

# Safety Data Sheet



## SECTION 1: Identification of the substance/mixture and the company/undertaking

Revision Date: 10/08/2021  
Print Date: 11/13/2021

### 1.1 Production identifiers

Product name : MONOETHANOLAMINE  
Brand : CJ Chemicals LLC  
CAS-No. : 141-43-5

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, synthesis of substances

### 1.3 Details of the supplier of the safety data sheet

Company : CJ Chemicals LLC  
3469 E Grand River Rd #112  
Howell, MI 48843  
United States

Telephone : +1 (888) 274-1044

### 1.4 Emergency Telephone

Emergency Phone # : 1-800-424-9300 CHEMTREC (USA)  
1-703-527-3887 CHEMTREC (international) 24 hours/day; 7 days/week

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## SECTION 2: Hazards identification

### 2.1 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  
Short-term (acute) aquatic hazard (Category 2), H401  
Long-term (chronic) aquatic hazard (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

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

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ 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/doctor if you feel unwell. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 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/doctor.  
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/doctor.  
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.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Molecular weight : 61.08 g/mol  
CAS-No. : 141-43-5  
EC-No. : 205-483-3  
Index-No. : 603-030-00-8

Component	Classification	Concentration
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<b>Ethanolamine</b>		
	Flam. Liq. 4; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; Aquatic Acute 2; Aquatic Chronic 3; H227, H302, H332, H312, H314, H318, H335, H401, H412	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of 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

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

#### If swallowed

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

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

#### Unsuitable extinguishing media

Do NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)  
Combustible.

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

Use water spray to cool unopened containers.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe 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.

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

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.

Store at Room Temperature.

Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Components with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Ethanolamine	141-43-5	TWA	3 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Eye irritation Skin irritation		
		STEL	6 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Eye irritation Skin irritation		
		TWA	3 ppm 6 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m3 is approximate.		
		TWA	3 ppm 8 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	6 ppm 15 mg/m3	USA. NIOSH Recommended Exposure Limits
		PEL	3 ppm 8 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	6 ppm 15 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	6 ppm 15 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	3 ppm 8 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### 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).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |   |
|---|---|
| a) Appearance                                   | Form: liquid, clear<br>Colour: colourless                             |
| b) Odour  | amine-like  |
| c) Odour Threshold                              | No data available   |
| d) pH   | 12.1 at 100 g/l at 20 °C (68 °F)                                      |
| e) Melting point/freezing point                 | Melting point: 4 °C (39 °F) at 1,010 hPa                              |
| f) Initial boiling point and boiling range      | 167 °C 333 °F at 1,010 hPa  |
| g) Flash point                                  | 91 °C (196 °F) at ca.1,013 hPa - Pensky-Martens closed cup - ISO 2719 |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | No data available   |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 17 %(V)<br>Lower explosion limit: 2.5 %(V)     |
| k) Vapour pressure                              | 0.5 hPa at 20 °C (68 °F) - (calculated)                               |
| l) Vapour density                               | 2.11 - (Air = 1.0)  |
| m) Relative density                             | 1.015 g/cm <sup>3</sup> at 20 °C (68 °F)                              |
| n) Water solubility                             | 1,000 g/l at 20 °C (68 °F) - completely miscible                      |
| o) Partition coefficient: n-octanol/water       | log Pow: -2.3 at 25 °C (77 °F) - Bioaccumulation is not expected.     |
| p) Auto-ignition temperature                    | 424 °C (795 °F) at 1,013 hPa - ASTM E-659                             |
| q) Decomposition temperature                    | No data available   |

- r) Viscosity 23.5 mm<sup>2</sup>/s at 20 °C (68 °F) - 9.8 mm<sup>2</sup>/s at 40 °C (104 °F) -  
s) Explosive properties No data available  
t) Oxidizing properties No data available

## 9.2 Other safety information

Relative vapour density 2.11 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Strong acids and oxidizing agents, Iron, Copper, Brass, Rubber

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

LD50 Oral - Rat - male and female - 1,089 mg/kg  
(OECD Test Guideline 401)

Inhalation: No data available

Dermal: No data available

LD50 Dermal - Rabbit - 1,015 mg/kg

Remarks: (RTECS)

No data available

No data available

#### Skin corrosion/irritation

No data available

Skin - Rabbit

Result: Corrosive - 4 h

(OECD Test Guideline 404)

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Serious eye damage/eye irritation**

No data available

Eyes - Rabbit

Result: Corrosive

(OECD Test Guideline 405)

Causes serious eye damage.

**Respiratory or skin sensitisation**

No data available

Maximisation Test - Guinea pig

Result: negative

Remarks: (ECHA)

**Germ cell mutagenicity**

No data available

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

Chromosome aberration test in vitro

rat hepatocytes

Result: negative

In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: negative

In vitro mammalian cell gene mutation test

Chinese hamster fibroblasts

Result: negative

(ECHA)

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Result: negative

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component 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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - > 75 Days - No observed adverse effect level - 300 mg/kg  
(FCHA)



RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological information

### 12.1 Toxicity

No data available

Toxicity to fish                      semi-static test LC50 - *Cyprinus carpio* (Carp) - 349 mg/l - 96 h  
(Tested according to Directive 92/69/EEC.)

Toxicity to daphnia                      static test EC50 - *Daphnia magna* (Water flea) - 65 mg/l - 48 h  
and other aquatic                      (Regulation (EC) No. 440/2008, Annex, C.2)  
invertebrates

Toxicity to algae                      static test ErC50 - *Pseudokirchneriella subcapitata* (green algae) -  
2.8 mg/l - 72 h  
(OECD Test Guideline 201)

static test NOEC - *Pseudokirchneriella subcapitata* (green algae) - 1  
mg/l - 72 h  
(OECD Test Guideline 201)

Toxicity to bacteria                      static test EC10 - activated sludge - > 1,000 mg/l - 30 min  
(OECD Test Guideline 209)

### 12.2 Persistence and degradability

No data available

Biochemical Oxygen                      800 mg/g  
Demand (BOD)                      Remarks: (IUCLID)

Theoretical oxygen                      1,310 mg/g  
demand                      Remarks: (IUCLID)

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

Additional ecological                      Toxic to aquatic life.  
information

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****DOT (US)**

UN number: 2491 Class: 8 Packing group: III  
Proper shipping name: Ethanolamine  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

**IMDG**

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

**IATA**

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

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**SECTION 15: Regulatory information****SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

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**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

Ethanolamine	CAS-No. 141-43-5	Revision Date
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**SECTION 16: Other information****Further information**

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. CJ Chemicals LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.cjchemicals.com](http://www.cjchemicals.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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