



SAFETY DATA SHEET

Issuing Date 01-06-17

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Version 2.4

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name Sentinel X300
Pure substance/mixture Mixture.

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

Recommended Use Cleaning agent for central heating systems.

Uses advised against None known.

1.3 Details of the supplier of the safety data sheet

Company Information SENTINEL PERFORMANCE SOLUTIONS LTD

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1.4 Emergency telephone

Emergency telephone +44 (0) 1928 704 339 (24 hours/ 7 days)

Section 2: HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008

Not classified

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP/GHS)

Signal Word

None

Hazard Statements

None

Precautionary statements

None

2.3 Other hazards

May cause skin and eye irritation. Ingestion may cause irritation of the gastrointestinal tract.

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)

This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB)

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Not applicable

3.2 Mixtures

Chemical Name	EC-No	CAS-No	w/w%	Classification (EU Reg. 1272/2008)	REACH Registration Number
2,2',2"-nitrioltriethanol	203-049-8	102-71-6	10-20	*	01-2119486482-31-XXXX
Benzotriazole	202-394-1	95-14-7	1-3	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)	01-2119979079-20-XXXX

For the full text of H-Statements see Section 16

* Substance with Workplace Exposure Limit. See Section 8.

Section 4: FIRST AID MEASURES

4.1 Description of first aid measures

Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms develop obtain medical attention.
Skin contact	Remove contaminated clothing and shoes. Wash off immediately with soap and plenty of water. If symptoms develop obtain medical attention.
Ingestion	Do NOT induce vomiting. Wash out mouth with water and give 100 - 200 ml of water to drink. If symptoms develop obtain medical attention.
Inhalation	Remove patient from exposure, keep warm and at rest. If symptoms develop obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Main Symptoms	May cause skin and eye irritation. Ingestion may cause irritation of the gastrointestinal tract.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
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Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

Water spray, Foam, Dry powder, Carbon dioxide (CO₂).

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Phosphorus oxides.

5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear. Cool containers / tanks with water spray.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with the skin and the eyes. Avoid inhalation of mists or vapor. Use personal protective equipment.

6.2 Environmental precautions

Not required

6.3 Methods and materials for containment and cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

6.4 Reference to other sections

SECTION 8: Exposure controls/personal protection. SECTION 13: Disposal considerations.

Section 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure adequate ventilation. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.

Do not eat, drink or smoke during work. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Keep only in the original container/package in a cool well-ventilated place. Keep away from heat and sources of ignition. Keep away from direct sunlight. Protect from frost.

7.3 Specific end use(s)

Cleaning agent for central heating systems.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Chemical Name	2,2',2''-nitrotriethanol 102-71-6
Spain	TWA: 5 mg/m ³
Germany	TWA: 5 mg/m ³ Ceiling / Peak: 20 mg/m ³
Portugal	TWA: 5 mg/m ³
Finland	TWA: 5 mg/m ³
Denmark	TWA: 0.5 ppm TWA: 3.1 mg/m ³
Austria	STEL 1.6 ppm STEL 10 mg/m ³ TWA: 0.8 ppm TWA: 5 mg/m ³
Switzerland	STEL: 20 mg/m ³ TWA: 5 mg/m ³
Norway	TWA: 5 mg/m ³ STEL: 10 mg/m ³
Ireland	TWA: 5 mg/m ³

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Appropriate engineering controls Provide adequate ventilation, including appropriate local extraction, to ensure that occupational exposure limits are not exceeded.

Personal protective equipment

Eye Protection Goggles (EN 166)
Hand Protection Protective gloves (EN 374)
Skin and body protection Long sleeved clothing
Respiratory protection Not normally required. In case of insufficient ventilation wear suitable respiratory equipment

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls Not normally required.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Odor	Characteristic
Color	Clear, yellow-orange
Odor Threshold	No information available

Property Values

pH	7.00
Melting/freezing point	
Freezing Point	
Boiling point/boiling range	
Flash Point	
Evaporation rate	
Flammability (solid, gas)	
Flammability Limits in Air	
upper flammability limit	
lower flammability limit	
Vapor pressure	
Vapor density	
Relative density	1.23
Water solubility	
Solubility in other solvents	
Partition coefficient:	
n-octanol/water	
Auto-ignition temperature	
Decomposition temperature	
Viscosity, kinematic	
Viscosity, dynamic	

Remarks • Methods

@ 25 °C
No information available
No information available
No information available
Not flammable
No information available
Not applicable
Not flammable
No information available
No information available
@ 25 °C
Miscible
No information available
No information available
Not flammable
No information available
No information available
No information available

Explosive properties	Not explosive
Oxidizing properties	Not oxidizing

9.2 Other information

No information available

Section 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

No information available.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Phosphorous oxides.

Section 11: TOXICOLOGICAL INFORMATION

Inhalation	No known effect based on information supplied.
Eye contact	May cause eye irritation.
Skin contact	May cause skin irritation.
Ingestion	Ingestion may cause irritation of the gastrointestinal tract.

11.1 Information on toxicological effects

Acute toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2,2',2"-nitrioltriethanol	4190mg/kg (Rat)	>2000 mg/kg (Rabbit) >16 mL/kg (Rat)	-
Benzotriazole	560mg/kg (Rat)	>1 g/kg (Rat)	-

Skin corrosion/irritation Based on available data, classification criteria are not met.

Serious eye damage/irritation Based on available data, classification criteria are not met.

Respiratory or skin sensitisation Based on available data, classification criteria are not met.

Mutagenicity Based on available data, classification criteria are not met.

Carcinogenicity Based on available data, classification criteria are not met.

Chemical Name	European Union	IARC
2,2',2"-nitrioltriethanol	-	Group 3

Reproductive toxicity Based on available data, classification criteria are not met.

STOT - Single exposure Based on available data, classification criteria are not met.

STOT - Repeated exposure Based on available data, classification criteria are not met.

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Aspiration hazard Based on available data, classification criteria are not met.

Other information No information available.

Section 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
2,2',2''-nitrioltriethanol	EC50: 216 mg/L 72 h (Desmodesmus subspicatus) EC50: 169 mg/L 96 h (Desmodesmus subspicatus)	LC50: >1000 mg/L 96 h static (Pimephales promelas)	EC50: 1386 mg/L 24 h (Daphnia magna)
Benzotriazole	EC50: 15.4 mg/L 96 h (freshwater algae)	-	EC50: 141.6 mg/L 48 h (water flea)

WGK Classification 1

12.2 Persistence and degradability

Some of the components are biodegradable.

12.3 Bioaccumulative potential

Chemical Name	Bioconcentration factor (BCF)	log Pow
2,2',2''-nitrioltriethanol	<3.9	-2.53

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This preparation contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This preparation contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

No information available.

Section 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues / unused products Disposal should be in accordance with local, state or national legislation.

Contaminated packaging Clean container with water. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: TRANSPORT INFORMATION

Not classified as hazardous for transport.

	ADR/RID/ADN	ICAO/IATA	IMDG / IMO
14.1 UN Number	-	-	-
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental Hazards	Not Classified	Not Classified	Not Classified
14.6 Special precautions for user	No special precautions are needed in handling this material		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code		-	

Section 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of Regulations (EC) No. 1907/2006 and No. 830/2015

WGK Classification 1

15.2 Chemical Safety Assessment

Chemical Safety Assessment has not been carried out.

Section 16: OTHER INFORMATION**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed
 H319 - Causes serious eye irritation
 H332 - Harmful if inhaled
 H412 - Harmful to aquatic life with long lasting effects

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Disclaimer

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