

Monoethanolamine

SECTION 1. IDENTIFICATION

Product Identifier	Monoethanolamine
Other Means of Identification	Aminoethyl alcohol, beta-Aminoethyl alcohol
Product Code(s)	MO5110
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.	0857

SECTION 2. HAZARD IDENTIFICATION

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

Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Acute toxicity (Inhalation) - Category 4; Skin corrosion - Category 1; Serious eye damage - Category 1; Specific target organ toxicity (single exposure) - Category 3

Label Elements



Signal Word:
Danger

Hazard Statement(s):

Combustible liquid.
Harmful if swallowed, in contact with skin or if inhaled.
May cause respiratory irritation.

Precautionary Statement(s):

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:

Product Identifier: Monoethanolamine

Date of Preparation: January 05, 2017

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

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

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

In case of fire: Use dry chemical powder, appropriate foam to extinguish.

Storage:

Store in a well-ventilated place.

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

Store locked up.

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

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Ethanolamine	141-43-5	> 97	Aminoethyl alcohol, beta-Aminoethyl alcohol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor.

Ingestion

Rinse mouth with water. Do not induce vomiting. If vomiting occurs, have person lie on side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor. Specific treatment is required.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

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

Product Identifier: Monoethanolamine

Date of Preparation: January 05, 2017

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams". Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire and/or health hazard. Closed containers may rupture violently when heated releasing contents. 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

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Stop leak before attempting to put out the fire. Product could form an explosive mixture and reignite. If the leak cannot be stopped, let the fire burn itself out. Use water spray to flush spills away from ignition sources.

Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

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

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. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient.

Environmental Precautions

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

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Remove or recover liquid using pumps or vacuum equipment. Store recovered product in suitable containers that are: tightly-covered.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Avoid generating vapours or mists. Prevent uncontrolled release of product. Prevent accidental contact with incompatible chemicals. Do not use near welding operations or other high energy sources. Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Keep amount in storage to a minimum. 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
Ethanolamine	3 ppm	6 ppm	3 ppm			

Product Identifier: Monoethanolamine

Date of Preparation: January 05, 2017

Page 03 of 06

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

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.

Suitable materials are: butyl rubber, neoprene rubber, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield/4H® (PE/EVAL/PE), Tychem® BR/LV, Tychem® Responder, Tychem® TK.

The following materials should NOT be used: nitrile rubber, polyvinyl chloride.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless liquid. Turns yellow on exposure to air.
Odour	Ammonia-like
Odour Threshold	5 ppm (100% recognition)
pH	11.7 (6% solution)
Melting Point/Freezing Point	10.5 °C (50.9 °F) (melting); 10.5 °C (50.9 °F) (freezing)
Initial Boiling Point/Range	171 °C (340 °F)
Flash Point	86 °C (187 °F)
Evaporation Rate	< 1 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	23.5% (upper); 3.0% (lower)
Vapour Pressure	0.053 kPa (0.398 mm Hg) at 25 °C
Vapour Density (air = 1)	2.1 (calculated)
Relative Density (water = 1)	1.018 at 20 °C
Solubility	Soluble in all proportions in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	-1.31
Auto-ignition Temperature	410 °C (770 °F)
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); 19.35 mPa.s at 25 °C (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	61.08
Other Physical Property 1	Partition coefficient measured at 19 deg C.

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Product Identifier: Monoethanolamine

Date of Preparation: January 05, 2017

Page 04 of 06

None known.

Conditions to Avoid

High temperatures. Temperatures above 85.0 °C (185.0 °F)

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong acids (e.g. hydrochloric acid), halogenated compounds (e.g. trichloroethylene), metals (e.g. aluminum).

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Ethanolamine	0.136 mg/L (rat) 7-hour exposure	1970 mg/kg (male rat)	1025 mg/kg (rabbit)

Skin Corrosion/Irritation

Animal tests show skin corrosion.

Serious Eye Damage/Irritation

Animal tests show serious eye damage.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Toxic, can cause death.

Ingestion

Harmful May cause severe irritation or burns to the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer. No information was located for skin sensitization.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Ethanolamine	Not evaluated	Not designated	Not Listed	

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

Product Identifier: Monoethanolamine

Date of Preparation: January 05, 2017

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

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN2491	Ethanolamine; or Ethanolamine Solution	8	III
Canadian TDG	UN2491	Ethanolamine; or Ethanolamine Solution	8	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 - 3 Flammability - 2 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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