

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Triethanolamine	
Product Number	:	T1377	
Brand	:	Sigma-Aldrich	
Product Use	:	For laboratory research purposes.	
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA	Manufacturer : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA
Telephone	:	+1 800-325-5832	
Fax	:	+1 800-325-5052	
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555	
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956	

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Target Organ Effect, Irritant

##### Target Organs

Liver, Kidney Liver, Kidney

##### GHS Classification

Eye irritation (Category 2A)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H319

Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### HMIS Classification

Health hazard: 2

Chronic Health Hazard: \*

Flammability: 1

Physical hazards: 0

##### NFPA Rating

Health hazard: 2

Fire: 1

Reactivity Hazard: 0

## Potential Health Effects

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

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 2,2',2''-Nitrilotriethanol  
Tris(2-hydroxyethyl)amine

Formula : C<sub>6</sub>H<sub>15</sub>NO<sub>3</sub>  
Molecular Weight : 149.19 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>2,2',2''-Nitrilotriethanol</b>			
102-71-6	203-049-8	-	-

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## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

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

### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

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

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## 5. FIRE-FIGHTING 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 fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Hazardous combustion products

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

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### Environmental precautions

Do not let product enter drains.

### Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

### Conditions for safe storage

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

hygroscopic

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
2,2',2''-Nitrilotriethanol	102-71-6	TWA	5 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Skin & eye irritation			

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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.

#### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	viscous
Colour	colourless

### Safety data

pH	10.5 - 11.5 at 149 g/l at 25 °C (77 °F)
Melting point/freezing point	Melting point/range: 17.9 - 21 °C (64.2 - 70 °F)
Boiling point	190 - 193 °C (374 - 379 °F) at 7 hPa (5 mmHg)
Flash point	179 °C (354 °F) - closed cup
Ignition temperature	316 °C (601 °F)
Autoignition temperature	no data available
Lower explosion limit	1.3 %(V)
Upper explosion limit	8.5 %(V)
Vapour pressure	no data available

Density	1.124 g/mL at 25 °C (77 °F)
Water solubility	149 g/l at 20 °C (68 °F) - completely soluble
Partition coefficient: n-octanol/water	no data available
Relative vapour density	5.15 - (Air = 1.0)
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

Air Exposure to moisture. Light.

### Materials to avoid

Acids, Oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - mouse - 5,846 mg/kg

Remarks: Behavioral:Convulsions or effect on seizure threshold. Diarrhoea Kidney, Ureter, Bladder:Other changes.

LD50 Oral - rat - 5,530 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Diarrhoea Skin and Appendages: Other: Hair.

LD50 Oral - rabbit - 2,200 mg/kg

LD50 Oral - guinea pig - 2,200 mg/kg

#### Inhalation LC50

no data available

#### Dermal LD50

LD50 Dermal - rabbit - > 22.5 g/kg

#### Other information on acute toxicity

no data available

### Skin corrosion/irritation

Skin - rabbit - No skin irritation

### Serious eye damage/eye irritation

Eyes - rabbit - Eye irritation

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### **Carcinogenicity**

- IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2,2',2''-Nitrilotriethanol)
- 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.
- NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### **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. Causes respiratory tract irritation.
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<b>Eyes</b>	Causes eye irritation.

### **Signs and Symptoms of Exposure**

Kidney injury may occur., Dermatitis

### **Synergistic effects**

no data available

### **Additional Information**

RTECS: KL9275000

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## **12. ECOLOGICAL INFORMATION**

### **Toxicity**

Toxicity to fish	LC50 - Lepomis macrochirus (Bluegill) - 450 - 1,000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia - 609.98 mg/l - 48 h

### **Persistence and degradability**

Biodegradability Result: 96 % - Readily biodegradable.

### **Bioaccumulative potential**

no data available

### **Mobility in soil**

no data available

### **PBT and vPvB assessment**

no data available

### **Other adverse effects**

no data available

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### 13. DISPOSAL CONSIDERATIONS

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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### 14. TRANSPORT INFORMATION

#### DOT (US)

Not dangerous goods

#### IMDG

Not dangerous goods

#### IATA

Not dangerous goods

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### 15. REGULATORY INFORMATION

#### OSHA Hazards

Target Organ Effect, Irritant

#### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right To Know Components

2,2',2''-Nitrilotriethanol

CAS-No.  
102-71-6

Revision Date  
1993-04-24

#### Pennsylvania Right To Know Components

2,2',2''-Nitrilotriethanol

CAS-No.  
102-71-6

Revision Date  
1993-04-24

#### New Jersey Right To Know Components

2,2',2''-Nitrilotriethanol

CAS-No.  
102-71-6

Revision Date  
1993-04-24

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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### 16. OTHER INFORMATION

#### Further information

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