

## SAFETY DATA SHEET

Version 4.7

Revision Date 06/27/2014

Print Date 11/09/2018

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Tris(hydroxymethyl)aminomethane

Product Number : 154563

Brand : Aldrich

Product Use : For laboratory research purposes.

Supplier : Sigma-Aldrich Canada Co.  
2149 Winston Park Drive  
OAKVILLE ON L6H 6J8  
CANADA

Manufacturer : Sigma-Aldrich Corporation  
3050 Spruce St.  
St. Louis, Missouri 63103  
USA

Telephone : +1 9058299500

Fax : +1 9058299292

Emergency Phone # (For both supplier and manufacturer) : +1-703-527-3887 (CHEMTREC)

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

## 2. HAZARDS IDENTIFICATION

## Emergency Overview

## WHMIS Classification

Not WHMIS controlled.

Not a dangerous substance or mixture according to the Globally Harmonised System (GHS).

## HMIS Classification

Health hazard: 0

Flammability: 0

Physical hazards: 0

## NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

## Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes** May cause eye irritation.

**Ingestion** May be harmful if swallowed.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $C_4H_{11}NO_3$

Molecular Weight : 121.14 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Tris (hydroxymethyl) aminomethane</b>			
77-86-1	201-064-4	-	<=100%

#### 4. 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.

---

#### 5. FIREFIGHTING MEASURES

**Conditions of flammability**

Not flammable or combustible.

**Suitable extinguishing media**

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

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

**Explosion data - sensitivity to mechanical impact**

no data available

**Explosion data - sensitivity to static discharge**

no data available

---

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Avoid dust formation. Avoid breathing vapours, mist or gas.

**Environmental precautions**

Do not let product enter drains.

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

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

---

#### 7. HANDLING AND STORAGE

**Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed.

**Conditions for safe storage**

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

Hygroscopic.

---

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Personal protective equipment**

**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).

**Hand 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.

### **Eye protection**

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

### **Skin and 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.

### **Hygiene measures**

General industrial hygiene practice.

### **Specific engineering controls**

Use mechanical exhaust or laboratory fumehood to avoid exposure.

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

### **Appearance**

Form	crystalline
Colour	colourless white

### **Safety data**

pH	10.5 - 12
Melting point/freezing point	Melting point/range: 169 °C (336 °F)
Boiling point	288 °C (550 °F) at 1,013 hPa (760 mmHg) - Decomposes below the boiling point.
Flash point	no data available
Ignition temperature	no data available
Auto-ignition temperature	The substance or mixture is not classified as self heating.
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	no data available
Water solubility	678 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	log Pow: -2.31 at 20 °C (68 °F)
Viscosity, kinematic	
Relative vapour density	no data available

Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

---

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

hygroscopic

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Other decomposition products - no data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

---

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - > 3,000 mg/kg

#### Inhalation LC50

no data available

#### Dermal LD50

LD50 Dermal - rat - > 5,000 mg/kg

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

Skin - rabbit - No skin irritation - OECD Test Guideline 404

### Serious eye damage/eye irritation

Eyes - rabbit - No eye irritation - OECD Test Guideline 405

### Respiratory or skin sensitisation

Buehler Test - guinea pig - OECD Test Guideline 406 - Does not cause skin sensitisation.

### Germ cell mutagenicity

Genotoxicity in vitro - Not mutagenic in Ames Test.

Genotoxicity in vitro - in vitro assay - negative

In vitro tests did not show mutagenic effects

Genotoxicity in vivo - 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

### Teratogenicity

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

**Signs and Symptoms of Exposure**

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

**Synergistic effects**

no data available

**Additional Information**

Repeated dose toxicity - rat - Oral - No observed adverse effect level - 1,000 mg/kg

RTECS: TY2900000

---

**12. ECOLOGICAL INFORMATION**

**Toxicity**

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia - > 980 mg/l - 48 h
Toxicity to algae	EC50 - Algae - 397 mg/l - 72 h NOEC - Algae - 100 mg/l - 72 h

**Persistence and degradability**

Biodegradability	Result: - Readily biodegradable. Method: OECD Test Guideline 301F
------------------	--

**Bioaccumulative potential**

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

**Mobility in soil**

no data available

**PBT and vPvB assessment**

Results of PBT assessment	This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
---------------------------	---

**Other adverse effects**

no data available

---

**13. DISPOSAL CONSIDERATIONS**

**Product**

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

**Contaminated packaging**

Dispose of as unused product.

---

**14. TRANSPORT INFORMATION**

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

---

**15. REGULATORY INFORMATION****WHMIS Classification**

Not WHMIS controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

---

**16. OTHER INFORMATION****Further information**

Copyright 2014 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.