

SAFETY DATA SHEET

Creation Date 28-Sep-2009

Revision Date 09-Jul-2025

Revision Number 5

1. Identification

| | |
|---|---|
| Product Name | Triethylamine |
| Cat No. : | A12646 |
| CAS No | 121-44-8 |
| Synonyms | TETN |
| Recommended Use Uses advised against | Laboratory chemicals. Food, drug, pesticide or biocidal product use. |

Details of the supplier of the safety data sheet

Company

Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|--------------|
| Flammable liquids | Category 2 |
| Acute oral toxicity | Category 3 |
| Acute dermal toxicity | Category 3 |
| Acute Inhalation Toxicity - Vapors | Category 3 |
| Skin Corrosion/Irritation | Category 1 A |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes severe skin burns and eye damage
May cause respiratory irritation
Toxic if swallowed, in contact with skin or if inhaled

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth

Do NOT induce vomiting

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/information on Ingredients

| Component | CAS No | Weight % |
|---------------|----------|----------|
| Triethylamine | 121-44-8 | 100 |

4. First-aid measures

| | |
|--|--|
| General Advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required. |
| Inhalation | If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required. |
| Ingestion | Do NOT induce vomiting. Call a physician or poison control center immediately. |
| Most important symptoms and effects | Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | Water mist may be used to cool closed containers. CO ₂ , dry chemical, dry sand, alcohol-resistant foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | -11 °C / 12.2 °F |
| Method - | No information available |
| Autoignition Temperature | 215 °C / 419 °F |
| Explosion Limits | |
| Upper | 8.0% |
| Lower | 1.2% |
| 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. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

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. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 3 | 3 | 0 | N/A |

6. Accidental release measures

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| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Remove all sources of ignition. Take precautionary measures against static discharges. |
| Environmental Precautions | Should not be released into the environment. Do not flush into surface water or sanitary sewer system. |
| Methods for Containment and Clean Up | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. |

7. Handling and Storage

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|-----------------|---|
| Handling | Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges. |
| Storage. | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Corrosives area. Incompatible Materials. Strong oxidizing agents. Strong acids. Strong reducing agents. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH | Mexico OEL (TWA) |
|---------------|-----------------------------------|---|---------------|--|
| Triethylamine | TWA: 1 ppm STEL: 3 ppm Skin | (Vacated) TWA: 10 ppm (Vacated) TWA: 40 mg/m ³ (Vacated) STEL: 15 ppm (Vacated) STEL: 60 mg/m ³ TWA: 25 ppm TWA: 100 mg/m ³ | IDLH: 200 ppm | TWA: 25 ppm TWA: 100 mg/m ³ STEL: 40 ppm STEL: 160 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

| | |
|-----------------------------|--|
| Engineering Measures | Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment. |
|-----------------------------|--|

Personal Protective Equipment

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|----------------------------|---|
| 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. |
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|---------------------------------|---|
| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. |
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| 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. |
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|---------------------------------|---|
| Recommended Filter type: | Ammonia and organic ammonia derivatives filter. Type K. Green. conforming to EN14387. |
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| Hygiene Measures | Handle in accordance with good industrial hygiene and safety practice. |
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9. Physical and chemical properties

| | | |
|--|---|-------------|
| Physical State | Liquid | |
| Appearance | Colorless | |
| Odor | Fishy | |
| Odor Threshold | No information available | |
| pH | 12.4 | (10 %) |
| Melting Point/Range | -115 °C / -175 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 90 °C / 194 °F | |
| Flash Point | -11 °C / 12.2 °F | |
| Flammability (liquid) | Highly flammable | |
| Flammability (solid,gas) | Not applicable | |
| Explosion Limits | Lower 1.2 vol% | |
| | Upper 8.8 vol% | |
| Autoignition Temperature | 215 °C / 419 °F | |
| Decomposition Temperature | No data available | |
| Water Solubility | 133 g/L (20°C) | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Component | log Pow | |
| Triethylamine | 1.45 | |
| Vapor Pressure | 69 mbar @ 20 °C | |
| Density / Specific Gravity | 0.728 | |
| Bulk Density | Not applicable | Liquid |
| Vapor Density | 3.5 | (Air = 1.0) |
| Viscosity | 0.36 mPa.s @ 20 °C | |
| Particle characteristics | Not applicable (liquid) | |
| Molecular Formula | C6 H15 N | |
| Molecular Weight | 101.19 | |
| Explosive Properties | Vapors may form explosive mixtures with air | |
| Evaporation Rate | 5.6 - (Butyl Acetate = 1.0) | |

10. Stability and reactivity

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|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Strong reducing agents |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), Nitrogen oxides (NO _x) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Information on expected route of exposure

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|-------------------|---|
| Inhalation | Not an expected route of exposure. |
| Ingestion | May be harmful if swallowed. |
| Eyes | Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness. |
| Skin | Avoid contact with skin. Causes burns. Harmful in contact with skin. |

Acute Toxicity**Product Information****Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------|------------|----------------------|----------------------|
| Triethylamine | Not listed | 415 mg/kg (Rabbit) | 1250 ppm (Rat) 4 h |

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|---|--------------------------|
| Toxicologically Synergistic Products | No information available |
|---|--------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-------------------|--|
| Irritation | Causes severe burns by all exposure routes |
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|----------------------|--------------------------|
| Sensitization | No information available |
|----------------------|--------------------------|

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| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
|------------------------|--|

| Component | CAS No | IARC | NTP | ACGIH | OSHA | Mexico |
|---------------|----------|------------|------------|------------|------------|------------|
| Triethylamine | 121-44-8 | Not listed |

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|--------------------------|--------------------------|
| Mutagenic Effects | No information available |
|--------------------------|--------------------------|

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|-----------------------------|---------------------------|
| Reproductive Effects | No information available. |
|-----------------------------|---------------------------|

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|------------------------------|---------------------------|
| Developmental Effects | No information available. |
|------------------------------|---------------------------|

| | |
|-----------------------|---------------------------|
| Teratogenicity | No information available. |
|-----------------------|---------------------------|

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|-------------------------------|---|
| STOT - single exposure | Respiratory system Central nervous system (CNS) |
|-------------------------------|---|

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|---------------------------------|------------|
| STOT - repeated exposure | None known |
|---------------------------------|------------|

| | |
|--------------------------|--------------------------|
| Aspiration hazard | No information available |
|--------------------------|--------------------------|

| | |
|---|---|
| Symptoms / effects, both acute and delayed | Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated |
|---|---|

| | |
|--|--------------------------|
| Endocrine Disruptor Information | No information available |
|--|--------------------------|

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|------------------------------|--|
| Other Adverse Effects | The toxicological properties have not been fully investigated. |
|------------------------------|--|

12. Ecological information**Ecotoxicity**

Do not empty into drains. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---------------|------------------|---------------------------------------|--|---------------------|
| Triethylamine | Not listed | Oryzias latipes: LC50 = 50.7 mg/L/48h | EC50 = 127 mg/L/2 h EC50 = 95 mg/L/17 h | EC50 = 200 mg/L/48h |

| | |
|--------------------------------------|-------------------------|
| Persistence and Degradability | Persistence is unlikely |
|--------------------------------------|-------------------------|

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|--------------------------------------|---------------------------|
| Bioaccumulation/ Accumulation | No information available. |
|--------------------------------------|---------------------------|

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|-----------------|---|
| Mobility | . Will likely be mobile in the environment due to its water solubility. |
|-----------------|---|

| Component | log Pow |
|---------------|---------|
| Triethylamine | 1.45 |

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.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|--------------------------|------------------------|------------------------|
| Triethylamine - 121-44-8 | U404 | - |

14. Transport information

DOT

| | |
|-------------------------|---------------|
| UN-No | UN1296 |
| Proper Shipping Name | TRIETHYLAMINE |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

TDG

| | |
|-------------------------|---------------|
| UN-No | UN1296 |
| Proper Shipping Name | TRIETHYLAMINE |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

IATA

| | |
|-------------------------|---------------|
| UN-No | UN1296 |
| Proper Shipping Name | TRIETHYLAMINE |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

IMDG/IMO

| | |
|-------------------------|---------------|
| UN-No | UN1296 |
| Proper Shipping Name | TRIETHYLAMINE |
| Hazard Class | 3 |
| Subsidiary Hazard Class | 8 |
| Packing Group | II |

15. Regulatory Information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|---------------|----------|------|---|-----------------------------|
| Triethylamine | 121-44-8 | X | ACTIVE | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|---------------|----------|-----|------|-----------|-------|------|------|------|-------|------|
| Triethylamine | 121-44-8 | X | - | 204-469-4 | X | X | X | X | X | X |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

| Component | CAS No | Weight % | SARA 313 - Threshold Values % | SARA 313 - Reporting thresholds |
|---------------|----------|----------|-------------------------------|---------------------------------|
| Triethylamine | 121-44-8 | 100 | 1.0 | - |

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|---------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Triethylamine | X | 5000 lb | - | - |

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|---------------|-----------|-------------------------|-------------------------|
| Triethylamine | X | | - |

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

| Component | Hazardous Substances RQs | CERCLA Extremely Hazardous Substances RQs | SARA Reportable Quantity (RQ) |
|---------------|--------------------------|---|--|
| Triethylamine | 5000 lb | - | RQ 5000 lb final RQ RQ 2270 kg final RQ |

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

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

U.S. Department of Transportation

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

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade

Serious risk, Grade 3

Authorisation/Restrictions according to EU REACH

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---------------|----------|---|---|---|
| Triethylamine | 121-44-8 | - | Use restricted. See entry 75. (see link for restriction details) | - |

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---------------|----------|----------|------------------------------|---------------------------|--|
| Triethylamine | 121-44-8 | Listed | Not applicable | Not applicable | Not applicable |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

| Component | CAS No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---------------|----------|---|--|----------------------------|------------------------------------|
| Triethylamine | 121-44-8 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other Information

Prepared By

Health, Safety and Environmental Department
 Email: chem.techinfo@thermofisher.com
 www.thermofisher.com

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28-Sep-2009

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Revision Summary

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS