



SAFETY DATA SHEET

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 : Chemistry Connection
253 Sturgis Road
Conway, AR 72034

Telephone : Customer Service
(501) 470-9689

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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

- 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, CO₂, 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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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

SAFETY DATA SHEET

TRIETHANOLAMINE 99

Ingredients with workplace control parameters

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

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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/cm³
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 mm²/s
at 68 °F (20 °C)

SAFETY DATA SHEET

TRIETHANOLAMINE 99

182 mm²/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

- Product Summary** : The below given information is based on the assessment of the product including impurities.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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/m³
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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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.

SAFETY DATA SHEET

TRIETHANOLAMINE 99

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

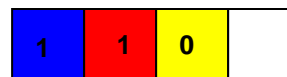
SAFETY DATA SHEET

TRIETHANOLAMINE 99

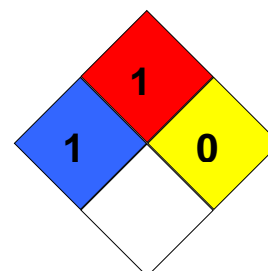
SECTION 16. OTHER INFORMATION

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

Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.

Information is correct to the best of our knowledge at the date of the SDS publication. It is not a specification sheet nor should any displayed data be construed as a specification. Before using a product sold by the supplier, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally. SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

This product(s) may not be used in:

(i) any U.S. FDA Class I, Health Canada Class I, and/or European Union Class I medical devices, without prior notification to Seller for each specific product and application; or (ii) the manufacture of any of the following, without prior written approval by Seller for each specific product and application: U.S. FDA Class II Medical Devices; Health Canada Class II or Class III Medical Devices; European Union Class II Medical Devices; film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices; packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; tobacco related products and applications, electronic cigarettes and similar devices, and pressure pipe or fittings that are considered a part or component of a nuclear reactor. Additionally, the product(s) may not be used in: (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body; (iii) life-sustaining medical applications; and (iv) lead, asbestos or MTBE related applications. All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

TRIETHANOLAMINE 99

Disclaimer

Language Translations

The information presented in this document has been translated from English by a vendor the supplier believes to be reliable. The supplier and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred.