

## SAFETY DATA SHEET

Version 4.23

Revision Date 11/07/2017

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**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : Trizma® base

Product Number : T1503

Brand : Sigma

CAS-No. : 77-86-1

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Canada Co.  
2149 Winston Park Drive  
OAKVILLE ON L6H 6J8  
CANADA

Telephone : +1 9058299500

Fax : +1 9058299292

**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Not a hazardous substance or mixture.

**2.2 GHS Label elements, including precautionary statements**

Not a hazardous substance or mixture.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

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**3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**Synonyms : 2-Amino-2-(hydroxymethyl)-1,3-propanediol  
THAM  
Trometamol  
Tris base  
Tris(hydroxymethyl)aminomethaneFormula : C<sub>4</sub>H<sub>11</sub>NO<sub>3</sub>

Molecular weight : 121.14 g/mol

CAS-No. : 77-86-1

EC-No. : 201-064-4

Registration number : 01-2119957659-16-XXXX

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

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## 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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## 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

No data available

### 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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## 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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## 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.

Hygroscopic. Store under inert gas.

Storage class (TRGS 510): 13: Non Combustible Solids

### 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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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 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.

##### 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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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |                                            |                                                                               |
|--------------------------------------------|-------------------------------------------------------------------------------|
| a) Appearance                              | Form: crystalline<br>Colour: colourlesswhite                                  |
| b) Odour                                   | No data available                                                             |
| c) Odour Threshold                         | No data available                                                             |
| d) pH                                      | 10.5 - 12                                                                     |
| e) Melting point/freezing point            | Melting point/range: 168 °C (334 °F)                                          |
| f) Initial boiling point and boiling range | 288 °C (550 °F) at 1,013 hPa (760 mmHg) - Decomposes below the boiling point. |

- |                                                 |                                                             |
|-------------------------------------------------|-------------------------------------------------------------|
| g) Flash point                                  | No data available                                           |
| h) Evaporation rate                             | No data available                                           |
| i) Flammability (solid, gas)                    | Does not sustain combustion.                                |
| j) Upper/lower flammability or explosive limits | No data available                                           |
| k) Vapour pressure                              | No data available                                           |
| l) Vapour density                               | No data available                                           |
| m) Relative density                             | No data available                                           |
| n) Water solubility                             | 678 g/l at 20 °C (68 °F)                                    |
| o) Partition coefficient: n-octanol/water       | log Pow: -2.31 at 20 °C (68 °F)                             |
| p) Auto-ignition temperature                    | The substance or mixture is not classified as self heating. |
| q) Decomposition temperature                    | No data available                                           |
| r) Viscosity                                    | Not applicable                                              |
| s) Explosive properties                         | Not explosive                                               |
| t) Oxidizing properties                         | The substance or mixture is not classified as oxidizing.    |

## 9.2 Other safety information

- |                       |                       |
|-----------------------|-----------------------|
| Bulk density          | 800 kg/m <sup>3</sup> |
| Dissociation constant | 8.22 at 25 °C (77 °F) |

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## 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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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - > 5,000 mg/kg  
 (OECD Test Guideline 425)

Inhalation: No data available

LD50 Dermal - Rat - > 5,000 mg/kg  
 (OECD Test Guideline 402)

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation  
(OECD Test Guideline 404)**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation  
(OECD Test Guideline 405)**Respiratory or skin sensitisation**

Buehler Test - Guinea pig

Does not cause skin sensitisation.  
(OECD Test Guideline 406)**Germ cell mutagenicity**

Result: Not mutagenic in Ames Test

in vitro assay

Result: negative

In vitro tests did not show mutagenic effects

Result: In vivo tests did not show any chromosomal changes.

**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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Reproductive toxicity**

No data available

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 - Oral - Subacute toxicity - NOAEL : 1,000 mg/kg

RTECS: TY2900000

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

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia (water flea) - &gt; 980 mg/l - 48 h

Toxicity to algae EC50 - Algae - 397 mg/l - 72 h  
NOEC - Algae - 100 mg/l - 72 h**12.2 Persistence and degradability**Biodegradability Result: - 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).

### 12.6 Other adverse effects

No data available

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## 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.

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## 14. TRANSPORT INFORMATION

#### TDG (Canada)

Not dangerous goods

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

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## 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

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## 16. OTHER INFORMATION

#### Further information

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