

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Ethanolamine**

Product Number : 398136
Brand : Sigma-Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
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Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 2-Aminoethanol
2-Aminoethyl alcohol
Monoethanolamine

Formula : C₂H₇NO
Molecular Weight : 61.08 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
Ethanolamine			
141-43-5	205-483-3	603-030-00-8	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid
Delayed target organ effects
Corrosive

Target Organs

Liver, Heart, Lungs

HMIS Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 2
Physical hazards: 0

NFPA Rating

Health Hazard: 3
Fire : 2

Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	May cause eye irritation. Causes eye burns.
Ingestion	May be harmful if swallowed. Causes burns.

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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 93 °C (199 °F) - closed cup

Ignition temperature 780 °C (1,436 °F)

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

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

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

hygroscopic

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Ethanolamine	141-43-5	TWA	3 ppm 7.5 mg/m ³	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		STEL	6 ppm 15 mg/m ³	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		TWA	3 ppm 8 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	6 ppm 15 mg/m ³	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	3 ppm 6 mg/m ³	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

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.

Eye protection

Safety glasses

Skin and body protection

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

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 liquid, clear, viscous

Colour colourless

Safety data

pH no data available

Melting point 10 °C (50 °F)

Boiling point 69 - 70 °C (156 - 158 °F) at 13 hPa (10 mmHg)
170 °C (338 °F) at 1,013 hPa (760 mmHg)

Flash point 93 °C (199 °F) - closed cup

Ignition temperature 780 °C (1,436 °F)

Lower explosion limit 2.5 %(V)

Upper explosion limit 17 %(V)

Vapour pressure 0.3 hPa (0.2 mmHg) at 20 °C (68 °F)

Density 1.015 g/cm³

Water solubility no data available

Vapour density 2.11
- (Air = 1.0)

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions. Absorbs carbon dioxide (CO₂) from air.

Conditions to avoid

Exposure to moisture.

Materials to avoid

Iron, Oxidizing agents, Copper

Hazardous decomposition products**Hazardous decomposition products formed under fire conditions.**

Carbon oxides, nitrogen oxides (NO_x)

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD₅₀ Oral - rat - 1,720 mg/kg

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

LD50 Dermal - rabbit - 1,015 mg/kg

Irritation and corrosion

Eyes - rabbit - Severe eye irritation

Sensitisation

no data available

Chronic exposure

no data available

Potential Health Effects

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Ingestion	May be harmful if swallowed. Causes burns.
Target Organs	Liver, Heart, Lungs,

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 227 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h
Toxicity to algae	EC50 - Scenedesmus subspicatus - 15 mg/l - 72 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 2491 Class: 8 Packing group: III
Proper shipping name: Ethanolamine

IMDG

UN-Number: 2491 Class: 8 Packing group: III EMS-No: F-A, S-B
Proper shipping name: ETHANOLAMINE

Marine pollutant: No

IATA

UN-Number: 2491 Class: 8

Packing group: III

Proper shipping name: Ethanolamine

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Delayed target organ effects, Corrosive

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

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

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Ethanolamine	141-43-5	1989-12-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Ethanolamine	141-43-5	1989-12-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Ethanolamine	141-43-5	1989-12-01

California Prop. 65 Components

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

16. OTHER INFORMATION

Further information

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