



Triethanolamine (D₁₅, 98%) CP 97%

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 4/14/2011 Revision date: 4/2/2024 Supersedes: 2/14/2017 Version: 4.0

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : Triethanolamine (D₁₅, 98%) CP 97%
CAS-No. : 102-71-6
Product code : DLM-7663
Formula : C₆H₁₅NO₃
Synonyms : 2,2',2''-Nitrilotriethanol / Tris(2-hydroxyethyl)amine

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
01810
ANDOVER, MA, 01810
USA
T 1-800-322-1174
cilsales@isotope.com - www.isotope.com

1.4. Emergency telephone number

Emergency number : 1-703-741-5970
Chemtrec 1-800-424-9300 24 hours

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 4	H227	Combustible liquid
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2	H319	Causes serious eye irritation
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H227 - Combustible liquid
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, sparks, open flames

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P261 - Avoid breathing dust, gas, mist, spray.
P264 - Wash hands thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), D-powder to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
Triethanolamine (D ₁₅ , 98%) CP 97% (Main constituent)	CAS-No.: 102-71-6	100	Flam. Liq. 4, H227 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell. Evacuate danger area.
First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air. If not breathing, give artificial respiration. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact : Consult a doctor/medical service. Wash skin with plenty of water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell. Never give anything by mouth to an unconscious person. Rinse mouth out with water.

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4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Kidney injury may occur. Dermatitis. Liver - Irregularities - Based on Human Evidence. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Alcohol-resistant foam. Dry powder.

5.2. Specific hazards arising from the chemical

Fire hazard : Combustible liquid.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Wear a self contained breathing apparatus.
Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid dust formation. Avoid breathing dust, mist or spray.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Avoid discharge to atmosphere.

6.3. Methods and material for containment and cleaning up

For containment : For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal. This material and its container must be disposed of in a safe way, and as per local legislation. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

No additional information available

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide appropriate exhaust ventilation at places where dust is formed.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep container tightly closed in a dry and well-ventilated place.
Storage conditions : Store at room temperature away from light and moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Triethanolamine (D ₁₅ , 98%) CP 97% (102-71-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	5 mg/m ³ Eye irritation;Skin irritation. USA. ACGIH Threshold Limit Values (TLV)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL STEL [1]	5 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2. Appropriate engineering controls

Appropriate engineering controls : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Environmental exposure controls : Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

Materials for protective clothing:

Wear suitable protective clothing and gloves

Hand protection:

Wear suitable protective clothing and gloves

Eye protection:

Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection:

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

Personal protective equipment symbol(s):



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous Liquid.
Color	: Colourless
Odor	: No data available
Odor threshold	: No data available
pH	: 10.5 – 11.5 at 149 g/l at 25 °C (77 °F)
Melting point	: 17.9 – 21 °C (64.2 - 70 °F)
Freezing point	: No data available
Boiling point	: 190 – 193 °C (374 - 379 °F) at 7 hPa (5 mmHg)
Flash point	: 179 °C (354 °F) - closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: 5.15 - (Air = 1.0)
Relative density	: No data available
Density	: 1.124 g/ml at 25 °C (77 °F)
Molecular mass	: 164.28 g/mol (Labeled)
Solubility	: Water: 149 g/l
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 1.3 – 8.5 vol %
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Air exposure to moisture. Light.

10.5. Incompatible materials

Acids. Oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides, nitrogen oxides (NOx).

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Triethanolamine (D ₁₅ , 98%) CP 97% (102-71-6)	
LD50 oral rat	5530 mg/kg Remarks: Sense Organs and Special Senses (Nose, Eye, Ear and Taste): Eye: Lacrimation. Diarrhea. SKin and Appendages: Other: Hair.
LD50 dermal rabbit	> 22.5
ATE US (oral)	5530 mg/kg body weight
Additional data	LD50, oral, rabbit: 2200 mg/kg LD50, Guinea pig: 2200 mg/kg

Skin corrosion/irritation : Causes skin irritation.
pH: 10.5 – 11.5 at 149 g/l at 25 °C (77 °F)
Serious eye damage/irritation : Causes serious eye irritation.
pH: 10.5 – 11.5 at 149 g/l at 25 °C (77 °F)
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

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IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Kidney injury may occur. Dermatitis. Liver - Irregularities - Based on Human Evidence. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: May be harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Triethanolamine (D ₁₅ , 98%) CP 97% (102-71-6)	
LC50 - Fish [1]	450 – 1000 mg/l LC50 - Lepomis macrochirus (Bluegill) - 450 - 96 h
LC50 - Other aquatic organisms [1]	609.98 mg/l EC50 - Daphnia (water flea) - 48 h

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12.2. Persistence and degradability

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Biodegradation	96 % - Readily biodegradable
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

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

Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

Proper Shipping Name (TDG) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG
Transport hazard class(es) (TDG) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

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Packing group (TDG) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Not dangerous goods.

DOT

No data available

TDG

No data available

IMDG

No data available

IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

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SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Triethanolamine (D ₁₅ , 98%) CP 97%	102-71-6	Not present	-	

15.2. International regulations

CANADA

Triethanolamine (D₁₅, 98%) CP 97% (102-71-6)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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Listed on INSQ (Mexican National Inventory of Chemical Substances)

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15.3. US State regulations

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State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
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SECTION 16: Other information

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Revision date

: 04/02/2024

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of H-phrases

H227	Combustible liquid
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

Safety Data Sheet (SDS), USA

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