

## TRIETHANOLAMINE 99

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TRIETHANOLAMINE 99  
 CAS Number: 102-71-6  
 Chemical characterization : Ethanolamines  
 Chemical Name :  
 Synonyms : TEA 99  
  
 Use of the Substance/Mixture : Intermediate, Agrochemical uses, Use in Cleaning Agents  
  
 Company : Level 7 Chemical, Inc.  
 253 Sturgis Rd  
 Conway, AR 72034  
  
 Telephone : 1-855-927-1777  
  
 Emergency telephone : CHEMTREC USA 800-424-9300

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Eye irritation  
 Reproductive toxicity

Category 2B  
 Category 2

#### Label elements

#### Hazard symbols



#### Signal Word

: Warning

#### Hazard Statements

: H320 Causes eye irritation.  
 H361f Suspected of damaging fertility.

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### Precautionary Statements : Prevention

P201 Obtain special instructions before use.  
P264 Wash hands thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P281 Use personal protective equipment as required.

### Response

P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

### Storage

P405 Store locked up.

### Other hazards

No additional information available.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Hazardous ingredients

Component	CAS-No.	Weight %
Triethanolamine	102-71-6	> 99.0 %
Diethanolamine	111-42-2	<=1.0 %

## SECTION 4. FIRST AID MEASURES

### First aid procedures

- General advice : Consult a physician/doctor if necessary.  
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 2 of this SDS.  
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.

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- In case of skin contact : Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.).
- In case of eye contact : Immediately flush eyes thoroughly with plenty of water and continue flushing for at least 15 minutes. Remove contact lenses. Seek medical attention if discomfort persists.
- If swallowed : DO NOT induce vomiting. If vomiting does occur, have victim lean forward to reduce risk of aspiration. Get medical attention immediately. Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give large quantities of water. (If available, give several glasses of milk.) If vomiting occurs spontaneously, keep airway clear and give more water. Get medical attention immediately.

### Notes to physician

- Hazards : Causes eye irritation. Suspected of damaging fertility.
- Treatment : Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

## SECTION 5. FIRE-FIGHTING MEASURES

### Flammable properties

- Flash point : 354 °F (179 °C)  
at 1,013 hPa (760 mm Hg)  
Method: closed cup

Lower explosion limit : No Data Available.

Upper explosion limit : No Data Available.

### Fire fighting

- Suitable extinguishing media : SMALL FIRE: Use dry chemical, CO<sub>2</sub>, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams. Alcohol resistant foam.
- Unsuitable extinguishing media : Do not use solid water stream/may spread fire.
- Further information : Always stay away from tanks engulfed in fire.

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Use water spray to cool unopened containers.  
Fight fire from a safe distance/protected location.  
Do not use straight streams.  
Move containers from fire area if it can be done without risk.

### Protective equipment and precautions for firefighters

- Specific hazards during fire fighting : Though not normally combustible, exposure to fire may build enough pressure to rupture closed containers, spreading contents, which are harmful if inhaled, swallowed, or splashed in the eyes or on the skin.  
Oxides of nitrogen will be evolved.  
Water may be ineffective, but should be used to keep fire-exposed containers cool.  
Move containers from fire area if it can be done without risk.  
For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.  
Always stay away from tanks engulfed in fire.  
Cool containers with flooding quantities of water until well after fire is out.  
When fighting a fire, notify environmental authorities if liquid runoff enters sewers or public waters.
- Special protective equipment for fire-fighters : Wear positive pressure self-contained breathing apparatus (SCBA).  
Structural firefighter's protective clothing will only provide limited protection.  
Fight fire from a safe distance/protected location.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Avoid direct contact with released material. Stay upwind.  
Do not touch or walk through spilled material.  
Prevent product from entering drains.  
Use personal protective equipment.  
Clean-up to be performed only by trained and properly equipped personnel.
- Environmental precautions : Do not allow contact with soil, surface or ground water.  
Prevent product from entering drains.  
Prevent entry into waterways, sewers, basements or confined areas.  
Prevent further leakage or spillage if safe to do so.
- Methods for containment /  
Methods for cleaning up : Do not touch or walk through spilled material.  
Stop leak if you can do it without risk.  
Soak up small spills with inert solids and shovel into suitable disposal containers.

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For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal.  
Prevent entry into waterways, sewers, basements or confined areas.

Additional advice : Mark the contaminated area with signs and prevent access to unauthorized personnel.  
See section 13 for disposal information.  
See Section 15: Regulatory Information.

### SECTION 7. HANDLING AND STORAGE

#### Handling

Advice on safe handling : If frozen, thaw and mix thoroughly before use.  
Avoid contact with eyes, skin and clothing.  
Wash thoroughly after handling.  
Do not add nitrites or other nitrosating agents. A nitrosamine, which may cause cancer, may be formed.  
Avoid personal contact with any residue.  
Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperature possibly resulting in spontaneous combustion.  
For personal protection see section 8.

Advice on protection against fire and explosion : not applicable

#### Storage

Requirements for storage areas and containers : Avoid Freezing  
Keep storage containers clean, dry and free of oxygen.  
Store under nitrogen.  
Keep container tightly closed when not in use.

Further information on storage conditions : This product will absorb water if exposed to air.

Storage period : 24 Months

Storage temperature : 86 - 109 °F (30 - 43 °C)

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Ingredients with workplace control parameters

Ingredients	CAS-No.	Value	Control parameters	Update	Basis
Triethanolamine	102-71-6	TWA	5 mg/m <sup>3</sup>	2012	US (ACGIH)
Diethanolamine	111-42-2	TWA	1 mg/m <sup>3</sup>	2012	US (ACGIH)

### Engineering measures

Engineering measures : Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.  
Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1)

### Personal protective equipment

Protective measures : Wear full protective clothing and self-contained breathing apparatus.  
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Eye protection : Safety glasses are the minimum requirements.  
Use splash goggles when eye contact due to splashing or spraying liquid is possible.

Hand protection : Wear chemical resistant gloves such as:  
Rubber.  
Nitrile.  
Neoprene.  
PVC  
Viton(TM).  
or  
Polyvinyl Alcohol.

Skin and body protection : When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn.  
The equipment must be cleaned thoroughly after each use.

Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.  
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.  
Use good personal hygiene practices.

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Wash hands thoroughly after use.  
Take off contaminated clothing and wash before reuse.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Appearance

Physical state : liquid  
Color : Colorless to yellow.  
Odor : Ammonia-like.

#### Safety data

Flash point : 354 °F (179 °C)  
at 1,013 hPa (760 mm Hg)  
Method: closed cup  
Lower explosion limit : No Data Available.  
Upper explosion limit : No Data Available.  
Oxidizing properties : Not considered an oxidizing agent.  
Molecular weight : 149.18 g/mol  
Decomposition temperature : not determined  
pH : No Data Available.  
Melting point/freezing point : 63 °F (17 °C)  
at 1,013 hPa (760 mm Hg)  
Boiling point/boiling range : 608 °F (320 °C)  
at 1,013 hPa (760 mm Hg)  
Vapor pressure : <= 0.03 hPa (0.02 mm Hg)  
at 100 °F (38 °C)  
Density : 1.1 g/cm<sup>3</sup>  
at 68 °F (20 °C)  
Water solubility : Miscible.  
Partition coefficient: n-  
octanol/water : log Pow: -1.9  
at 77 °F (25 °C)  
Viscosity, kinematic : 810 - 830 mm<sup>2</sup>/s  
at 68 °F (20 °C)

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182 mm<sup>2</sup>/s  
at 104 °F (40 °C)

Relative vapor density	:	5
Evaporation rate	:	0.01
Explosive properties	:	Not explosive
Remarks - Other information	:	No additional information available.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Will not occur.
Chemical stability	:	Stable under recommended storage conditions.
Conditions to avoid	:	Avoid processing of material over 300 °C (572 °F). Exposure to moisture.
Materials to avoid	:	Nitrites Strong acids Strong oxidizing agents. Halogenated hydrocarbons. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases. Corrosive when wet. Heating above 60°C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas.
Hazardous decomposition products	:	Carbon Monoxide and Carbon dioxide. Oxides of nitrogen. Ammonia.
Thermal decomposition	:	Gives off irritating and/or toxic gases in a fire., Oxides of nitrogen will be evolved.
Hazardous reactions	:	Will not occur.

### SECTION 11. TOXICOLOGICAL INFORMATION

<b>Product Summary</b>	:	The below given information is based on the assessment of the product including impurities.
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### Acute toxicity

**Acute oral toxicity** : Based on acute toxicity values, not classified.  
: LD50: 2,200 mg/kg  
Species: rabbit

**Acute inhalation toxicity** : Based on acute toxicity values, not classified.  
: LC50: > 0.029 mg/m<sup>3</sup>  
Species: rat

**Acute dermal toxicity** : Based on acute toxicity values, not classified.  
: LD50: > 2,000 mg/kg  
Species: rabbit

**Skin corrosion/irritation** : Based on skin irritation values, not classified.  
: May cause slight transient skin irritation.

**Serious eye damage/eye irritation** : Classified  
Causes eye irritation.

**Respiratory or skin sensitization** : Respiratory sensitization  
Not classified  
No study available.  
: Skin sensitization  
Not classified  
No adverse effect observed.

### Chronic toxicity

Component Name	NTP	IARC	OSHA
Diethanolamine		2B	

**Carcinogenicity** : Not classified  
Contains substances that have a positive carcinogenicity study.  
The weight of evidence for the carcinogenicity of this substance does not meet the criteria for classification.

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Germ cell mutagenicity : Not classified  
No adverse effect observed.

### Reproductive toxicity

Effects on fertility /  
Effects on or via lactation : Classified  
Suspected of damaging fertility.  
Contains Diethanolamine, toxicity to male reproduction may occur.  
Testicular effects have been found after repeated exposures.

Effects on Development : Not classified  
No adverse effect observed.

**Target Organ Systemic  
Toxicant - Single exposure** : Based on single exposure toxicity values, not classified.

**Target Organ Systemic  
Toxicant - Repeated  
exposure** : Based on repeated exposure toxicity values, not classified.

**Aspiration hazard** : Based on physico-chemical values or lack of human evidence,  
not classified.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicology Assessment

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on readily biodegradability and low acute toxicity.

**Toxicity to fish** :  
Acute toxicity to fish is very low.

**Toxicity to daphnia and  
other aquatic invertebrates** : Acute toxicity to freshwater and marine invertebrates is very low.

**Toxicity to algae** : Acute toxicity to aquatic plants very low.

**Toxicity to bacteria** : Low toxicity to sewage microbes.

**Toxicity to fish (Chronic  
toxicity)** : no data available

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**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)** : Low chronic toxicity to aquatic invertebrates.

### Persistence and degradability

**Biodegradability** : 96 %  
Rapidly degradable.  
(After 19 days in a ready biodegradability test)

### Bioaccumulative potential

**Bioaccumulation** : Bioconcentration factor (BCF): 3.9  
This material is not expected to bioaccumulate.

### Mobility in soil

**Distribution among environmental compartments** : Stability in water  
Not expected to hydrolyze readily.

: Stability in soil  
Low potential for soil adsorption expected

**Additional advice Environmental fate and pathways** : No additional information available.

### Results of PBT and vPvB assessment

Not applicable.

### Other adverse effects

**Additional ecological information** : No additional information available.

## SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations.

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Contaminated packaging : Dispose of contents/ container to an approved incineration plant.

### SECTION 14. TRANSPORT INFORMATION

**PACKAGE** : NOT REGULATED FOR TRANSPORT  
(DIETHANOLAIME RQ-100 lbs)

**BULK**

UN number : 3082  
Description of the goods : Environmentally hazardous substance, liquid, n.o.s.  
(DIETHANOLAMINE)  
Class : 9  
Packing group : III  
Labels : 9

### SECTION 15. REGULATORY INFORMATION

#### Other international regulations

#### Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

\*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant

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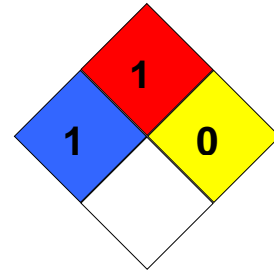
### SECTION 16. OTHER INFORMATION

#### Further information

**HMIS Classification** : Health Hazard: 1  
Flammability: 1  
Physical hazards: 0



**NFPA Classification** : Health Hazard: 1  
Fire Hazard: 1  
Instability: 0



#### Material safety datasheet sections which have been updated:

Revised Section(s): 1 - 16 Revision Date June 9 2014

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