

Safety Data Sheet

Triethanolamine

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Triethanolamine

Synonyms/Generic Names: Trolamine; Tris(2-hydroxyethyl)amine; 2,2',2''-Nitrilotriethanol

Product Number: 5950

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information: 920-623-2140 (Monday-Friday 8:00-4:30)
www.columbuschemical.com

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Hazard Not Otherwise Classified (HNOC): None

Signal Word: Warning

Pictograms:



GHS Classification:

Eye irritation	Category 2A
----------------	-------------

GHS Label Elements, including precautionary statements:

Hazard Statements:

H319	Causes serious eye irritation.
------	--------------------------------

Precautionary Statements:

P280	Wear eye protection/face protection.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Potential Health Effects

Eyes	Causes eye irritation.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.

Skin	May be harmful if absorbed through skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	2
Flammability	1
Reactivity	1
Specific hazard	Not Available

HMIS Ratings

Health	2
Fire	1
Reactivity	1

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Triethanolamine	>99	102-71-6	203-049-8	C ₆ H ₁₅ NO ₃	149.19 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (carbon oxides, nitrogen oxides) under fire conditions. (See also Stability and Reactivity section).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Neutralize spill. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Hygroscopic material. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Triethanolamine	5 mg/m ³	TLV	ACGIH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless to light yellow, viscous liquid.
Odor	Slightly ammoniacal.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	21.5°C (70.7°F)
Initial boiling point and boiling range	335°C (635°F)
Flash point	CLOSED CUP: 179.44°C (355°F) OPEN CUP: 190.5°C (374.9°F)
Evaporation rate	Not Available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	Upper: 8.5% (V) Lower: 1.3% (V)
Vapor pressure	0 kPa (@ 20°C)
Vapor density	5.15 (Air = 1)
Density	1.12 (Water = 1)

Solubility (ies)	Easily soluble in cold water, hot water. Soluble in methanol, acetone. Very slightly soluble in diethyl ether, n-octanol.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	316°C (601°F)
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Turns brown on exposure to air and light. Excessive heat.
Incompatible Materials	Strong oxidizing agents, acids.
Hazardous Decomposition Products	Carbon oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Triethanolamine

Skin	LD50 Dermal - rabbit - > 22.5 g/kg
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral - mouse - 5,846 mg/kg LD50 Oral - rat - 5,530 mg/kg LD50 Oral - rabbit - 2,200 mg/kg LD50 Oral - guinea pig - 2,200 mg/kg

Carcinogenicity

IARC	3-Group 3: Not classifiable as to its carcinogenicity to humans (Triethanolamine).
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Irritation, redness, itchiness.
Eyes	Irritation, redness, watering eyes, itchiness.
Respiratory	Irritation, coughing, wheezing.
Ingestion	Irritation, nausea, vomiting, diarrhea.

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Target Organ(s)	Kidney, Liver.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Triethanolamine

Aquatic Vertebrate	LC50 - <i>Lepomis macrochirus</i> (Bluegill) - 450 - 1,000 mg/l - 96 h
Aquatic Invertebrate	EC50 - <i>Daphnia</i> - 609.98 mg/l - 48 h
Terrestrial	Not Available

Persistence and Degradability	Result: 96 % - Readily biodegradable.
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Triethanolamine
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: Triethanolamine
Pennsylvania: Hazardous Substance List	Listed: Triethanolamine
New Jersey: Right to Know Hazardous Substance List	Listed: Triethanolamine
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard
SARA 312	Acute Health Hazard

SARA 313	Not Listed
WHMIS Canada	Listed: Not Classified

16. OTHER INFORMATION

Revision	Date
Original	02/03/2020
Revision 1	10/25/2021
Revision 2	06/06/2022

Disclaimer: The information provided in this Safety Data Sheet ("SDS") is correct to the best of our knowledge, information, and belief at the date of publication. The information in this SDS relates only to the specific Product identified under Section 1, and does not relate to its use in combination with other materials or products, or its use as to any particular process. Those handling, storing, or using the Product should satisfy themselves that they have current information regarding the particular way the Product is handled, stored or used and that the same is done in accordance with federal, state and local law. WE DO NOT MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING (WITHOUT LIMITATION) WARRANTIES WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN OR WITH RESPECT TO FITNESS FOR ANY PARTICULAR USE. WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, INJURY, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT.