

Section 1. Product and Company Identification

**Product Name** Monoethanolamine  
**CAS Number** 141-43-5

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
☎ (914) 654-6800 ☎ (914) 654-6899  
🌐 [parchem.com](http://parchem.com) ✉ [info@parchem.com](mailto:info@parchem.com)

EMERGENCY RESPONSE NUMBER  
CHEMTEL  
Toll Free US & Canada: 1 (800) 255-3924  
All other Origins: 1 (813) 248-0585  
Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227  
Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Acute toxicity, Dermal (Category 4), H312  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Acute aquatic toxicity (Category 2), H401  
Chronic aquatic toxicity (Category 3), H412

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard Statements**

H227 Combustible liquid.  
H302 + H312 + H332 Harmful if swallowed, in contact with skin or if inhaled  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H401 Toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.



### Precautionary Statements

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink, or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P533 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.  
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam 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/ container to an approved waste disposal plant.

**Physical State:** Liquid.

**Odor:** Ammoniacal

**OSHA/HCS Status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Emergency Overview:** DANGER! CAUSES EYE AND SKIN BURNS. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. ASPIRATION HAZARD IF SWALLOWED- CAN ENTER LUNGS AND CAUSE DAMAGE.

Corrosive to eyes and skin. Causes burns. May be harmful if swallowed. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Contains material that may cause target organ damage, based on animal data. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Aspiration hazard if swallowed. Can enter lungs and cause damage.

**General Information:** Read the entire SDS for a more thorough evaluation of the hazards.



Section 3. Composition / Information on Ingredients

**Common Name** Monoethanolamine  
**Synonym(s)** MEA  
**Formula** C<sub>2</sub>H<sub>7</sub>NO  
**CAS Number** 141-43-5

COMPONENT	CAS NUMBER	CONCENTRATION
Monoethanolamine	141-43-5	98 – 100%

Section 4. First Aid Measures

**Eye Contact:** Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

**Skin Contact:** Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation:** Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Ingestion:** Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person.

**Notes to Physician:** Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

Section 5. Firefighting Measures

**Flash Point (Open Cup):** 95.5°C (203.9°F)

**Products of Combustion:** Decomposition products may include the following materials: carbon dioxide; carbon monoxide; nitrogen oxides

**Suitable Extinguishing Media:** Use an extinguishing agent suitable for the surrounding fire.



**Not Suitable:** None known.

**Special Exposure Hazards:** In a fire or if heated, a pressure increase will occur and the container may burst. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special Protective Equipment for Firefighters:** Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

#### Section 6. Accidental Release Measures

**Personal Precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental Precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for Cleaning up:** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

#### Section 7. Handling and Storage

**Handling:** Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage:** Store between the following temperatures: 20 - 40°C (68 - 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.



Section 8. Exposure Controls / Personal Protection

**Product Name:** Monoethanolamine

**Exposure Limits**

**ACGIH TLV (United States, 2/2010).**

STEL: 15 mg/m<sup>3</sup> 15 minute(s).

STEL: 6 ppm 15 minute(s).

TWA: 7.5 mg/m<sup>3</sup> 8 hour(s).

TWA: 3 ppm 8 hour(s).

**OSHA PEL (United States, 11/2006).**

TWA: 6 mg/m<sup>3</sup> 8 hour(s).

TWA: 3 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

**Preventive Measures:** Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

**Engineering Controls:** Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

**Personal Protection**

**Eyes:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: Tightly fitting safety goggles.

**Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Recommended: Safety shoes.

**Respiratory:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. > 8 hours (breakthrough time): butyl rubber, nitrile rubber.

Section 9. Physical and Chemical Properties

**Appearance**

**Physical State:** Liquid

**Color:** Colorless

**Odor:** Ammoniacal

**Odor Threshold:** Not available



### Important Health, Safety, and Environmental Information

**pH:** 12.1  
**Boiling Point:** 170.3°C (338.5°F)  
**Melting Point:** 10.5°C (50.9°F)  
**Flash Point (Open Cup):** 95.5°C (203.9°F)  
**Oxidizing Properties:** None  
**Vapor Pressure:** 0.027 kPa (0.2 mmHg at 20°C)  
**Relative Density:** 1.02  
**Partition Coefficient (n-Octanol/Water):** -1.91 (log Kow)  
**Viscosity (Kinematic):** 0.236 cm<sup>2</sup>/s (23.6 cSt at 20°C)  
**Vapor Density (Air = 1):** 2.1  
**Auto-ignition Temperature:** 410°C (770°F)  
**VOC Content:** 98%

#### Section 10. Stability and Reactivity

**Stability and Reactivity:** Stable

**Incompatibility with Various Substances:** Extremely reactive or incompatible with acids.  
Reactive or incompatible with oxidizing materials, metals, and strong acids.

**Hazardous Polymerization:** Under normal conditions of storage and use, hazardous polymerization will not occur.

**Hazardous Decomposition Products:** Decomposition products may include the following materials: carbon dioxide; carbon monoxide; nitrogen oxides.

#### Section 11. Toxicological Information

##### Toxicity Data

##### Acute Toxicity

Product Name	Test	Species	Result	Exposure
Monoethanolamine	LD50 Dermal	Rabbit - Male, Female	2.46 - 2.83 ml/kg	-
	LD50 Oral	Rat - Male, Female	1,515 mg/kg	-
	LC50 Inhalation Vapor	Rat - Male, Female	1.3 mg/L	6 hours

##### Sensitizer

Product Name	Test	Species	Result	Exposure
Monoethanolamine	Skin	Guinea Pig	Not sensitizing	-

### Chronic Toxicity

Product Name	Test	Species	Result	Exposure
Monoethanolamine	Sub-acute NOAEL	Rat- Male, Female		300 mg/kg 75 days
	Sub-acute NOEC	Rat- Male, Female		10 mg/m <sup>3</sup> 28 days
	Inhalation - Dusts and Mists			

### Mutagenicity

Product Name	Test	Experiment	Result
Monoethanolamine	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 in vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: +/-	Negative
	-	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474 Mammalian Eythrocyte Micronucleus Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

### Teratogenicity

Product Name	Test	Species	Result	Exposure
Monoethanolamine	Negative - Oral	Rat - Female	> 450 mg/kg NOE+AEL	-
	Negative - Dermal	Rat - Female	> 225 mg/kg NOAEL	-
	Negative - Dermal	Rabbit - Female	> 75 mg/kg NOAEL	-





**Potential Acute Health Effects**

**Ingestion:** Harmful if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause burns to mouth, throat and stomach.

**Inhalation:** May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Eyes:** Corrosive to eyes. Causes burn

**Skin:** Corrosive to skin. Causes burn

**Potential Chronic Health Effects**

**Chronic Effects:** Contains material that may cause target organ damage, based on animal data.

**Target Organs:** Contains material which may cause damage to the following organs: kidneys, liver, central nervous system (CNS).

**Carcinogenicity:** No known significant effects or critical hazards.

**Mutagenicity:** No known significant effects or critical hazards.

**Teratogenicity:** No known significant effects or critical hazards.

**Fertility Effects:** No known significant effects or critical hazards.

**Developmental Effects:** No known significant effects or critical hazards.

Section 12. Ecological Information

**Aquatic Toxicity**

Product/Ingredient Name	Result	Species	Exposure
Monoethanolamine	Acute EC50 65 mg/L	Daphnia	48 hours
	Acute IC50 110 mg/L	Bacteria	17 hours
	Acute IC50 22 mg/L	Algae	72 hours
	Acute LC50 150 mg/L - Fresh Water	Fish	96 hours

**Biodegradability**

**Test:** OECD

**Result:** > 90% - Readily Biodegradable - 21 days

**Inoculum:** Activated Sludge

**Aquatic Half-life:** N/A

**Photolysis:** N/A

**Biodegradability:** Readily

**Bioaccumulative Potential**

**LogPow:** -1.91

**BCG:** N/A

**Potential:** Low

**Environmental Effects:** Readily Biodegradable. This product shows a low bioaccumulation potential





Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT Classification**

**UN Number:** UN2491

**Proper Shipping Name:** Ethanolamine

**Class:** 8

**Packing Group:** III

**TDG Classification**

**UN Number:** UN2491

**Proper Shipping Name:** Ethanolamine

**Class:** 8

**Packing Group:** III

**IMDG Class**

**UN Number:** UN2491

**Proper Shipping Name:** Ethanolamine

**Class:** 8

**Packing Group:** III

**Emergency Schedules (EmS):** F-A, S-B

**IATA-DGR Class**

**UN Number:** UN2491

**Proper Shipping Name:** Ethanolamine

**Class:** 8

**Packing Group:** III

**Passenger and Cargo Aircraft:** Quantity limitation: 5 L

Packaging instructions: 818

**Cargo Aircraft Only:** Quantity limitation: 60 L

Packaging instructions: 820

Section 15. Regulatory Information

**United States**

**HCS Classification:** Corrosive Material; Target Organ Effects

**United States Inventory (TSCA 8b):** All components are listed or exempted



**CERCLA: Hazardous Substances**

**Components:** Diethanolamine

**Concentration:** 0.1%

**Section 304 - CERCLA Hazardous Substance:** Listed

**CERCLA Reportable Quantity:** 100

**Product Reportable Quantity:** 100,000

**SARA 313:** No ingredients listed.

This product does not contain nor is it manufactured with ozone depleting substances.

**California Proposition 65:** This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**Canada**

**WHMIS (Canada): Class E:** Corrosive material

Class D-28: Material causing other toxic effects (Toxic).

**CEPA (DSL):** All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

**HMIS Rating**

**Health:** 3\*

**Flammability:** 1

**Reactivity:** 0

**NFPA Rating**

**Health:** 3

**Flammability:** 1

**Instability:** 0

Section 16. Other Information

**Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

REVISION DATE: 7/24/2015