



Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

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Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Product Name | Triethanolamine |
| Cat No. | T350-4; T350-500; T407-1; T407-4; T407-500 |
| Synonyms | Trolamine; Tri-beta-hydroxy Ethanolamine; TEA; 2,2',2"-Nitrilotriethanol (NF/Certified) |
| Recommended Use | Laboratory chemicals |
| Company Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100 | Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887 |

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Irritating to eyes. May cause skin and respiratory tract irritation. May cause an allergic skin reaction. Hygroscopic.

Appearance Light yellow

Physical State Liquid, viscous liquid

odor Ammonia-like

Target Organs Eyes, Skin, Liver, Kidney

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes
Skin

Irritating to eyes.

May cause irritation. Prolonged skin contact may defat the skin and produce dermatitis. May produce an allergic reaction.

Inhalation
Ingestion

May cause irritation of respiratory tract. May be harmful if inhaled.

May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Tumorigenic effects have been reported in experimental animals.. May cause an allergic skin reaction. May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

| Component | CAS-No | Weight % |
|-----------------|----------|----------|
| Triethanolamine | 102-71-6 | >95 |

4. FIRST AID MEASURES

| | |
|---------------------------|--------------------------------------------------------------------------------------------------------------------|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention. |
| Inhalation | Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention. |
| Ingestion | Do not induce vomiting. Obtain medical attention. |
| Notes to Physician | Treat symptomatically. |

5. FIRE-FIGHTING MEASURES

| | |
|-----------------------------------------|--------------------------------------------------------------------------|
| Flash Point | 190°C / 374°F |
| Method | No information available. |
| Autoignition Temperature | 325°C / 617°F |
| Explosion Limits | |
| Upper | 8.5 vol % |
| Lower | 1.3 vol % |
| Suitable Extinguishing Media | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable Extinguishing Media | No information available. |
| Hazardous Combustion Products | No information available. |
| Sensitivity to mechanical impact | No information available. |
| Sensitivity to static discharge | No information available. |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA **Health** 2 **Flammability** 1 **Instability** 0 **Physical hazards** N/A

6. ACCIDENTAL RELEASE MEASURES

| | |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Personal Precautions | Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. |
| Environmental Precautions | Should not be released into the environment. |
| Methods for Containment and Clean Up | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.. |

7. HANDLING AND STORAGE

| | |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Handling | Wear personal protective equipment. Ensure adequate ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not ingest. |
| Storage | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep under nitrogen. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| | |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Engineering Measures | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|-----------------|--------------------------|----------|------------|
| Triethanolamine | TWA: 5 mg/m ³ | | |

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|-----------------|--------------------------|------------------|--------------------------------------------|
| Triethanolamine | TWA: 5 mg/m ³ | | TWA: 0.5 ppm TWA: 3.1 mg/m ³ |

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------|---------------------------|
| Physical State | Liquid, viscous liquid |
| Appearance | Light yellow |
| odor | Ammonia-like |
| Odor Threshold | No information available. |
| pH | 10.5 15 g/L water |
| Vapor Pressure | <0.01 mmHg @ 20 °C |
| Vapor Density | 5.14 (Air = 1.0) |
| Viscosity | 600 mPa.s at 25 °C |
| Boiling Point/Range | 360°C / 680°F |
| Melting Point/Range | 21°C / 69.8°F |

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------------|---------------------------|
| Decomposition temperature | No information available. |
| Flash Point | 190°C / 374°F |
| Evaporation Rate | No information available. |
| Specific Gravity | 1.125 |
| Solubility | No information available. |
| log Pow | No data available |
| Molecular Weight | 149.19 |
| Molecular Formula | C6 H15 N O3 |

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Stability | Hygroscopic. Air sensitive. |
| Conditions to Avoid | Incompatible products. Excess heat. Exposure to air. Exposure to light. Exposure to moist air or water. |
| Incompatible Materials | Strong oxidizing agents, Acids, Metals |
| Hazardous Decomposition Products | Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO ₂), Hydrogen cyanide (hydrocyanic acid), Formaldehyde |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions . | None under normal processing. |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------------|--------------------|-------------------------------------------|-----------------|
| Triethanolamine | 4190 mg/kg (Rat) | 16 mL/kg (Rat) 2000 mg/kg (Rabbit) | Not listed |

| | |
|---------------------------------------------|---------------------------|
| Irritation | Irritating to eyes |
| Toxicologically Synergistic Products | No information available. |

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

| Component | ACGIH | IARC | NTP | OSHA | Mexico |
|-----------------|------------|---------|------------|------------|------------|
| Triethanolamine | Not listed | group 3 | Not listed | Not listed | Not listed |

| | |
|----------------------|-----------------------------------------|
| Sensitization | May cause sensitization by skin contact |
|----------------------|-----------------------------------------|

| | |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Mutagenic Effects | No information available. |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |
| Teratogenicity | No information available. |
| Other Adverse Effects | Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information. |
| Endocrine Disruptor Information | No information available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Do not empty into drains.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-----------------|----------------------------------------------|------------------------------------------------------------------------------|--------------------------|-----------------------|
| Triethanolamine | 216 mg/L EC50 = 72 h 169 mg/L EC50 = 96 h | 450-1000 mg/L LC50 96 h 10600-13000 mg/L LC50 96 h 1000 mg/L LC50 96 h | EC50 > 10000 mg/L 30 min | 1386 mg/L EC50 = 24 h |

Persistence and Degradability Readily biodegradable.

Bioaccumulation/ Accumulation No information available

Mobility .

| Component | log Pow |
|-----------------|---------|
| Triethanolamine | -2.53 |

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

14. TRANSPORT INFORMATION

15. REGULATORY INFORMATION

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | CHINA | KECL |
|-----------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Triethanolamine | X | X | - | 203-049-8 | - | | X | X | X | X | X |

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Not applicable

SARA 311/312 Hazardous Categorization

| | |
|-----------------------------------|-----|
| Acute Health Hazard | Yes |
| Chronic Health Hazard | No |
| Fire Hazard | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard | No |

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------|---------------|------------|--------------|----------|--------------|
| Triethanolamine | X | X | X | - | X |

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

| Component | DHS Chemical Facility Anti-Terrorism Standard |
|-----------------|-----------------------------------------------|
| Triethanolamine | 0 lb STQ |

Other International Regulations

Mexico - Grade No information available

Canada

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

WHMIS Hazard Class

Non-controlled

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|------------------------------|
| 16. OTHER INFORMATION |
|------------------------------|

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Disclaimer

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End of MSDS