

# KIT SAFETY DATA SHEET



**Kit Product Name** MP TGX Gel with Protein Standard

**Kit Catalogue Number(s)** 4561085DC, 4561084DC, 4561086DC, 4561093DC, 4561094DC, 4561096DC

**Revision date** 02-Jun-2022

## Kit Contents

Catalogue Number(s)	Product Name
4561093, 4561094, 4561096, 4561091, 4561083, 4561086, 4561081, 4561083S, 4561093S, 4561081S, 4561086S, 4561091S, 4561094S, 4561096S, 4561085, 4561085S, 4561089, 4561089S, 4561099, 4561099S, 4561095, 4561095S, 4561101, 4561103, 4561104, 4561105, 4561106, 4561109, 10017477, 10017478, 4561101EDU, 4561103EDU, 4561105EDU, 4561106EDU, 4561109EDU, 4561093EDU, 4561094EDU	Mini-PROTEAN TGX Gels 4-15%, 4-20%
1610374, 1610374S, 1610394, 10022171, 1610374EDU, 1610374TGX	Precision Plus Protein Dual Color Standards



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 02-Jun-2022

Previous revision date 11-Jan-2021

Revision Number 1.2

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

### 1.1. Product identifier

**Product Name** Mini-PROTEAN TGX Gels 4-15%, 4-20%

**Catalogue Number(s)** 4561093, 4561094, 4561096, 4561091, 4561083, 4561086, 4561081, 4561083S, 4561093S, 4561081S, 4561086S, 4561091S, 4561094S, 4561096S, 4561085, 4561085S, 4561089, 4561089S, 4561099, 4561099S, 4561095, 4561095S, 4561101, 4561103, 4561104, 4561105, 4561106, 4561109, 10017477, 10017478, 4561101EDU, 4561103EDU, 4561105EDU, 4561106EDU, 4561109EDU, 4561093EDU, 4561094EDU

**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals

**Uses advised against** No information available

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

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
1000 Alfred Nobel Drive  
Hercules, CA 94547  
USA

#### Manufacturer

Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd  
The Junction  
Station Road  
Watford, WD17 1ET  
UK

Bio-Rad Laboratories Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India

Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

For further information, please contact

**Technical Service** 00800 00246 723  
Ireland: Techsupport.UK@bio-rad.com  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### 1.4. Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Ireland: 353-19014670  
CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

## 2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

### Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

## 2.3. Other hazards

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Not applicable

## 3.2 Mixtures

Chemical name	Weight-%	REACH registration number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
1,2,3-Propanetriol 56-81-5	2.5 - 5	No data available	200-289-5	No data available	-	-	-
Trade secret	1 - 2.5	No data available	.?	No data available	-	-	-

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

### Acute Toxicity Estimate

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
1,2,3-Propanetriol 56-81-5	12600	10000	2.75	No data available	No data available
Trade secret	7930	No data available	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

# SECTION 4: First aid measures

## 4.1. Description of first aid measures

### Inhalation

Remove to fresh air.

### Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

### Skin contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

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Ingestion	Rinse mouth.
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**4.2. Most important symptoms and effects, both acute and delayed**

Symptoms	No information available.
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**4.3. Indication of any immediate medical attention and special treatment needed**

Note to physicians	Treat symptomatically.
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**SECTION 5: Firefighting measures****5.1. Extinguishing media**

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
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Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
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**5.2. Special hazards arising from the substance or mixture**

Specific hazards arising from the chemical	No information available.
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**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.
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For emergency responders	Use personal protection recommended in Section 8.
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**6.2. Environmental precautions**

Environmental precautions	See Section 12 for additional Ecological Information.
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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.
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Methods for cleaning up	Take up mechanically, placing in appropriate containers for disposal.
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Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
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**6.4. Reference to other sections**

Reference to other sections	See section 8 for more information. See section 13 for more information.
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**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Advice on safe handling	Ensure adequate ventilation.
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**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage Conditions** Store according to product and label instructions.

## **7.3. Specific end use(s)**

**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	European Union	Austria	Belgium	Bulgaria	Croatia
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
1,2,3-Propanetriol 56-81-5	-	TWA: 10 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>	TWA: 20 mg/m <sup>3</sup>
Chemical name	France	Germany	Germany MAK	Greece	Hungary
1,2,3-Propanetriol 56-81-5	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> Peak: 400 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-
Chemical name	Ireland	Italy	Italy REL	Latvia	Lithuania
Trade secret	-	-	-	TWA: 5 mg/m <sup>3</sup>	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
1,2,3-Propanetriol 56-81-5	-	-	-	-	TWA: 10 mg/m <sup>3</sup>
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
1,2,3-Propanetriol 56-81-5	TWA: 10 mg/m <sup>3</sup>	-	TWA: 11 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> STEL: 400 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>
Chemical name	Sweden		Switzerland		United Kingdom
1,2,3-Propanetriol 56-81-5	-		TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>

### **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)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

## **8.2. Exposure controls**

### **Personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	gel
<b>Colour</b>	colourless
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>		None known
<b>pH</b>	6-7	
<b>pH (as aqueous solution)</b>	No data available	No information available
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Water solubility</b>	Insoluble in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Vapour pressure</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Bulk density</b>	No data available	
<b>Liquid Density</b>	No data available	
<b>Vapour density</b>	No data available	None known
<b>Particle characteristics</b>		
<b>Particle Size</b>	No information available	
<b>Particle Size Distribution</b>	No information available	

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Not applicable

#### 9.2.2. Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** No information available.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

#### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**10.3. Possibility of hazardous reactions**

**Possibility of hazardous reactions** None under normal processing.

**10.4. Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**10.5. Incompatible materials**

**Incompatible materials** None known based on information supplied.

**10.6. Hazardous decomposition products**

**Hazardous decomposition products** None known based on information supplied.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

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

**Symptoms** No information available.

**Acute toxicity****Numerical measures of toxicity**

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h
Trade secret	= 7930 mg/kg ( Rat )	-	-

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

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## **11.2. Information on other hazards**

### **11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

### **11.2.2. Other information**

**Other adverse effects** No information available.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

#### **Ecotoxicity**

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

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
1,2,3-Propanetriol	-	LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i> )	-	-
Trade secret	-	LC50: >1000mg/L (96h, <i>Oryzias latipes</i> )	-	-

### **12.2. Persistence and degradability**

**Persistence and degradability** No information available.

### **12.3. Bioaccumulative potential**

#### **Bioaccumulation**

#### **Component Information**

Chemical name	Partition coefficient
1,2,3-Propanetriol	-1.76

### **12.4. Mobility in soil**

**Mobility in soil** No information available.

### **12.5. Results of PBT and vPvB assessment**

#### **PBT and vPvB assessment**

Chemical name	PBT and vPvB assessment
1,2,3-Propanetriol	The substance is not PBT / vPvB



Trade secret	The substance is not PBT / vPvB
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**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

**12.7. Other adverse effects**

No information available.

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

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**SECTION 14: Transport information****IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

**IMDG**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

**RID**

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

**ADR**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special Precautions for Users	
Special Provisions	None

**SECTION 15: Regulatory information**

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

**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

**European Union**

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.

**Authorizations and/or restrictions on use:**

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**15.2. Chemical safety assessment****Chemical Safety Report**

No information available

**SECTION 16: Other information****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorisation:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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

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)  
 EPA (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)  
 Australia 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)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Revision Note** Reformatted and updated existing information

**Revision date** 02-Jun-2022

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**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**



# SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision date 02-Jun-2022

Previous revision date 18-Jan-2022

Revision Number 1.3

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

### 1.1. Product identifier

**Product Name** Precision Plus Protein Dual Color Standards  
**Catalogue Number(s)** 1610374, 1610374S, 1610394, 10022171, 1610374EDU, 1610374TGX  
**Pure substance/mixture** Mixture

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

**Recommended use** Laboratory chemicals  
**Uses advised against** No information available

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

#### Corporate Headquarters

Bio-Rad Laboratories Inc.  
1000 Alfred Nobel Drive  
Hercules, CA 94547  
USA

#### Manufacturer

Bio-Rad Laboratories, Life Science Group  
2000 Alfred Nobel Drive  
Hercules, California 94547  
USA

#### Legal Entity / Contact Address

Bio-Rad Laboratories Ltd  
The Junction  
Station Road  
Watford, WD17 1ET  
UK  
  
Bio-Rad Laboratories Pvt. Ltd.  
Bio-Rad House  
86-87, Udyog Vihar Phase IV Gurgaon  
122005  
Haryana India  
  
Bio-Rad Laboratories (Pty) Ltd.  
34 Bolton Road  
Parkwood, Johannesburg 2193  
South Africa

For further information, please contact

**Technical Service** 00800 00246 723  
Ireland: Techsupport.UK@bio-rad.com  
India: support.india@bio-rad.com  
South Africa: cdg\_techsupport\_eemea@bio-rad.com

### 1.4. Emergency telephone number

24 Hour Emergency Phone Number CHEMTREC Ireland: 353-19014670  
CHEMTREC India: 000-800-100-7141  
CHEMTREC South Africa: 0-800-983-611

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Serious eye damage/eye irritation	Category 2 - (H319)
Chronic aquatic toxicity	Category 3 - (H412)

**2.2. Label elements****Signal word**

Warning

**Hazard statements**

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements - EU (§28, 1272/2008)**

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

P273 - Avoid release to the environment

P337 + P313 - If eye irritation persists: Get medical advice/attention

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

P280 - Wear protective gloves/protective clothing/eye protection/face protection

**2.3. Other hazards**

Causes mild skin irritation. Harmful to aquatic life.

## SECTION 3: Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical name	Weight-%	REACH registration number	EC No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
1,2,3-Propanetriol 56-81-5	20 - 35	No data available	200-289-5	No data available	-	-	-
Sodium lauryl sulfate 151-21-3	1 - 2.5	No data available	205-788-1	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	-	-	-
Sodium azide 26628-22-8	0.01 - 0.099	No data available	247-852-1	Acute Tox. 2 (H300) Acute Tox. 1 (H310) (EUH032) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	-	-	-

**Full text of H- and EUH-phrases: see section 16****Acute Toxicity Estimate**

If LD50/LC50 data is not available or does not correspond to the classification category, then the appropriate conversion value from CLP Annex I, Table 3.1.2, is used to calculate the acute toxicity estimate (ATEmix) for classifying a mixture based on its

components

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapor - mg/L	Inhalation LC50 - 4 hour - gas - ppm
1,2,3-Propanetriol 56-81-5	12600	10000	2.75	No data available	No data available
Sodium lauryl sulfate 151-21-3	1288	200	0.975	No data available	No data available
Sodium azide 26628-22-8	27	20	No data available	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	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. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
<b>Ingestion</b>	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

<b>Symptoms</b>	May cause redness and tearing of the eyes. Burning sensation. Prolonged contact may cause redness and irritation.
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### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.

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

<b>Specific hazards arising from the chemical</b>	No information available.
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### 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.

## SECTION 6: Accidental release measures

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Other information** 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** See Section 12 for additional Ecological Information.

### 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** 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** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store according to product and label instructions.

### 7.3. Specific end use(s)

**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	European Union	Austria	Belgium	Bulgaria	Croatia
1,2,3-Propanetriol 56-81-5	-	-	TWA: 10 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>
Sodium azide 26628-22-8	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL 0.3 mg/m <sup>3</sup>	*	STEL: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>

	*	H*		K*	*
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
1,2,3-Propanetriol 56-81-5	-	TWA: 10 mg/m <sup>3</sup> Ceiling: 15 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>	TWA: 20 mg/m <sup>3</sup>
Sodium azide 26628-22-8	* STEL: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> Ceiling: 0.3 mg/m <sup>3</sup> *	TWA: 0.1 mg/m <sup>3</sup> H*	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> A*	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> iho*
Chemical name	France	Germany	Germany MAK	Greece	Hungary
1,2,3-Propanetriol 56-81-5	TWA: 10 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> Peak: 400 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	-
Sodium azide 26628-22-8	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> *	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup> Peak: 0.4 mg/m <sup>3</sup>	TWA: 0.1 ppm TWA: 0.3 mg/m <sup>3</sup> STEL: 0.1 ppm STEL: 0.3 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>
Chemical name	Ireland	Italy	Italy REL	Latvia	Lithuania
Sodium azide 26628-22-8	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> Sk*	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> pelle*	Ceiling: 0.29 mg/m <sup>3</sup> Ceiling: 0.11 ppm	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> *	* TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
1,2,3-Propanetriol 56-81-5	-	-	-	-	TWA: 10 mg/m <sup>3</sup>
Sodium azide 26628-22-8	* STEL: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	* STEL: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> H*	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>	STEL: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> *
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
1,2,3-Propanetriol 56-81-5	TWA: 10 mg/m <sup>3</sup>	-	TWA: 11 mg/m <sup>3</sup>	TWA: 200 mg/m <sup>3</sup> STEL: 400 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>
Sodium azide 26628-22-8	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> Ceiling: 0.29 mg/m <sup>3</sup> Ceiling: 0.11 ppm P*	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> *	TWA: 0.1 mg/m <sup>3</sup> * Ceiling: 0.3 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> *	TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> vía dérmica*
Chemical name	Sweden		Switzerland		United Kingdom
1,2,3-Propanetriol 56-81-5	-		TWA: 50 mg/m <sup>3</sup> STEL: 100 mg/m <sup>3</sup>		TWA: 10 mg/m <sup>3</sup> STEL: 30 mg/m <sup>3</sup>
Sodium azide 26628-22-8	NGV: 0.1 mg/m <sup>3</sup> Bindande KGV: 0.3 mg/m <sup>3</sup>		TWA: 0.2 mg/m <sup>3</sup> STEL: 0.4 mg/m <sup>3</sup>		TWA: 0.1 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup> 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)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

**8.2. Exposure controls****Personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.



**General hygiene considerations** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

**Environmental exposure controls** No information available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Colour</b>	blue
<b>Odour</b>	Rotten.
<b>Odour threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>	No data available	None known
<b>Boiling point / boiling range</b>	100 °C	
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Flash point</b>	160 °C	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>		None known
<b>pH</b>		
<b>pH (as aqueous solution)</b>	No data available	No information available
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Water solubility</b>	Miscible in water	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Vapour pressure</b>	No data available	None known
<b>Relative density</b>	No data available	None known
<b>Bulk density</b>	No data available	
<b>Liquid Density</b>	No data available	
<b>Vapour density</b>	No data available	None known
<b>Particle characteristics</b>		
<b>Particle Size</b>	No information available	
<b>Particle Size Distribution</b>	No information available	

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Not applicable

#### 9.2.2. Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity** No information available.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

#### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Avoid contact with metals. This product contains Sodium azide. Sodium azide can react with Copper, Brass, Lead, and solder in piping systems to form explosive compounds and toxic gases.

#### 10.4. Conditions to avoid

**Conditions to avoid** None known based on information supplied.

#### 10.5. Incompatible materials

**Incompatible materials** Metals.

#### 10.6. Hazardous decomposition products

**Hazardous decomposition products** None known based on information supplied.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Information on likely routes of exposure

##### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. Causes mild skin irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

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

**Symptoms** May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation.

#### Acute toxicity

##### Numerical measures of toxicity

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

ATEmix (oral) 64,400.00 mg/kg  
ATEmix (inhalation-dust/mist) 48.80 mg/l

##### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
1,2,3-Propanetriol	= 12600 mg/kg ( Rat )	> 10 g/kg ( Rabbit )	> 2.75 mg/L ( Rat ) 4 h
Sodium lauryl sulfate	= 1288 mg/kg ( Rat )	= 200 mg/kg ( Rabbit )	> 3900 mg/m <sup>3</sup> ( Rat ) 1 h
Sodium azide	= 27 mg/kg ( Rat )	= 20 mg/kg ( Rabbit )	0.054 - 0.52 mg/L ( Rat ) 4 h

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

**Skin corrosion/irritation** Classification based on data available for ingredients.

**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## **11.2. Information on other hazards**

### **11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

### **11.2.2. Other information**

**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.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
1,2,3-Propanetriol	-	LC50: 51 - 57mL/L (96h, <i>Oncorhynchus mykiss</i> )	-	-
Sodium lauryl sulfate	EC50: 3.59 - 15.6mg/L (96h, <i>Pseudokirchneriella subcapitata</i> ) EC50: 30 - 100mg/L (96h, <i>Desmodesmus subspicatus</i> ) EC50: =117mg/L (96h, <i>Pseudokirchneriella subcapitata</i> ) EC50: =53mg/L (72h, <i>Desmodesmus subspicatus</i> )	LC50: 10.2 - 22.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 10.8 - 16.6mg/L (96h, <i>Poecilia reticulata</i> ) LC50: 13.5 - 18.3mg/L (96h, <i>Poecilia reticulata</i> ) LC50: 15 - 18.9mg/L (96h, <i>Pimephales promelas</i> ) LC50: 22.1 - 22.8mg/L (96h, <i>Pimephales promelas</i> ) LC50: 4.06 - 5.75mg/L (96h, <i>Lepomis macrochirus</i> )	-	EC50: =1.8mg/L (48h, <i>Daphnia magna</i> )

		LC50: 4.2 - 4.8mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: 4.3 - 8.5mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: 5.8 - 7.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 6.2 - 9.6mg/L (96h, <i>Pimephales promelas</i> ) LC50: 8 - 12.5mg/L (96h, <i>Pimephales promelas</i> ) LC50: 9.9 - 20.1mg/L (96h, <i>Brachydanio rerio</i> ) LC50: =1.31mg/L (96h, <i>Cyprinus carpio</i> ) LC50: =4.2mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =4.5mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =4.62mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =7.97mg/L (96h, <i>Brachydanio rerio</i> )		
Sodium azide	-	LC50: =0.7mg/L (96h, <i>Lepomis macrochirus</i> ) LC50: =0.8mg/L (96h, <i>Oncorhynchus mykiss</i> ) LC50: =5.46mg/L (96h, <i>Pimephales promelas</i> )	-	-

**12.2. Persistence and degradability**

**Persistence and degradability** No information available.

**12.3. Bioaccumulative potential****Bioaccumulation****Component Information**

Chemical name	Partition coefficient
1,2,3-Propanetriol	-1.76
Sodium lauryl sulfate	1.6

**12.4. Mobility in soil**

**Mobility in soil** No information available.

**12.5. Results of PBT and vPvB assessment****PBT and vPvB assessment**

Chemical name	PBT and vPvB assessment
1,2,3-Propanetriol	The substance is not PBT / vPvB
Sodium lauryl sulfate	The substance is not PBT / vPvB
Sodium azide	The substance is not PBT / vPvB

**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties** No information available.

**12.7. Other adverse effects**

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Flush pipes with water frequently if discarding solutions containing Sodium azide into metal piping systems.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## SECTION 14: Transport information

### IATA

<b>14.1 UN number or ID number</b>	Not regulated
<b>14.2 UN proper shipping name</b>	Not regulated
<b>14.3 Transport hazard class(es)</b>	Not regulated
<b>14.4 Packing group</b>	Not regulated
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	None

### IMDG

<b>14.1 UN number or ID number</b>	Not regulated
<b>14.2 UN proper shipping name</b>	Not regulated
<b>14.3 Transport hazard class(es)</b>	Not regulated
<b>14.4 Packing group</b>	Not regulated
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	None
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	No information available

### RID

<b>14.1 UN number</b>	Not regulated
<b>14.2 UN proper shipping name</b>	Not regulated
<b>14.3 Transport hazard class(es)</b>	Not regulated
<b>14.4 Packing group</b>	Not regulated
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	None

### ADR

<b>14.1 UN number or ID number</b>	Not regulated
<b>14.2 UN proper shipping name</b>	Not regulated
<b>14.3 Transport hazard class(es)</b>	Not regulated
<b>14.4 Packing group</b>	Not regulated
<b>14.5 Environmental hazards</b>	Not applicable
<b>14.6 Special Precautions for Users</b>	
<b>Special Provisions</b>	None

## SECTION 15: Regulatory information

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

#### National regulations

#### **Germany**

**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

**European Union**

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.

**Authorizations and/or restrictions on use:**

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**International Inventories**

Contact supplier for inventory compliance status

**15.2. Chemical safety assessment****Chemical Safety Report**

No information available

**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**

EUH032 - Contact with acids liberates very toxic gas

H300 - Fatal if swallowed

H302 - Harmful if swallowed

H310 - Fatal in contact with skin

H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

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:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)  
Ceiling Maximum limit value

STEL  
\*

STEL (Short Term Exposure Limit)  
Skin designation

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)  
EPA (Environmental Protection Agency)  
Acute Exposure Guideline Level(s) (AEL(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)  
Australia 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)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision Note** Reformatted and updated existing information

**Revision date** 02-Jun-2022

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**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**