

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.6

Revision Date 04.11.2019

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

### 1.1 Product identifiers

Product name : Trizma® base

Product Number : T1503

Brand : Sigma

REACH No. : 01-2119957659-16-XXXX

CAS-No. : 77-86-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Company : Sigma-Aldrich Chemie GmbH  
Eschenstrasse 5  
D-82024 TAUFKIRCHEN

Telephone : +49 (0)89 6513-1130

Fax : +49 (0)89 6513-1161

### 1.4 Emergency telephone number

Emergency Phone # : 0800 181 7059 (CHEMTREC Deutschland)  
+49 (0)696 43508409 (CHEMTREC  
weltweit)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.3 Other hazards

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 2-Amino-2-(hydroxymethyl)-1,3-propanediol  
THAM  
Trometamol  
Tris base  
Tris(hydroxymethyl)aminomethane

Formula : XXXXXX  
Molecular weight : 121,14 g/mol  
CAS-No. : 77-86-1  
EC-No. : 201-064-4

No components need to be disclosed according to the applicable regulations.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

#### In case of skin contact

Wash off with soap and plenty of water.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available



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## **SECTION 6: Accidental release measures**

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

Avoid dust formation. Avoid breathing vapours, mist or gas.  
For personal protection see section 8.

### **6.2 Environmental precautions**

No special environmental precautions required.

### **6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

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

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

Hygroscopic. Store under inert gas.

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

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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

### **8.1 Control parameters**

#### **Components with workplace control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

General industrial hygiene practice.

#### **Personal protective equipment**

##### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)



Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

No special environmental precautions required.

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## **SECTION 9: Physical and chemical properties**

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

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|---|---|
| a) Appearance                                   | Form: crystalline<br>Colour: white                                    |
| b) Odour  | slight, characteristic  |
| c) Odour Threshold                              | No data available   |
| d) pH   | 10,2 - 10,6 at 6 g/l at 20 °C   |
| e) Melting point/freezing point                 | Melting point/range: 169 °C at ca.1.013 hPa - OECD Test Guideline 102 |
| f) Initial boiling point and boiling range      | 219 - 220 °C at 13,3 hPa  |
| g) Flash point                                  | No data available   |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | The product is not flammable.   |
| j) Upper/lower flammability or explosive limits | No data available   |



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|--|---|
| k) Vapour pressure                           | < 0,1 hPa at 20 °C  |
| l) Vapour density                            | No data available   |
| m) Relative density                          | 0,61 g/cm <sup>3</sup> at 25 °C                             |
| n) Water solubility                          | 678 g/l at 20 °C - completely soluble                       |
| o) Partition coefficient:<br>n-octanol/water | log Pow: -2,31 at 20 °C - Bioaccumulation is not expected.  |
| p) Auto-ignition<br>temperature              | The substance or mixture is not classified as self heating. |
| q) Decomposition<br>temperature              | 143 °C -  |
| r) Viscosity                                 | Not applicable  |
| s) Explosive properties                      | No data available   |
| t) Oxidizing properties                      | No data available   |

## 9.2 Other safety information

Bulk density	800 kg/m <sup>3</sup>
Solubility in other solvents	ethyl acetate at 20 °C - slightly soluble Alcohol at 20 °C - soluble Dimethylformamide at 20 °C - soluble Acetone at 20 °C - soluble Chloroform at 20 °C - practically insoluble
Dissociation constant	8,22 at 25 °C

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

hygroscopic

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - No data available

In the event of fire: see section 5



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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - female - > 5.000 mg/kg  
(OECD Test Guideline 425)

LD50 Dermal - Rat - male and female - > 5.000 mg/kg  
(OECD Test Guideline 402)

#### Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation  
(OECD Test Guideline 405)

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

Mutagenicity (mammal cell test): chromosome aberration.

Chinese hamster lung cells

Result: negative

In vitro mammalian cell gene mutation test

Chinese hamster ovary cells

Result: negative

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

#### Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 90 d - No observed adverse effect level - 250 mg/kg - Lowest observed adverse effect level - 1.000 mg/kg

Subchronic toxicity The value is given in analogy to the following substances:

Repeated dose toxicity - Rabbit - male and female - 28 d - Lowest observed adverse effect level - 500 mg/kg

Subacute toxicity

RTECS: TY2900000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.



After swallowing of large amounts:

Diarrhoea, Nausea, Vomiting, Convulsions

The following applies to aliphatic amines in general: irritations after contact with eyes and skin. Mucosal irritations, coughing, and dyspnoea after inhalation., This substance should be handled with particular care.

Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments. However, when the product is handled appropriately, hazardous effects are unlikely to occur.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to daphnia and other aquatic invertebrates      static test EC50 - Daphnia magna (Water flea) - > 980 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae      static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 473 mg/l - 48 h (OECD Test Guideline 201)

Toxicity to bacteria      static test EC50 - activated sludge - > 1.000 mg/l - 3 h (OECD Test Guideline 209)

### 12.2 Persistence and degradability

Biodegradability      aerobic - Exposure time 28 d  
Result: 97,1 % - Readily biodegradable.  
(OECD Test Guideline 301F)

### 12.3 Bioaccumulative potential

No bioaccumulation is to be expected (log Pow ≤ 4).

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.



