLTRIM ETHYLAMMONIUM ACETATE 51374-75-5	>= 0.019 - <= 0.04 %	807-818-4	-	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	10	1
BRONOPOL (INN) 52-51-7	<= 0.018 %	200-143-0 603-085-00- 8	-	Acute Tox. 3 (H301) Acute Tox. 3 (H331) Acute Tox. 4 (H312) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H335) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	-	10	-
N,N-DIMETHYL-1-H EXADECANAMINE HYDROCHLORIDE 2016-45-7	>= 0.007 - <= 0.013 %	217-951-4	-	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Corr. 1C (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	10	1
HEXADECYLDIME THYLAMINE 112-69-6	>= 0.007 - <= 0.013 %	203-997-2	-	Acute Tox. 4 (H302) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 (H400)	-	100	10

				Aquatic Chronic 1 (H410)			
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) 55965-84-9	< 0.0015 %	611-341-5 613-167-00-5	-	Skin Corr. 1C (H314) Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400) Skin Sens. 1A (H317) Acute Tox. 2 (H330) Acute Tox. 3 (H301) Acute Tox. 2 (H310) Eye Dam. 1 (H318)	Eye Irrit. 2 :: 0.06%≤C<0.6 % Skin Corr. 1C :: C≥0.6% Skin Irrit. 2 :: 0.06%≤C<0.6 % Skin Sens. 1A :: C≥0.0015% Eye Dam. 1 :: C≥0.6%	100	100

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

Chemical name	CAS No	SVHC candidates
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	X
DECAMETHYLCYCLOPENTASILOXANE	541-02-6	X
DODECAMETHYLCYCLOHEXASILOXANE	540-97-6	X

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	First aid personnel should wear appropriate protective equipment during any rescue. Use personal protection recommended in Section 8.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Ensure that eyewash stations and safety showers are close to the workstation location.
Ingestion	Rinse mouth thoroughly with water. Do NOT induce vomiting. Get medical attention if symptoms occur.

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

Symptoms	The product contains a sensitising substance which may provoke an allergic reaction among sensitive individuals.
Eyes	May cause slight eye irritation.
Dermal	Causes skin irritation.

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

Note to doctors	Treat any burns as thermal burns, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
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SECTION 5: Firefighting measures**5.1. Extinguishing media**

Suitable Extinguishing Media	Alcohol resistant foam. Carbon dioxide (CO ₂). Dry sand.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	When heated and in case of fire, toxic vapours/gases may be formed. Flash back possible over considerable distance. Flammable concentrations of vapour can accumulate at temperatures above flash point; see Section 9. Flammable mixtures may exist within the vapour space of containers at room temperature. Closed containers can burst violently when heated, due to excess pressure build-up. Vapours may form explosive mixtures with air.
Hazardous combustion products	Carbon oxides. Silicon oxides. Nitrogen oxides (NO _x). Methanol. Benzene. Ethanol. Formaldehyde.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Remove all sources of ignition. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond container and receiving equipment. Do not allow run-off from fire-fighting to enter drains or water courses. Vapours may form explosive mixtures with air. Follow precautions for safe handling described in this safety data sheet.
Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions	Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Use non-sparking tools. Suppress (knock down) gases/vapours/mists with a water spray jet.

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes and inhalation of vapours. Do not swallow. Keep container closed when not in use. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Avoid spilling. Avoid release to the environment. Use non-sparking tools. Handle in accordance with good industrial hygiene and safety practice. Empty containers retain product residue and can be hazardous. Use explosion-proof electrical, ventilating and lighting equipment. Ground and bond container and receiving equipment.

General hygiene considerations Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep in properly labelled containers. Store locked up. Keep away from open flames, hot surfaces and sources of ignition. Store away from the following materials. Strong oxidising agents. Organic peroxide. Flammable solid. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases.

7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	United Kingdom
METHANOL 67-56-1	TWA: 200 ppm TWA: 266 mg/m ³ STEL: 250 ppm STEL: 333 mg/m ³ Sk*

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
TRIETHOXYOCTYLSILANE 2943-75-1		2.5 mg/kg bw/day [4] [6]	17.6 mg/m ³ [4] [6]
DODECAN-1-OL, ETHOXYLATED 9002-92-0		1.4 mg/kg bw/day [4] [6]	4.93 mg/m ³ [4] [6]
OCTAMETHYLCYCLOTETRASILOXANE 556-67-2			73 mg/m ³ [4] [6] 73 mg/m ³ [5] [6]
METHANOL 67-56-1		20 mg/kg bw/day [4] [6] 20 mg/kg bw/day [4] [7]	130 mg/m ³ [4] [6] 130 mg/m ³ [4] [7] 130 mg/m ³ [5] [6] 130 mg/m ³ [5] [7]
DECAMETHYLCYCLOPENTASILOXANE 541-02-6			97.3 mg/m ³ [4] [6] 24.2 mg/m ³ [5] [6]
CETRIMONIUM CHLORIDE 112-02-7		4.7 mg/kg bw/day [4] [6]	3.32 mg/m ³ [4] [6]
DODECAMETHYLCYCLOHEXASILOXANE 540-97-6			11 mg/m ³ [4] [6] 1.22 mg/m ³ [5] [6] 6.1 mg/m ³ [5] [7]
BRONOPOL (INN) 52-51-7		2 mg/kg bw/day [4] [6] 6 mg/kg bw/day [4] [7] 0.008 mg/kg bw/day [5] [6] 0.008 mg/kg bw/day [5] [7]	3.5 mg/m ³ [4] [6] 10.5 mg/m ³ [4] [7] 2.5 mg/m ³ [5] [6] 2.5 mg/m ³ [5] [7]
HEXADECYLDIMETHYLAMINE 112-69-6			1 mg/m ³ [4] [6] 1 mg/m ³ [4] [7] 1 mg/m ³ [5] [6] 1 mg/m ³ [5] [7]
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) 55965-84-9			0.02 mg/m ³ [5] [6] 0.04 mg/m ³ [5] [7]

- [4] Systemic health effects.
 [5] Local health effects.
 [6] Long term.
 [7] Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
TRIETHOXYOCTYLSILANE 2943-75-1	1.25 mg/kg bw/day [4] [6]	1.25 mg/kg bw/day [4] [6]	4.3 mg/m ³ [4] [6]
DODECAN-1-OL, ETHOXYLATED 9002-92-0	0.5 mg/kg bw/day [4] [6]		0.87 mg/m ³ [4] [6]
OCTAMETHYLCYCLOTETRASILOXANE 556-67-2	3.7 mg/kg bw/day [4] [6]		13 mg/m ³ [4] [6] 13 mg/m ³ [5] [6]
METHANOL 67-56-1	4 mg/kg bw/day [4] [6] 4 mg/kg bw/day [4] [7]	4 mg/kg bw/day [4] [6] 4 mg/kg bw/day [4] [7]	26 mg/m ³ [4] [6] 26 mg/m ³ [4] [7] 26 mg/m ³ [5] [6] 26 mg/m ³ [5] [7]
DECAMETHYLCYCLOPENTASILOXANE	5 mg/kg bw/day [4] [6]		17.3 mg/m ³ [4] [6] 4.3 mg/m ³ [5] [6]

Chemical name	Oral	Dermal	Inhalation
541-02-6			
CETRIMONIUM CHLORIDE 112-02-7	2.83 mg/kg bw/day [4] [6]		0.98 mg/m ³ [4] [6]
DODECAMETHYLCYCLOHEXASILO XANE 540-97-6	1.7 mg/kg bw/day [4] [6] 1.7 mg/kg bw/day [4] [7]		2.7 mg/m ³ [4] [6] 0.3 mg/m ³ [5] [6] 1.5 mg/m ³ [5] [7]
BRONOPOL (INN) 52-51-7	0.18 mg/kg bw/day [4] [6] 0.5 mg/kg bw/day [4] [7]	2.1 mg/kg bw/day [4] [6] 2.1 mg/kg bw/day [4] [7] 0.004 mg/m ³ [5] [6] 0.004 mg/m ³ [5] [7]	0.6 mg/m ³ [4] [6] 1.8 mg/m ³ [4] [7] 0.6 mg/m ³ [5] [7]
HEXADECYLDIMETHYLAMINE 112-69-6	0.5 mg/kg bw/day [4] [6]		
5-CHLORO-2-METHYL-4-ISOTHIAZO LIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) 55965-84-9	0.09 mg/kg bw/day [4] [6] 0.11 mg/kg bw/day [4] [7]		0.02 mg/m ³ [5] [6] 0.04 mg/m ³ [5] [7]

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
DODECAN-1-OL, ETHOXYLATED 9002-92-0	1.39 µg/L	2.37 µg/L	0.139 µg/L	0.237 µg/L	
OCTAMETHYLCYCLOTE TRASILOXANE 556-67-2	0.0015 mg/L		0.00015 mg/L		
METHANOL 67-56-1	20.8 mg/L	1540 mg/L	2.08 mg/L		
DECAMETHYLCYCLOPE NTASILOXANE 541-02-6	> 0.0012 mg/l		> 0.00012 mg/l		
CETRIMONIUM CHLORIDE 112-02-7	0.00042 mg/l	0.000012 mg/l	0.000042 mg/l		
BRONOPOL (INN) 52-51-7	0.00125 mg/l	0.000265 mg/l	0.00052 mg/l		
HEXADECYLDIMETHYLA MINE 112-69-6	0.00042 mg/	0.26 µg/L	0.03 µg/L		
5-CHLORO-2-METHYL-4-I SOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H -ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) 55965-84-9	3.39 µg/L	3.39 µg/L	3.39 µg/L	3.39 µg/L	

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
TRIETHOXYOCTYLSILANE 2943-75-1	19 mg/kg dry weight dw	1.9 mg/kg dry weight dw		3.8 mg/kg dry weight dw	56 mg/kg food
DODECAN-1-OL, ETHOXYLATED 9002-92-0	25.9 µg/kg sediment dw	2.59 µg/kg sediment dw	0.25 mg/L	4.35 µg/kg soil dw	
OCTAMETHYLCYCLOTRASILOXANE 556-67-2	3 mg/kg sediment dw	0.3 mg/kg sediment dw	10 mg/L	0.54 mg/kg soil dw	41 mg/kg food
METHANOL 67-56-1	77 mg/kg sediment dw	7.7 mg/kg sediment dw	100 mg/L	100 mg/kg soil dw	
DECAMETHYLCYCLOPENTASILOXANE 541-02-6	2.4 mg/kg	0.24 mg/kg	> 10 mg/l	1.1 mg/kg	16 mg/kg food
CETRIMONIUM CHLORIDE 112-02-7	68 mg/kg	6.8 mg/kg	0.4 mg/l	1.66 mg/kg	
DODECAMETHYLCYCLOHEXASILOXANE 540-97-6	13 mg/kg sediment dw	1.3 mg/kg sediment dw	1 mg/L		66.7 mg/kg food
BRONOPOL (INN) 52-51-7	0.0215 mg/kg dry weight (d.w.)	0.008944 mg/kg dry weight (d.w.)	0.43 mg/L	0.21 mg/kg dry weight (d.w.)	
HEXADECYLDIMETHYLAMINE 112-69-6	1.25 mg/kg sediment dw	0.125 mg/kg sediment dw	130 µg/L	1 mg/kg soil dw	
5-CHLORO-2-METHYL-4-ISOTHAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHAZOL-3-ONE [EC NO. 220-239-6] (3:1) 55965-84-9	0.027 mg/kg sediment dw	0.027 mg/kg sediment dw	0.23 mg/L	0.01 mg/kg soil dw	

8.2. Exposure controls

Engineering controls

No information available.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection

Wear suitable gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
	Wear protective butyl rubber gloves	> 0.35 mm	> 240 minutes
	Rubber (natural, latex)	> 0.35 mm	> 240 minutes
	Wear protective Neoprene™ gloves	> 0.35 mm	> 240 minutes
	Nitrile/butadiene rubber ("nitrile" or "NBR").	> 0.35 mm	> 240 minutes
	Ethyl vinyl alcohol laminate ("EVAL")	> 0.35 mm	> 240 minutes

	Polyvinyl chloride (PVC)	> 0.35 mm	> 240 minutes
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Skin and body protection	Wear appropriate clothing to prevent reasonably probable skin contact. Antistatic footwear.
Respiratory protection	Use appropriate respiratory protection.
Recommended filter type:	Wear self-contained breathing apparatus.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	white Milky
Odour	Slight.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		Not determined.
Initial boiling point and boiling range	> 100 °C	@ 760 mmHg.
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point	45 °C	Closed cup.
Autoignition temperature		No information available.
Decomposition temperature		No information available.
pH	4 - 6	
pH (as aqueous solution)		No information available.
Kinematic viscosity		No information available.
Dynamic viscosity	50 mPa s	
Water solubility		Not determined.
Solubility(ies)		No information available.
Partition coefficient		Not determined.
Vapour pressure		No information available.
Relative density	1.01	
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		Not applicable.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	Not considered to be explosive.	
Oxidising properties	Does not meet the criteria for classification as oxidising	

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No known effects under normal use conditions.
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10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge Yes.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions The following materials may react with the product.: Strong oxidising agents. Vapours may form explosive mixtures with air. Flammable liquid and vapour.

10.4. Conditions to avoid

Conditions to avoid Avoid static discharge. Heat, flames and sparks.

10.5. Incompatible materials

Incompatible materials Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Silicon oxides. Nitrogen oxides (NOx). Methanol. Benzene. Ethanol. Formaldehyde.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation Inhalation of vapours in high concentration may cause irritation of respiratory system.

Eye contact May cause slight eye irritation.

Skin contact The product contains a sensitising substance which may provoke an allergic reaction among sensitive individuals. May cause an allergic skin reaction. Causes skin irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

Oral LD50 Oral LD50 > 5000 mg/kg
Dermal LD50 Dermal LD50 > 2000 mg/kg

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
TRIETHOXYOCTYLSILANE	5110 mg/kg (Rat)	= 6730 mg/kg (Rabbit) > 8000 mg/kg (Rabbit)	> 22 ppm (Rat) 4 h
DODECAN-1-OL,	9060 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 1.6 mg/l (Rat) 4h

ETHOXYLATED OCTAMETHYLCYCLOTETRASILOXANE	> 4800 mg/kg (Rat)	> 2400 mg/kg (Rat)	= 36 mg/L (Rat) 4 h
METHANOL	300 mg/kg	300 mg/kg	3 mg/L
DECAMETHYLCYCLOPENTASILOXANE	> 24134 mg/kg (Rat)	> 2000 (Rabbit)	8.67 mg/l (Rat) 4h
CETRIMONIUM CHLORIDE	= 699 mg/kg (Rat)	-	-
DODECAMETHYLCYCLOHEXASILOXANE	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	-
HEXADECYLTRIMETHYLAMMONIUM ACETATE	= 1550 mg/kg (Rat)	= 528 mg/kg (Rat)	-
BRONOPOL (INN)	= 193 - 211 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 0.588 mg/l (Rat) 4h
N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE	= 699 mg/kg (Rat)	= 528 mg/kg (Rabbit)	-
HEXADECYLDIMETHYLAMINE	= 1015 mg/kg (Rat)	= 4.29 mL/kg (Rabbit)	-
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1)	= 64 mg/kg (Rat)	87.12 mg/kg (Rabbit)	= 0.33 mg/l (Rat) (4h)

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Causes skin irritation. Brief contact may cause moderate skin irritation with local redness.

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes skin irritation Brief contact may cause moderate skin irritation with local redness. Prolonged contact may cause moderate skin irritation with local redness.

DIMETHYL SILOXANE WITH AMINOETHYLAMINOPROPYL SILSESQUIOXANE, HYDROXY TERM (68554-54-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes skin irritation Brief contact may cause skin irritation with local redness.

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Brief contact may cause skin irritation with local redness.

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Non-irritating during

					normal use Brief contact is essentially non-irritating to skin.
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METHANOL (67-56-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	Dermal			Mild skin irritant Prolonged contact may cause slight skin irritation with local redness

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Non-irritating during normal use

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes severe burns Symptoms may include pain, severe local redness and tissue damage.

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Non-irritating during normal use

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes severe burns Symptoms may include pain, severe local redness and tissue damage.

BRONOPOL (INN) (52-51-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes skin irritation Brief contact may cause skin irritation with local redness.

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes severe burns Symptoms may include pain, severe local redness and tissue damage.

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes severe burns Symptoms may include pain,

					severe local redness and tissue damage.
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5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD Test No. 404: Acute Dermal Irritation/Corrosion	Rabbit	Dermal		4 hours	Corrosive Causes severe burns Symptoms may include pain, severe local redness and tissue damage.

Serious eye damage/eye irritation May cause slight eye irritation.

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight eye irritation Corneal injury is unlikely

DIMETHYL SILOXANE WITH AMINOETHYLAMINOPROPYL SILSESQUIOXANE, HYDROXY TERM (68554-54-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye irritation May cause corneal injury.

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye irritation

OCTAMETHYLCYCLOTETRA-SILOXANE (556-67-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					non-irritant

METHANOL (67-56-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit				Moderate eye irritation

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					non-irritant

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause slight

					eye irritation Corneal injury is unlikely
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HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

BRONOPOL (INN) (52-51-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rabbit	eye			Corrosive Causes serious eye damage May cause permanent damage if eye is not immediately irrigated. Causes eye burns

Respiratory or skin sensitisation

The product contains a sensitising substance which may provoke an allergic reaction among sensitive individuals. May cause an allergic skin reaction.

Method	Species	Exposure route	Results
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	Guinea pig	Dermal	May cause an allergic skin reaction
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TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

METHANOL (67-56-1)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	No sensitisation responses were observed

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Exposure route	Results
	Mouse	Dermal	Not a skin sensitiser

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

BRONOPOL (INN) (52-51-7)

Method	Species	Exposure route	Results
	Mouse	Dermal	Not a skin sensitiser
	Guinea pig	Dermal	Not a skin sensitiser

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Exposure route	Results
	Guinea pig	Dermal	Not a skin sensitiser

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Exposure route	Results
OECD Test No. 406: Skin Sensitisation	Guinea pig	Dermal	May cause an allergic skin reaction
	Mouse		Sensitising

Germ cell mutagenicity

No information available.

Component Information

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Results
	in vitro	Negative

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Results
	in vitro	Negative

OCTAMETHYLCYCLOTETRAILOXANE (556-67-2)

Method	Species	Results
	in vitro	Negative
		Negative Did not show mutagenic effects in animal experiments

METHANOL (67-56-1)

Method	Species	Results
	in vitro	In vitro genetic toxicity studies were negative in some cases and positive in other cases.
	in vivo	Animal genetic toxicity studies were negative in some cases and positive in other cases

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Results
	in vitro	Negative
		Negative Did not show mutagenic effects in animal experiments

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Results
	in vitro	Negative

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Results
	in vitro	Negative
		Negative Did not show mutagenic effects in animal experiments

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Results
	in vitro	Negative

BRONOPOL (INN) (52-51-7)

Method	Species	Results
	in vitro	Negative
		Negative Did not show mutagenic effects in animal experiments

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Results
	in vitro	Negative

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Results
	in vitro	Negative
		Did not show mutagenic effects in animal experiments

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Results
OECD 471	Ames Test	Ambiguous
	in vitro	Positive
OECD 476	in vivo	Positive
OECD 482	in vitro	Negative
OECD 474	Mouse	Negative
OECD 475	Mouse	Negative
OECD 477		Negative
OECD 486	Rat	Negative
	Rat	Negative

Carcinogenicity

No information available.

Component Information

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Species	Results
		Results from a 2 year repeated vapour inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

METHANOL (67-56-1)

Method	Species	Results
		Did not cause cancer in laboratory animals.

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Results
		Results from a 2 year repeated vapour inhalation exposure study to rats of decamethylcyclopentasiloxane (D5) indicate effects (uterine endometrial tumors) in female animals. This finding occurred at the highest exposure dose (160 ppm) only. Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans.

BRONOPOL (INN) (52-51-7)

Method	Species	Results
		Did not cause cancer in laboratory animals.

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Results
		Did not cause cancer in laboratory animals.

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Results
OECD 453	Rat	Did not cause cancer in laboratory animals.

Reproductive toxicity

No information available.

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Chemical name	United Kingdom
OCTAMETHYLCYCLOTETRAILOXANE	Repr. 2

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

OCTAMETHYLCYCLOTETRAILOXANE (556-67-2)

Method	Species	Results
		Suspected of damaging fertility

METHANOL (67-56-1)

Method	Species	Results
	Rat	Negative
	Mouse	Reproductive toxicant

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

BRONOPOL (INN) (52-51-7)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Results
		This product does not contain any known or suspected reproductive hazards

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Results
OECD 416	Rat	NOAEL P 30 ppm NOAEL F1 300 ppm NOAEL F2 300 ppm

STOT - single exposure

No information available.

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

METHANOL (67-56-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause damage to organs Eyes Central nervous system

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Corrosive Not classified Upper respiratory tract irritation or corrosivity may be expected.

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of available data suggests that this material is not an STOT-SE toxicant

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Corrosive Material is not classified as a respiratory irritant; however, Upper respiratory tract irritation or corrosivity may be expected.

BRONOPOL (INN) (52-51-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
		Inhalation			May cause respiratory irritation

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Corrosive Material is not classified as a respiratory irritant; however, Upper respiratory tract irritation or corrosivity may be expected.

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of

					available data suggests that this material is not an STOT-SE toxicant
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STOT - repeated exposure No information available.

Component Information

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					In animals, effects have been reported on the following organs: Urinary tract Findings from a combined repeated-dose toxicity study with reproductive/developmental screening endpoints on n-octyltriethoxysilane have shown neurological effects in rats at high doses (1000 mg/kg). Paralysis and paresis of the limbs, and demyelination of the brain, spinal cord, sciatic and tibial nerves was noted in some animals.

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					In animals, effects have been reported on the following organs: Kidney Liver respiratory tract Female reproductive organs

METHANOL (67-56-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
	Rat	Inhalation	NOAEL 6.55 mg/L	4 weeks	Not classified
	Rat	Inhalation	NOAEL 13.1 mg/L	6 weeks	Not classified

	Rat	Oral	NOAEL 2,500 mg/kg bw/d	90 days	Not classified
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DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause significant adverse effects

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause significant adverse effects

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause significant adverse effects

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause significant adverse effects

BRONOPOL (INN) (52-51-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					In animals, effects have been reported on the following organs: Kidney Salivary glands Nausea

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Based on available data, repeated exposures are not anticipated to cause significant adverse effects

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
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					Based on available data, repeated exposures are not anticipated to cause significant adverse effects
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5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 408	Rat	Oral	16.3 mg/kg	90 days	NOAEL
OECD 413	Rat	Inhalation	0.34 mg/m ³	90 days	NOAEL
	Rat	Dermal	2.625 mg/kg	90 days	NOAEL

Aspiration hazard

Based on available data the classification criteria are not met.

Other adverse effects

No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

Contains 0 % of components with unknown hazards to the aquatic environment.

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Oncorhynchus mykiss (rainbow trout)	LC50	> 0.055 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	> 0.049 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	ErC50	> 0.13 mg/L	72 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	NOEC	> 0.13 mg/L	72 hours	
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	activated sludge	EC50	> 1000 mg/L	3 hours	
Chronic aquatic toxicity	Pimephales promelas	NOEC	> 0.036 mg/L	32 days	
Chronic aquatic toxicity	Daphnia magna	NOEC	>= 0.199 mg/L	21 days	

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Oncorhynchus mykiss (rainbow trout)	LC50	3.3 mg/L	96 hours	
	Daphnia magna	EC50	> 1 - 10 mg/L	48 hours	
	Pseudokirchneriella	EC50	> 0.1 - 1 mg/L	72 hours	

	subcapitata				
	Pseudokirchneriella subcapitata	NOEC	> 0.1 - 1 mg/L	72 hours	
	Lepomis macrochirus	NOEC	> 0.1 - 1 mg/L	30 days	
	Daphnia magna	NOEC	> 0.1 - 1 mg/L	21 days	

OCTAMETHYLCYCLOTETRAILOXANE (556-67-2)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
Acute toxicity	Oncorhynchus mykiss (rainbow trout)	LC50	> 0.022 mg/L	96 hours	
Acute toxicity	Cyprinodon variegatus	LC50	> 0.0063 mg/L	14 days	
Acute toxicity	Mysidopsis bahia	EC50	> 0.0091 mg/L	96 hours	
Acute toxicity	Daphnia magna	EC50	> 0.015 mg/L	48 hours	
Acute toxicity	Pseudokirchneriella subcapitata	ErC50	> 0.022 mg/L	96 hours	
Acute toxicity	Pseudokirchneriella subcapitata	EC10	>= 0.022 mg/L	96 hours	
Chronic aquatic toxicity	Oncorhynchus mykiss (rainbow trout)	NOEC	>= 0.0044 mg/L	93 days	
Chronic aquatic toxicity	Daphnia magna	NOEC	0.0079 mg/L	21 days	

METHANOL (67-56-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	activated sludge	IC50	>1000 mg/L	3 hours	
	Algae	EC50	16.9 mg/L	96 hours	
	Fish	LC50	15400 mg/L	96 hours	Not classified
	Green Algae	EC50	22000 mg/L	96 hours	
	Water flea	EC50	20803 mg/L	24 hours	
	Algae	NOEC	9.96 mg/L	96 hours	
	Water flea	NOEC	122 mg/L	21 days	Not classified

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 204: Fish, Prolonged Toxicity Test: 14-Day Study or Equivalent.	Oncorhynchus mykiss (rainbow trout)	LC50	>16 µg/l	96 hours	No toxicity up to the limit of solubility
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test or Equivalent.	aquatic invertebrates Daphnia magna	EC50	>2.9 mg/L	48 hours	No toxicity up to the limit of solubility
Acute toxicity	Pseudokirchneriella subcapitata	ErC50	>0.012 mg/L	96 hours	No toxicity up to the limit of solubility
Acute toxicity	Pseudokirchneriella subcapitata	NOEC	0.012 mg/L	96 hours	No toxicity up to the limit of solubility
Chronic toxicity	Oncorhynchus mykiss (rainbow trout)	LC50	> 16 mg/L	14 days	No toxicity up to the limit of solubility
Chronic toxicity	Oncorhynchus mykiss (rainbow trout)	NOEC	>= 0.017 mg/L	14 days	No toxicity up to the limit of solubility
Chronic toxicity	Oncorhynchus mykiss (rainbow trout)	NOEC	>= 0.014 mg/L	14 days	No toxicity up to the limit of solubility

	Daphnia magna	NOEC	0.015 mg/L	21 days	
	Eisenia fetida	NOEC	>= 76 mg/kg		

CETRIMONIUM CHLORIDE (112-02-7)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Brachydanio rerio	LC50	0.19 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	0.012 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	ErC50	0.113 mg/L	72 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	NOEC	0.068 mg/L	72 hours	
DIN 38 412 Part 8	Pseudomonas putida	EC50	0.96 mg/L	16 hours	
Chronic aquatic toxicity	Pimephales promelas	NOEC	0.0322 mg/L	28 days	
Chronic aquatic toxicity	Daphnia magna	NOEC	0.00415 mg/L	21 days	

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
Acute toxicity	Pseudokirchneriella subcapitata	ErC50	> 0.002 mg/L	72 days	No toxicity up to the limit of solubility
Chronic toxicity	Daphnia magna	NOEC	0.0046 mg/L	21 days	No toxicity up to the limit of solubility

HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Brachydanio rerio	EC50	0.19 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Daphnia magna	EC50	0.28 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	ErC50	0.08 mg/L	72 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	NOEC	0.04 mg/L	72 hours	
Chronic aquatic toxicity	Pimephales promelas	NOEC	0.032 mg/L	28 days	
Chronic aquatic toxicity	Daphnia magna	NOEC	> 0.001 - < 0.01 mg/L	21 days	

BRONOPOL (INN) (52-51-7)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Lepomis macrochirus	NOEC	2.61 mg/L	96 hours	
	Daphnia magna	EC50	1.4 mg/L	48 hours	
	Pseudokirchneriella subcapitata	ErC50	0.25 mg/L	72 hours	

	<i>Pseudokirchneriella subcapitata</i>	NOEC	0.03 mg/L	72 hours	
	<i>Oncorhynchus mykiss</i> (rainbow trout)	NOEC	2.61 mg/L	49 days	
	<i>Daphnia magna</i>	NOEC	0.27 mg/L	21 days	

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	<i>Brachydanio rerio</i>	LC50	0.59 mg/L	96 hours	
OECD Test No. 202: <i>Daphnia</i> sp., Acute Immobilisation Test	<i>Daphnia magna</i>	EC50	0.09 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	<i>Selenastrum capricornutum</i>	EC50	0.08 mg/L	72 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	<i>Selenastrum capricornutum</i>	EC10	0.047 mg/L	72 hours	
	<i>Pseudomonas putida</i>	EC50	3.2 mg/L	16 hours	
Chronic aquatic toxicity	<i>Pimephales promelas</i>	NOEC	32.2 mg/L	28 days	
Chronic aquatic toxicity	<i>Daphnia magna</i>	NOEC	6.8 mg/L	21 days	

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	<i>Oncorhynchus mykiss</i> (rainbow trout)	LC50	0.18 mg/L	96 hours	
OECD Test No. 202: <i>Daphnia</i> sp., Acute Immobilisation Test	<i>Daphnia magna</i>	EC50	66.5 µg/l	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	<i>Desmodesmus subspicatus</i>	ErC50	9.9 µg/l	72 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	<i>Desmodesmus subspicatus</i>	NOEC	0.5 µg/l	72 hours	
	activated sludge	EC50	13 mg/L	3 hours	
Chronic aquatic toxicity	<i>Daphnia magna</i>	NOEC	0.036 mg/L	21 days	

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	<i>Oncorhynchus mykiss</i> (rainbow trout)	LC50	0.22 mg/L	96 hours	
OECD Test No. 210: Fish, Early-Life Stage Toxicity Test	<i>Oncorhynchus mykiss</i> (rainbow trout)	NOEC	0.098 mg/L	28 days	
OECD Test No. 202: <i>Daphnia</i> sp., Acute Immobilisation Test	<i>Daphnia magna</i>	EC50	0.12 mg/L	48 hours	

OECD Test No. 211: Daphnia magna Reproduction Test	Daphnia magna	NOEC	0.0036 mg/L	21 days	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Skeletonema costatum	NOEC	0.00064 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Skeletonema costatum	EC50	0.0063 mg/L	72 hours	
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	activated sludge	EC20	0.97 mg/L	3 hours	

12.2. Persistence and degradability

Persistence and degradability No information available.

TRIETHOXYOCTYLSILANE (2943-75-1)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	Biodegradation 31.5%	Not readily biodegradable

DODECAN-1-OL, ETHOXYLATED (9002-92-0)

Method	Exposure time	Value	Results
			Readily biodegradable

OCTAMETHYLCYCLOTETRASILOXANE (556-67-2)

Method	Exposure time	Value	Results
OECD 310	28 days	Biodegradation 3.7%	Expected to biodegrade very slowly

METHANOL (67-56-1)

Method	Exposure time	Value	Results
OECD Test No. 301C: Ready Biodegradability: Modified MITI Test (I) (TG 301 C)	14 days	Biodegradation 92 %	Readily biodegradable

DECAMETHYLCYCLOPENTASILOXANE (541-02-6)

Method	Exposure time	Value	Results
OECD 310	28 days	Biodegradation 0.14%	Expected to biodegrade very slowly

CETRIMONIUM CHLORIDE (112-02-7)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	Biodegradation > 60 %	Readily biodegradable

DODECAMETHYLCYCLOHEXASILOXANE (540-97-6)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	Biodegradation 57%	Based on stringent OECD test guidelines, this material cannot be considered as

			readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
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HEXADECYLTRIMETHYLAMMONIUM ACETATE (51374-75-5)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	Biodegradation 60%	

BRONOPOL (INN) (52-51-7)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B) or Equivalent.	29 days	Biodegradation 89%	Not readily biodegradable
Simulation study	1 hours	Biodegradation 99%	Not readily biodegradable

N,N-DIMETHYL-1-HEXADECANAMINE HYDROCHLORIDE (2016-45-7)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	Biodegradation 93.5 %	Readily biodegradable

HEXADECYLDIMETHYLAMINE (112-69-6)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO2 Evolution Test (TG 301 B)	28 days	Biodegradation > 60 %	Readily biodegradable

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) (55965-84-9)

Method	Exposure time	Value	Results
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test	28 days	Biodegradation 100 %	Inherently Biodegradable
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	28 days	>60 % Biodegradation	Readily biodegradable

12.3. Bioaccumulative potential**Bioaccumulation**

There is no data for this product.

Component Information

Chemical name	Partition coefficient
TRIETHOXYOCTYLSILANE	6.41
DODECAN-1-OL, ETHOXYLATED	1.937
OCTAMETHYLCYCLOTETRASILOXANE	6.49
METHANOL	-0.77
DECAMETHYLCYCLOPENTASILOXANE	5.2
CETRIMONIUM CHLORIDE	3.08
DODECAMETHYLCYCLOHEXASILOXANE	8.87
HEXADECYLTRIMETHYLAMMONIUM ACETATE	> 6.91
BRONOPOL (INN)	0.15
HEXADECYLDIMETHYLAMINE	4.6

5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1)	0.49
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12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product contains substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
TRIETHOXYOCTYLSILANE	The substance is not PBT / vPvB
DODECAN-1-OL, ETHOXYLATED	The substance is not PBT / vPvB
OCTAMETHYLCYCLOTETRAISILOXANE	PBT substance vPvB substance
METHANOL	The substance is not PBT / vPvB
DECAMETHYLCYCLOPENTASILOXANE	PBT substance vPvB substance
CETRIMONIUM CHLORIDE	The substance is not PBT / vPvB
DODECAMETHYLCYCLOHEXASILOXANE	vPvB substance
BRONOPOL (INN)	The substance is not PBT / vPvB
HEXADECYLDIMETHYLAMINE	The substance is not PBT / vPvB
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1)	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	UN1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TRIETHOXYOCTYLSILANE)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	A3
ERG Code	3L

IMDG

14.1 UN number or ID number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (TRIETHOXYOCTYLSILANE)
14.3 Transport hazard class(es)	3
14.4 Packing group	III
14.5 Environmental hazards	No

14.6 Special precautions for user**Special Provisions** 223, 274, 955**EmS-No** F-E, S-E**14.7 Maritime transport in bulk according to IMO instruments** No information available**RID****14.1 UN number or ID number** UN1993**14.2 UN proper shipping name** FLAMMABLE LIQUID, N.O.S. (TRIETHOXYOCTYLSILANE)**14.3 Transport hazard class(es)** 3**14.4 Packing group** III**14.5 Environmental hazards** No**14.6 Special precautions for user****Special Provisions** 274, 601**Classification code** F1**ADR****14.1 UN number or ID number** UN1993**14.2 UN proper shipping name** FLAMMABLE LIQUID, N.O.S. (TRIETHOXYOCTYLSILANE)**14.3 Transport hazard class(es)** 3**14.4 Packing group** III**14.5 Environmental hazards** No**14.6 Special precautions for user****Special Provisions** 274, 601**Classification code** F1**Tunnel restriction code** (D/E)**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

Product restricted per REACH Annex XVII: 3. 70. 75

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
OCTAMETHYLCYCLOTETRAILOXANE - 556-67-2	Use restricted. See item 70. 75	-
METHANOL - 67-56-1	69, 75.	-
DECAMETHYLCYCLOPENTASILOXANE - 541-02-6	Use restricted. See item 70.	-
DODECAMETHYLCYCLOHEXASILOXANE - 540-97-6	Use restricted. See item 70.	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
METHANOL - 67-56-1	500	5000

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
BRONOPOL (INN) - 52-51-7	Product-type 2: Disinfectants and algicides not intended for direct application to humans or animals Product-type 6: Preservatives for products during storage Product-type 11: Preservatives for liquid-cooling and processing systems Product-type 12: Slimicides Product-type 22: Embalming and taxidermist fluids
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] & 2-METHYL-2H-ISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1) - 55965-84-9	Product-type 2: Disinfectants and algicides not intended for direct application to humans or animals Product-type 4: Food and feed area Product-type 6: Preservatives for products during storage Product-type 11: Preservatives for liquid-cooling and processing systems Product-type 12: Slimicides Product-type 13: Working or cutting fluid preservatives

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA	- United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL	- Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS	- European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS	- Japan Existing and New Chemical Substances
IECSC	- China Inventory of Existing Chemical Substances
KECL	- Korean Existing and Evaluated Chemical Substances
PICCS	- Philippines Inventory of Chemicals and Chemical Substances
AIIC	- Australian Inventory of Industrial Chemicals
NZIoC	- New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No Chemical Safety Assessment has been carried out for this substance/mixture

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet**Full text of H-Statements referred to under section 3**

H225 - Highly flammable liquid and vapour
 H226 - Flammable liquid and vapour
 H301 - Toxic if swallowed
 H302 - Harmful if swallowed
 H310 - Fatal in contact with skin
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage
 H319 - Causes serious eye irritation
 H330 - Fatal if inhaled
 H331 - Toxic if inhaled
 H332 - Harmful if inhaled
 H361f - Suspected of damaging fertility
 H370 - Causes damage to organs
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:
 PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
 vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note **SDS sections updated 1 3 4 5 8 11 12 15 16**

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)

Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By Lisa Bland

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**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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 process, unless specified in the text.

End of Safety Data Sheet