



Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

# SAFETY DATA SHEET

Solar Cleaner C 500ml

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

### 1.1 Product identifier

**Product name** : Solar Cleaner C 500ml  
**Product code** : 59430  
**Product description** : Not available.  
**Product type** : Liquid.

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

Restricted to professional users.

**Material uses** : Heat-transfer medium.

### 1.3 Details of the supplier of the safety data sheet

**Supplier** : **Fernox**  
**2 Genesis Business Park**  
**Albert Drive**  
**Sheerwater**  
**Woking GU21 5RW**

**Information contact** : +44 (0) 330 100 7750  
+44 (0) 330 100 7751  
europeanregulatory@macdermid.com

### 1.4 Emergency telephone number

**Supplier**

**Telephone number** : +44 (0) 330 100 7750  
**Hours of operation** : 24/7

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture  
**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**  
Not classified.


**Ingredients of unknown toxicity** :

**Ingredients of unknown ecotoxicity** :

**Classification according to Directive 1999/45/EC [DPD]**

**Europe**

**Date of issue/Date of revision** : 30.11.2016

A MacDermid Performance Solutions Business  
A Platform Specialty Products Company 

## SECTION 2: Hazards identification

The product is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

#### Precautionary statements

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazardous ingredients** :

**Supplemental label elements** : Safety data sheet available on request.

### 2.3 Other hazards

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mixture

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
<b>Europe</b> nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Austria</b> 2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Belgium</b>					



**SECTION 3: Composition/information on ingredients**

2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Bulgaria</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Croatia</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	-
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Czech Republic</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Denmark</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Estonia</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Finland</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>France</b>					

**SECTION 3: Composition/information on ingredients**

nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Germany</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Greece</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Hungary</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Ireland</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	[2]
2,2',2"-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Italy</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Latvia</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Lithuania</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	[2]
2,2',2"-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]

**SECTION 3: Composition/information on ingredients**

<b>Netherlands</b>	CAS: 6419-19-8				
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Norway</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	[2]
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Poland</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Portugal</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Romania</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Slovakia</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Slovenia</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Spain</b>					



### SECTION 3: Composition/information on ingredients

2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Sweden</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Switzerland</b>					
2,2',2''-nitrilotriethanol	REACH #: 01-2119486482-31 EC: 203-049-8 CAS: 102-71-6	≥5 - <10	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>Turkey</b>					
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]
<b>United Kingdom (UK)</b>					
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≥25 - <50	Not classified.	Not classified.	[2]
nitrilotrimethylenetris (phosphonic acid)	REACH #: 01-2119487988-08 EC: 229-146-5 CAS: 6419-19-8	≥3 - <5	Xi; R36	Met. Corr. 1, H290 Eye Irrit. 2, H319	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

#### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### Eye contact

: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.



## SECTION 4: First aid measures

- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

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

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
phosphorus oxides  
metal oxide/oxides

### 5.3 Advice for firefighters

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.



## SECTION 5: Firefighting measures

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

### 6.4 Reference to other sections

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

- : Store between the following temperatures: 5 to 30°C (41 to 86°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

### 7.3 Specific end use(s)





## SECTION 7: Handling and storage

**Recommendations** : Not available.  
**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
<b>Europe</b> No exposure limit value known.	
<b>Austria</b> 2,2',2''-nitrioltriethanol	<b>GKV_MAK (Austria, 12/2011). Skin sensitiser.</b> PEAK: 10 mg/m <sup>3</sup> , 4 times per shift, 15 minutes. Form: inhalable fraction PEAK: 1.6 ppm, 4 times per shift, 15 minutes. Form: inhalable fraction TWA: 5 mg/m <sup>3</sup> 8 hours. Form: inhalable fraction TWA: 0.8 ppm 8 hours. Form: inhalable fraction
<b>Belgium</b> 2,2',2''-nitrioltriethanol	<b>Lijst Grenswaarden / Valeurs Limites (Belgium, 4/2014).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
<b>Bulgaria</b> No exposure limit value known.	
<b>Croatia</b> propane-1,2-diol	<b>MinGoRP GVI/KGVI (Croatia, 6/2013).</b> ELV: 10 mg/m <sup>3</sup> 8 hours. Form: particulates ELV: 474 mg/m <sup>3</sup> 8 hours. Form: total vapour and particulates ELV: 150 ppm 8 hours.
<b>Czech Republic</b> 2,2',2''-nitrioltriethanol	<b>MZCR PEL/NPK-P (Czech Republic, 1/2013). Absorbed through skin.</b> STEL: 10 mg/m <sup>3</sup> 15 minutes. STEL: 1.64 ppm 15 minutes. TWA: 5 mg/m <sup>3</sup> 8 hours. TWA: 0.82 ppm 8 hours.
<b>Denmark</b> 2,2',2''-nitrioltriethanol	<b>Arbejdstilsynet (Denmark, 10/2012).</b> TWA: 3.1 mg/m <sup>3</sup> 8 hours. TWA: 0.5 ppm 8 hours.
<b>Estonia</b> 2,2',2''-nitrioltriethanol	<b>Töökeskonna keemiliste ohutegurite piirnормid määrus nr 293 (Estonia, 1/2008). Skin sensitiser.</b> STEL: 10 mg/m <sup>3</sup> 15 minutes. TWA: 5 mg/m <sup>3</sup> 8 hours.
<b>Finland</b> 2,2',2''-nitrioltriethanol	<b>Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 3/2014).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
<b>France</b> No exposure limit value known.	



**SECTION 8: Exposure controls/personal protection**

**Germany**

No exposure limit value known.

**Greece**

No exposure limit value known.

**Hungary**

No exposure limit value known.

**Ireland**

propane-1,2-diol

2,2',2"-nitrioltriethanol

**Italy**

No exposure limit value known.

**Latvia**

propane-1,2-diol

**Lithuania**

propane-1,2-diol

2,2',2"-nitrioltriethanol

**Netherlands**

No exposure limit value known.

**Norway**

propane-1,2-diol

2,2',2"-nitrioltriethanol

**Poland**

No exposure limit value known.

**Portugal**

2,2',2"-nitrioltriethanol

**Romania**

No exposure limit value known.

**Slovakia**

No exposure limit value known.

**Slovenia**

2,2',2"-nitrioltriethanol

**Spain**

2,2',2"-nitrioltriethanol

**Sweden**

**NAOSH (Ireland, 12/2011).**

OELV-8hr: 10 mg/m<sup>3</sup> 8 hours. Form: particulate

OELV-8hr: 470 mg/m<sup>3</sup> 8 hours. Form: vapour and particulates

OELV-8hr: 150 ppm 8 hours. Form: vapour and particulates

**NAOSH (Ireland, 12/2011).**

OELV-8hr: 5 mg/m<sup>3</sup> 8 hours.

**Ministru kabineta - AER (Latvia, 2/2011).**

TWA: 7 mg/m<sup>3</sup> 8 hours.

**Lietuvos Higienos Normos HN 23 (Lithuania, 10/2007).**

TWA: 7 mg/m<sup>3</sup> 8 hours.

**Lietuvos Higienos Normos HN 23 (Lithuania, 10/2007). Skin sensitiser.**

STEL: 10 mg/m<sup>3</sup> 15 minutes.

TWA: 5 mg/m<sup>3</sup> 8 hours.

**FOR-2011-12-06-1358 (Norway, 1/2013).**

TWA: 79 mg/m<sup>3</sup> 8 hours.

TWA: 25 ppm 8 hours.

**FOR-2011-12-06-1358 (Norway, 1/2013).**

TWA: 5 mg/m<sup>3</sup> 8 hours.

**Instituto Português da Qualidade (Portugal, 3/2007).**

TWA: 5 mg/m<sup>3</sup> 8 hours.

**Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Slovenia, 12/2010).**

TWA: 5 mg/m<sup>3</sup> 8 hours. Form: inhalable fraction

**INSHT (Spain, 1/2014).**

TWA: 5 mg/m<sup>3</sup> 8 hours.



## SECTION 8: Exposure controls/personal protection

<p>2,2',2''-nitritoltriethanol</p> <p><b>Switzerland</b> 2,2',2''-nitritoltriethanol</p> <p><b>Turkey</b> No exposure limit value known.</p> <p><b>United Kingdom (UK)</b> propane-1,2-diol</p>	<p><b>AFS 2011:18 (Sweden, 12/2011). Absorbed through skin.</b> STEL: 10 mg/m<sup>3</sup> 15 minutes. TWA: 5 mg/m<sup>3</sup> 8 hours. STEL: 1.6 ppm 15 minutes. TWA: 0.8 ppm 8 hours.</p> <p><b>SUVA (Switzerland, 1/2014).</b> STEL: 20 mg/m<sup>3</sup> 15 minutes. Form: Inhalable dust (total dust) TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Inhalable dust (total dust)</p> <p><b>EH40/2005 WELs (United Kingdom (UK), 12/2011).</b> TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Particulate TWA: 474 mg/m<sup>3</sup> 8 hours. Form: Sum of vapour and particulates TWA: 150 ppm 8 hours. Form: Sum of vapour and particulates</p>
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**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### Derived effect levels

No DELs available.

### Predicted effect concentrations

No PECs available.

## 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. < 1 hour (breakthrough time): disposable vinyl

## SECTION 8: Exposure controls/personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: None assigned.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Liquid.
- Colour** : Colourless.
- Odour** : Aromatic. [Slight]
- pH** : 7.3 [Conc. (% w/w): 100%]
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flash point** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Relative density** : 1.04
- Solubility(ies)** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- :
- VOC content** : 32 % (w/w)

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : No specific data.



## SECTION 10: Stability and reactivity

**10.5 Incompatible materials** : No specific data.

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

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
nitrilotrimethylenetris (phosphonic acid)	LD50 Dermal	Rabbit	>6310 mg/kg	-
	LD50 Oral	Rat	2100 mg/kg	-

**Conclusion/Summary** : Not available.

#### Acute toxicity estimates

Not available.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
nitrilotrimethylenetris (phosphonic acid)	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-

**Conclusion/Summary** : Not available.

#### Sensitiser

**Conclusion/Summary** : Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on likely routes of exposure** : Not available.

#### Potential acute health effects

**Inhalation** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Eye contact** : No known significant effects or critical hazards.

#### Symptoms related to the physical, chemical and toxicological characteristics

**Inhalation** : No specific data.

**Ingestion** : No specific data.



## SECTION 11: Toxicological information

**Skin contact** : No specific data.

**Eye contact** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

### Potential chronic health effects

Not available.

**Conclusion/Summary** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

**Conclusion/Summary** : Not available.

### 12.2 Persistence and degradability

**Conclusion/Summary** : Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
nitrilotrimethylenetris (phosphonic acid)	-	22	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects** : No known significant effects or critical hazards.



## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

#### European waste catalogue (EWC)

Waste code	Waste designation
16 03 06	organic wastes other than those mentioned in 16 03 05

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.
Additional information	-	-	-

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

###### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions** : Not applicable.  
on the manufacture,  
placing on the market  
and use of certain  
dangerous substances,  
mixtures and articles

##### Other EU regulations

Europe inventory : All components are listed or exempted.

##### National regulations

Austria

Belgium

Bulgaria

Croatia

Czech Republic

Denmark

Estonia

Finland

France

Professional Disease(s) - Table number: 84

Germany

Hazard class for water : 1 Appendix No. 4

Greece

Hungary

Ireland

Italy

Latvia

Lithuania

Netherlands

Norway

Poland

Portugal

Romania

Slovakia

Slovenia

Spain

Sweden

Switzerland

Turkey

United Kingdom (UK)

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.



## SECTION 16: Other information

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Version : 2.13

### Notice to reader

☑ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

	<b>Classification</b>	<b>Justification</b>
	Not classified.	
<b>Europe</b>		
<b>Full text of abbreviated H statements</b>	: H290 May be corrosive to metals. H319 Causes serious eye irritation.	
<b>Full text of classifications [CLP/GHS]</b>	: Eye Irrit. 2, H319 Met. Corr. 1, H290	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 CORROSIVE TO METALS - Category 1
<b>Full text of abbreviated R phrases</b>	: R36- Irritating to eyes.	
<b>Full text of classifications [DSD/DPD]</b>	: Xi - Irritant	

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Fernox SDS CLP Europe

