Safety Data Sheet · OSHA HCS 2024

Monoethanolamine (MEA) Technical Grade

Technical

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-12	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	Monoethanolamine (MEA) Technical Grade
Grade	Technical
CAS Number	141-43-5
Chemical Formula	C2H7NO
Molecular Weight	61.08 g/mol
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Synonyms	2-Aminoethanol; ethanolamine; 2-hydroxyethylamine; colamine; MEA
Recommended Use	Gas treating (CO2 and H2S scrubbing); surfactant, detergent and cosmetic-ingredient manufacture; corrosion inhibitor; metalworking fluids; pH adjustment.
Restrictions on Use	For industrial and laboratory use. Corrosive: avoid all contact. Never mix with nitrites or other nitrosating agents (forms N-nitrosamines), acids or oxidizers.

2 Hazard Identification



Corrosive



Irritant / harmful

Classification	Flammable liquids, Category 4 Acute toxicity (oral), Category 4 Acute toxicity (dermal), Category 4 Skin corrosion/irritation, Category 1 Serious eye damage/eye irritation, Category 1 Acute toxicity (inhalation), Category 4 Specific target organ toxicity, single exposure, Category 3 (respiratory tract irritation)
Signal Word	**Danger**

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
- H335 May cause respiratory irritation

Precautionary Statements

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

P260 Do not breathe dust, fume, gas, mist, vapors or spray.

P261 Avoid breathing dust, fume, gas, mist, vapors or spray.

P264 Wash hands and face thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves, protective clothing, and eye/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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.

P310 Immediately call a POISON CENTER or doctor.

P313 Get medical advice or attention.

P321 Specific treatment (see first-aid information on this label).

P330 Rinse mouth.

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse.

P370+P378 In case of fire: Use dry chemical, CO2 or water spray 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 and container in accordance with local, regional, national, and international regulations.

Classification, hazard (H) and precautionary (P) statements and pictograms per OSHA HCS 2024 (29 CFR 1910.1200, Appendices A–C), aligned with GHS Rev. 7.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Monoethanolamine (2-aminoethanol)	141-43-5	C2H7NO	≥ 99.5% (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes	Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.
Inhalation	Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. 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.
Most Important Symptoms and Effects	Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach. Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat). Ingestion may cause nausea, vomiting and abdominal pain; larger amounts may cause systemic poisoning. Absorption through the skin may cause systemic poisoning. Inhalation may cause coughing, shortness of breath and headache; high concentrations may cause systemic poisoning.
Immediate Medical Attention and Special Treatment	Immediate medical attention is required after eye or skin contact or ingestion; tissue damage may continue after exposure ends.

5 Fire-Fighting Measures

Suitable Extinguishing Media	Dry chemical, CO2, water spray. Use water spray to cool containers.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire.
Specific Hazards Arising from the Chemical	Vapors are heavier than air and may form explosive mixtures with air; they can travel to a source of ignition and flash back. Fire may release corrosive and toxic gases. Containers may rupture when heated.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Hazardous Combustion Products	Nitrogen oxides, ammonia, carbon monoxide and carbon dioxide.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Hazard-Specific Precautions	Eliminate all ignition sources. Use non-sparking tools and explosion-proof equipment; ground and bond containers during cleanup. Do not touch spilled material without protective equipment. Neutralize residue only with a method suitable for the material, then collect.
Environmental Precautions	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Use corrosion-resistant containers. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.
Specific Storage Precautions	Keep tightly closed in steel or stainless-steel containers (never copper, brass, zinc or aluminum), in a cool, ventilated area away from acids, oxidizers, nitrites and ignition sources. Protect from freezing (solidifies at about 10 °C).

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Limit	Value
OSHA PEL	3 ppm TWA
ACGIH TLV	3 ppm TWA; 6 ppm STEL
NIOSH REL	3 ppm (8 mg/m³) TWA; 6 ppm (15 mg/m³) STEL
IDLH	30 ppm

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Where mist, spray or dust is generated (e.g., spraying, atomization, pressure washing), use a NIOSH-approved half-face air-purifying respirator with combination acid gas / P100 cartridges. Ensure local exhaust ventilation.

Exposure limits sourced from NIOSH Pocket Guide, OSHA 29 CFR 1910.1000 and ACGIH TLVs.

9 Physical & Chemical Properties

Appearance	Colorless, viscous liquid
Odor	Ammonia-like, fishy
Odor Threshold	2.6 ppm
pH	12.1 (25% aqueous solution)
Melting Point / Freezing Point	10–11 °C (50–52 °F)
Boiling Point	170–172 °C (338–342 °F)
Flash Point	85–93 °C (185–199 °F), closed cup
Evaporation Rate	No data available
Flammability (solid, gas)	No data available
Upper/Lower Flammability or Explosive Limits	LEL 2.5% / UEL 17% (v/v in air)
Vapor Pressure	About 0.4 mmHg (0.3–0.5 hPa) at 20 °C
Vapor Density	2.1 (air = 1)

Relative Density	1.017–1.021 at 20 °C (water = 1)
Solubility	Completely miscible with water
Partition Coefficient (n-octanol/water)	log Kow -1.91
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	About 24 mPa·s at 20 °C
Particle Characteristics	Not applicable
Form	Liquid
Density	1.016 g/cm^3 at 68 °F (USCG, 1999)

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Not reactive under normal conditions of use and storage.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks and open flame (combustible); prolonged exposure to air and carbon dioxide (absorbs them and discolors); freezing below about 10 °C.
Incompatible Materials	Strong acids and oxidizers; nitrites and other nitrosating agents (form N-nitrosamines); copper, brass, zinc, aluminum and galvanized metal (corroded); halogenated organic compounds.
Hazardous Decomposition Products	Nitrogen oxides, ammonia, carbon monoxide and carbon dioxide.

11 Toxicological Information

See below for route-specific acute toxicity data.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	Causes burns to the skin, eyes and mucous membranes; eye contact may cause permanent damage including blindness; ingestion burns the mouth, throat and stomach. Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat). Ingestion may cause nausea, vomiting and abdominal pain; larger amounts may cause systemic poisoning. Absorption through the skin may cause systemic poisoning. Inhalation may cause coughing, shortness of breath and headache; high concentrations may cause systemic poisoning.
Delayed and Chronic Effects	No delayed or chronic effects identified beyond the classification in Section 2.

Route	Value
LD50 Oral	1,089–1,720 mg/kg (rat)
LD50 Dermal (rabbit)	1,000–2,504 mg/kg
LC50 Inhalation	1.49 mg/L (aerosol, 4 h)

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Fish LC50: 170 mg/L (96 h, Carassius auratus (goldfish); cf. 24-h LC50 190 mg/L same source)
Persistence & Degradability	Low persistence — Readily biodegradable (64–91% CO_2 in 28 d)
Bioaccumulative Potential	log Kow −1.31, BCF 3.2 (estimated; low)
Mobility in Soil	Very high soil mobility (estimated Koc 0.59)

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

EPA RCRA Waste Codes	Not a P- or U-listed waste. Evaluate for D002 (corrosive); the generator makes the final hazardous-waste determination.

If discarded, this material may be a corrosive hazardous waste (EPA RCRA D002, 40 CFR 261.22): aqueous with pH ≤ 2 or ≥ 12.5, or a liquid that corrodes steel at more than 6.35 mm per year. The waste generator must make the final hazardous-waste determination.

14 Transport Information

US DOT (49 CFR)

UN Number	UN2491
Proper Shipping Name	Ethanolamine
Hazard Class	8
Packing Group	III

IMDG / IATA classifications may differ from US DOT. Verify current regulations before international shipment.

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed
CERCLA Reportable Quantity (RQ)	Not a CERCLA hazardous substance (no RQ). Not an EPCRA Section 302 or 313 chemical.

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-12
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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