

Triethanolamine 85%

SECTION 1. IDENTIFICATION

Product Identifier	Triethanolamine 85%
Other Means of Identification	2,2',2''-Nitrilotriethanol, Trihydroxytriethylamine, Trolamine
Product Code(s)	TR5010
Product Family	Alkanolamine
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0508

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Skin corrosion - Category 1A; Serious eye damage - Category 1; Carcinogenicity - Category 2; Specific target organ toxicity (repeated exposure) - Category 2

Label Elements



Signal Word:
Danger

Hazard Statement(s):

Causes severe skin burns and eye damage.

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands and skin thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a POISON CENTRE or doctor.

Storage:

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

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Triethanolamine	102-71-6	80 - 90	Daltogen, Tri(2-hydroxyethyl)amine
Diethanolamine	111-42-2	10 - 20	Diolamine, 2-(2-Hydroxyethylamino) ethanol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Get medical advice or attention if you feel unwell.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Rinse mouth with water. Do not induce vomiting. If exposed or concerned, get medical advice or attention.

First-aid Comments

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace.

Most Important Symptoms and Effects, Acute and Delayed

None known.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific Hazards Arising from the Product

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Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. Use water spray to flush spills away from ignition sources. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

A full-body encapsulating chemical protective suit with positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials. Eliminate all ignition sources if safe to do so.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Neutralize with acid. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Place used absorbent into suitable, covered, labelled containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not get in eyes, on skin or on clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Prevent accidental contact with incompatible chemicals. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Diethanolamine			3 ppm			
Triethanolamine	5 mg/m3		Not established			

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Not usually required when working with small quantities. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear yellow liquid.
Odour	Ammonia-like
Odour Threshold	Not available
pH	11.7
Melting Point/Freezing Point	15.8 °C (60.4 °F) (melting); 15.8 °C (60.4 °F) (freezing)
Initial Boiling Point/Range	310.3 °C (590.5 °F)
Flash Point	194.4 °C (381.9 °F)
Evaporation Rate	< 0.01 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	< 0 kPa (0 mm Hg)
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.126 at 20 °C
Solubility	Very soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	1.75
Auto-ignition Temperature	Not available
Decomposition Temperature	500 - 600 °C (932 - 1112 °F)
Viscosity	50 mm ² /s (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Other Physical Property 1	Viscosity (kinematic) measured at 37.8 deg C (100 deg F)

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Light. Water, moisture or humidity. Exposure to air. Temperatures above 140.0 °C (284.0 °F)

Incompatible Materials

Strong acids (e.g. hydrochloric acid), oxidizing agents (e.g. peroxides), aldehydes (e.g. acetaldehyde), metals (e.g. aluminum), halogenated compounds (e.g. trichloroethylene), ketones (e.g. acetone), strong bases (e.g. sodium hydroxide), strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; corrosive, oxidizing nitrogen oxides.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

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Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Diethanolamine	> 0.4 ppm (rat) 6-hr	1730 mg/kg (male rat)	8180 mg/kg (male rabbit)
Triethanolamine	~ 0.005 ppm (rat) 6-hr	9000 mg/kg (rat)	> 19870 mg/kg (rabbit)

Skin Corrosion/Irritation

May cause moderate or severe irritation based on information for closely related materials.

Serious Eye Damage/Irritation

Causes serious eye irritation based on skin irritation information.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Ingestion

No information was located.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause damage to organs.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Diethanolamine	Group 2B	A3	Not Listed	
Triethanolamine	Group 3	Not designated	Not Listed	

Key to Abbreviations

Group 2B = Possibly carcinogenic to humans.

A3 = Animal carcinogen.

Group 3 = Not classifiable as to its carcinogenicity to humans.

Reproductive Toxicity

Development of Offspring

Conclusions cannot be drawn from the limited studies available.

Sexual Function and Fertility

Conclusions cannot be drawn from the limited studies available.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under IATA Regulations.

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (DIETHANOLAMINE)	9	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 2 Flammability - 1 Instability - 0

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

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