Safety Data Sheet

Monoethanolamine

This SDS is valid for all grades

Revised on 06/20/2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Monoethanolamine

Synonyms/Generic Names: Colamine, Glycinol, Olamine; Ethanolamine; 2-Aminoethanol; 2-Hydroxyethylamine; beta-Ethanolamine; beta-Hydroxyethylamine

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Alliance Chemical
204 S. Edmond St.
Taylor, Texas 76574
www.alliancechemical.com

For More Information Call: 512-365-6838 (Monday-Friday 8:00-4:00)

In Case of Emergency Call: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Words: Danger

Pictograms:

GHS Classification:

Flammable liquids	Category 4
Acute toxicity, Oral	Category 4
Acute toxicity, Inhalation	Category 4
Acute toxicity, Dermal	Category 4
Skin corrosion	Category 1B
Serious eye damage	Category 1
Acute aquatic toxicity	Category 3

GHS Label Elements, including precautionary statements:

Hazard Statements:

H227	Combustible liquid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H402	Harmful to aquatic life.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P310	Immediately call a POISON CENTER or doctor/physician.
P321	Specific treatment (see label/SDS).
P370+P378	In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/Shower.
P403+P235	Store in a well-ventilated place. Keep cool.
P363	Wash contaminated clothing before reuse.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340	IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405	Store locked up.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

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

NFPA Ratings

Health	3
Flammability	2
Reactivity	0
Specific hazard	Not Available

HMIS Ratings

Health	3
Fire	2
Reactivity	0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Monoethanolamine	>99.5	141-43-5	205-483-3	C_2H_7NO	61.08 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes. Do not interrupt flushing. Seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Flush with plenty of water for at least 15 minutes and wash using soap. Remove contaminated clothing, shoes. Get medical attention immediately.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Product is flammable. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Corrosive and combustible liquid. Product can burn if heated. Emits toxic fumes (carbon oxides, nitrogen oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Neutralize spill with sodium bicarbonate or other suitable neutralizing material. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Keep away from sources of ignition. Ground all equipment containing material. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities
Store in cool, dry well ventilated area. Sensitive to light. Store in light-resistant containers. Hygroscopic material. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ethanolamine	3 ppm 7.5 mg/m^3	TWA	ACGIH (TLV)
	6 ppm 15 mg/m^3	STEL	ACGIH (TLV)
	3 ppm 6 mg/m^3	TWA	OSHA (PEL)
	3 ppm 8 mg/m^3	TWA	NIOSH (REL)
	6 ppm 15 mg/m^3	STEL	NIOSH (REL)

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit usually 15 minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Other	First aid responders should wear chemical protective clothing.

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless, viscous liquid.
Odor	Ammoniacal. Fish. Unpleasant.
Odor threshold	Not Available
pH	12.1 (25% aqueous solution)
Melting point/freezing point	10°C (50°F)
Initial boiling point and boiling range	171°C (340°F)
Flash point	86°C - 94°C (186 - 201°F) PMCC; ASTM D93
Evaporation rate	<1 (n-Butyl acetate = 1)
Flammability (solid, gas)	Combustible liquid
Upper/lower flammability or explosive limit	Upper: 23.5% at 140°C / Lower: 3% at 140 °C
Vapor pressure	53 Pa (@ 20°C)
Vapor density	2.1 (Air = 1)
Density	1.018 (Water = 1)
Solubility (ies)	Soluble in cold water, hot water, methanol, acetone.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	410°C (770°F)
Decomposition temperature	Not Available
Viscosity	18.95 mPas @ 25°C

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Reacts with cellulose nitrate causing fire and explosive hazard.
Conditions to Avoid	Heat, ignition sources, incompatible materials, light, moisture.
Incompatible Materials	Strong acids, strong oxidizing agents, acid anhydrides, acyl halides, alkyl halides.
Hazardous Decomposition Products	May include nitrogen oxides, ammonia, irritating aldehydes and ketones.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Skin	LD50 Dermal - rabbit - 1,015 mg/kg
Eyes	Eyes - rabbit - Severe eye irritation
Respiratory	LC50 – Inhalation – mouse - >1,210 mg/m3 (4 hrs.)
Ingestion	LD50 Oral - rat - 1,720 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH	No components 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 components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Causes discomfort or pain, redness and swelling, chemical burns, blister formation and possible tissue destruction.
Eyes	Causes severe eye irritation and possible eye burns.
Respiratory	Coughing, wheezing, shortness of breath, difficult breathing. Headache, nausea, vomiting and chest pain.
Ingestion	Causes severe irritation and burns to the lips, tongue, throat and digestive tract, abdominal and chest pain, nausea and vomiting.

Acute Toxicity	Symptoms of pulmonary edema can be delayed up to 48 hours after exposure.
Chronic Toxicity	Rare cases of sensitization reactions have been reported in humans.
Teratogenicity	May cause adverse reproductive effects and birth defects.
Mutagenicity	Not Available.
Embryotoxicity	No Significant embryotoxicity were observed.
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	No Significant reproductive toxicity were observed.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Aquatic Vertebrate	LC50 - Pimephales promelas (fathead minnow) - 227 mg/l - 96 h
Aquatic Invertebrate	EC50 - Daphnia magna (Water flea) - 65 mg/l - 48 h
Terrestrial	EC50 - Desmodesmus subspicatus (green algae) - 15 mg/l - 72 h

Persistence and Degradability	Material is readily biodegradable.
Bioaccumulative Potential	Bioconcentration potential is low (BCF < 100 or Log P_{ow} less than 3)
Mobility in Soil	Potential for mobility in soil is very high (K_{oc} between 0 and 50)
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.

Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN2491, Ethanolamine, 8, PG III
TDG	UN2491, ETHANOLAMINE, 8, PG III
IMDG	UN2491, ETHANOLAMINE, 8, PG III
Marine Pollutant	No
IATA/ICAO	UN2491, Ethanolamine, 8, PG III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Massachusetts: Toxic or Hazardous Substance List	Not Listed
Pennsylvania: Hazardous Substance List	Listed: Ethanol, 2-Amino
New Jersey: Right to Know Hazardous Substance List	Listed: Ethanolamine
Rhode Island: Hazardous Substance List	Listed: 2-Aminoethanol
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Fire Hazard, Acute Health Hazard
SARA 312	Fire Hazard, Acute Health Hazard
SARA 313	Not Listed
WHMIS Canada	CLASS B3: Combustible liquid CLASS E: Corrosive

16. OTHER INFORMATION