

# SAFETY DATA SHEET

Creation Date 15-Sep-2009

Revision Date 19-Dec-2025

Revision Number 8

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

## 1. Identification

**Product Name** Triethylenetetramine

**Cat No. :** AC344070000; AC344070025; AC344070500; AC344075000

**CAS No** 112-24-3

**Synonyms** N,N-bis(2-aminoethyl)-1,2-diaminoethane; Tecza; 3,6-Diazaoctave-1,8-diamine

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

#### **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 according to [US] OSHA (29 CFR 1910.1200, 2024)

|                                                  |              |
|--------------------------------------------------|--------------|
| Acute oral toxicity                              | Category 4   |
| Acute dermal toxicity                            | Category 4   |
| Skin Corrosion/Irritation                        | Category 1 B |
| Serious Eye Damage/Eye Irritation                | Category 1   |
| Skin Sensitization                               | Category 1   |
| Specific target organ toxicity (single exposure) | Category 3   |
| Target Organs - Respiratory system.              |              |

### Label Elements

**Signal Word**  
Danger

**Hazard Statements**

Causes severe skin burns and eye damage  
May cause respiratory irritation  
May cause an allergic skin reaction  
Harmful if swallowed or in contact with skin

**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  
Do not breathe dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Use only outdoors or in a well-ventilated area

**Response**

Immediately call a POISON CENTER or doctor

**Inhalation**

IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Skin**

Take off contaminated clothing and wash before reuse  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
If skin irritation or rash occurs: Get medical advice/attention

**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

**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)**

Harmful to aquatic life with long lasting effects

**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

### 3. Composition/information on Ingredients

| Component                                                | CAS No     | Weight % |
|----------------------------------------------------------|------------|----------|
| Triethylene tetramine                                    | 112-24-3   | 60       |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | 40       |

### 4. First-aid measures

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is

|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                            | required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.                                                                                                                                                                                                                                                                                                                                  |
| <b>Inhalation</b>                          | If not breathing, give artificial respiration. Remove from exposure, lie down. 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. Call a physician immediately.                                                                                                                                                                                           |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Most important symptoms and effects</b> | Causes burns by all exposure routes. May cause allergic skin reaction. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## 5. Fire-fighting measures

|                                         |                                                                   |
|-----------------------------------------|-------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | CO <sub>2</sub> , dry chemical, dry sand, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available                                          |
| <b>Flash Point</b>                      | 149 °C / 300.2 °F                                                 |
| <b>Method -</b>                         | CC (closed cup)                                                   |
| <b>Autoignition Temperature</b>         | 335 °C / 635 °F                                                   |
| <b>Explosion Limits</b>                 |                                                                   |
| <b>Upper</b>                            | 7.2%                                                              |
| <b>Lower</b>                            | 0.7%                                                              |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                          |
| <b>Sensitivity to Static Discharge</b>  | 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.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

### 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**  
3

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

|                             |                                                                                      |
|-----------------------------|--------------------------------------------------------------------------------------|
| <b>Personal Precautions</b> | Ensure adequate ventilation. Use personal protective equipment as required. Evacuate |
|-----------------------------|--------------------------------------------------------------------------------------|

**Environmental Precautions** personnel to safe areas. Keep people away from and upwind of spill/leak. 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.

## 7. Handling and Storage

**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.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area. Keep under nitrogen. Store under an inert atmosphere. Air sensitive. Incompatible Materials. Strong oxidizing agents.

## 8. Exposure controls / personal protection

**Exposure Guidelines** This product does not contain any hazardous materials with occupational exposure limit established by the region specific regulatory bodies.

**Engineering Measures** Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.

### 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.

**Recommended Filter type:** Particulates filter conforming to EN 143. Ammonia and organic ammonia derivatives filter. Type K. Green. conforming to EN14387.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

**Physical State**

**Color**

**Odor**

**Odor Threshold**

**Property**

**Melting Point/Range**

**Softening Point**

**Boiling Point/Range**

**Flash Point**

**Flammability (liquid)**

**Flammability (solid,gas)**

**Explosion Limits**

Liquid

Light yellow

Ammonia-like

No information available

**Values**

-35 °C / -31 °F

No data available

266 °C / 510.8 °F

149 °C / 300.2 °F

No data available

Not applicable

**Lower** 0.7 vol%

**Upper** 7.2 vol%

**Remarks**

**• Method**

**Method -** CC (closed cup)

Liquid

|                                                |                              |             |
|------------------------------------------------|------------------------------|-------------|
| <b>Autoignition Temperature</b>                | 335 °C / 635 °F              |             |
| <b>Decomposition Temperature</b>               | No data available            |             |
| <b>pH</b>                                      | 10                           |             |
| <b>Viscosity</b>                               | No data available            |             |
| <b>Water Solubility</b>                        | Soluble                      |             |
| <b>Solubility in other solvents</b>            | No information available     |             |
| <b>Partition Coefficient (n-octanol/water)</b> |                              |             |
| <b>Component</b>                               | <b>log Pow</b>               |             |
| Triethylene tetramine                          | -1.4                         |             |
| <b>Vapor Pressure</b>                          | <0.01 hPa @ 20 °C            |             |
| <b>Density / Specific Gravity</b>              | 0.980                        |             |
| <b>Bulk Density</b>                            | Not applicable               | Liquid      |
| <b>Vapor Density</b>                           | 5.0 (Air = 1.0)              | (Air = 1.0) |
| <b>Particle characteristics</b>                | Not applicable (liquid)      |             |
| <b>Other Information</b>                       |                              |             |
| <b>Molecular Formula</b>                       | C6 H18 N4                    |             |
| <b>Molecular Weight</b>                        | 146.24                       |             |
| <b>Evaporation Rate</b>                        | < 0.01 (Butyl Acetate = 1.0) |             |

## 10. Stability and reactivity

|                                         |                                                                                             |
|-----------------------------------------|---------------------------------------------------------------------------------------------|
| <b>Reactive Hazard</b>                  | None known, based on information available                                                  |
| <b>Stability</b>                        | Hygroscopic.                                                                                |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Exposure to moist air or water.                         |
| <b>Incompatible Materials</b>           | Strong oxidizing agents                                                                     |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ) |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.                                                    |
| <b>Hazardous Reactions</b>              | None under normal processing.                                                               |

## 11. Toxicological information

### Information on expected route of exposure

|                   |                                                                                                                                                                                           |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b> | May produce an allergic reaction.                                                                                                                                                         |
| <b>Ingestion</b>  | May cause allergic reaction. May be harmful if swallowed.                                                                                                                                 |
| <b>Eyes</b>       | Avoid contact with eyes. Corrosive to the eyes and may cause severe damage including blindness. Sensitization.                                                                            |
| <b>Skin</b>       | Avoid contact with skin. Causes burns. Skin Corrosion/Irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Harmful in contact with skin. |

### Toxicology data for the components

| Component                                                | LD50 Oral                                | LD50 Dermal                                   | LC50 Inhalation |
|----------------------------------------------------------|------------------------------------------|-----------------------------------------------|-----------------|
| Triethylene tetramine                                    | 2500 mg/kg ( Rat )<br>1716 mg/kg ( Rat ) | 550 mg/kg ( Rabbit )<br>1465 mg/kg ( Rabbit ) | -               |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 1716 mg/kg ( Rat )                       | 1465 mg/kg ( Rabbit )                         | -               |

|                                             |                          |
|---------------------------------------------|--------------------------|
| <b>Toxicologically Synergistic Products</b> | No information available |
|---------------------------------------------|--------------------------|

(b) skin corrosion/irritation; Category 1 B

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

Category 1

No information available

(e) germ cell mutagenicity;

No data available

(f) carcinogenicity;

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component                                                | CAS No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|----------------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Triethylene tetramine                                    | 112-24-3   | Not listed | Not listed | Not listed | Not listed | Not listed |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | Not listed | Not listed | Not listed | Not listed | Not listed |

(g) reproductive toxicity;

No data available

(h) STOT-single exposure;

No data available

(i) STOT-repeated exposure;

No data available

Target Organs

None known.

(j) aspiration hazard;

No data available

**Symptoms / effects, both acute and delayed**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

**Other Adverse Effects**

The toxicological properties have not been fully investigated.

**Endocrine Disrupting Properties**

This product does not contain any known or suspected endocrine disruptors.

| Component             | EU - Endocrine Disruptors Candidate List | EU - Endocrine Disruptors - Evaluated Substances | Japan - Endocrine Disruptor Information |
|-----------------------|------------------------------------------|--------------------------------------------------|-----------------------------------------|
| Triethylene tetramine | Group III Chemical                       | Not applicable                                   | Not applicable                          |

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is: Toxic to aquatic organisms.

| Component             | Freshwater Algae                        | Freshwater Fish                                | Microtox   | Water Flea          |
|-----------------------|-----------------------------------------|------------------------------------------------|------------|---------------------|
| Triethylene tetramine | EC50: 2.5 mg/L/72h<br>EC50: 20 mg/L/72h | LC50: = 495 mg/L, 96h<br>(Pimephales promelas) | Not listed | EC50: 31.1 mg/L/48h |

|  |                    |                                                               |  |  |
|--|--------------------|---------------------------------------------------------------|--|--|
|  | EC50: 2.5 mg/L/72h | LC50: = 570 mg/L, 96h<br>semi-static (Poecilia<br>reticulata) |  |  |
|--|--------------------|---------------------------------------------------------------|--|--|

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

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

| Component             | log Pow |
|-----------------------|---------|
| Triethylene tetramine | -1.4    |

### 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

UN-No UN2259  
 Proper Shipping Name TRIETHYLENETETRAMINE  
 Hazard Class 8  
 Packing Group II

#### TDG

UN-No UN2259  
 Proper Shipping Name TRIETHYLENETETRAMINE  
 Hazard Class 8  
 Packing Group II

#### IATA

UN-No UN2259  
 Proper Shipping Name Triethylenetetramine  
 Hazard Class 8  
 Packing Group II

#### IMDG/IMO

UN-No UN2259  
 Proper Shipping Name Triethylenetetramine  
 Hazard Class 8  
 Packing Group II

### 15. Regulatory Information

#### United States of America Inventory

| Component                                                   | CAS No     | TSCA | TSCA Inventory notification -<br>Active-Inactive | TSCA - EPA Regulatory<br>Flags |
|-------------------------------------------------------------|------------|------|--------------------------------------------------|--------------------------------|
| Triethylene tetramine                                       | 112-24-3   | X    | ACTIVE                                           | -                              |
| Amines, polyethylenepoly-,<br>triethylenetetramine fraction | 90640-67-8 | -    | -                                                | -                              |

#### **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/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                                                | CAS No     | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|----------------------------------------------------------|------------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Triethylene tetramine                                    | 112-24-3   | X   | -   | 203-950-6 | X     | X    | X    | X    | X     | KE-02911 |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | -   | -   | 292-588-2 | -     | -    |      | -    | X     | -        |

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

**U.S. Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**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)** Not applicable

**Clean Air Act** Not applicable

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**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 |
|-----------------------|---------------|------------|--------------|----------|--------------|
| Triethylene tetramine | 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 does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Slight risk, Grade 1

**Authorisation/Restrictions according to EU REACH**

| Component | CAS No | REACH (1907/2006) - | REACH (1907/2006) - | REACH Regulation (EC) |
|-----------|--------|---------------------|---------------------|-----------------------|
|-----------|--------|---------------------|---------------------|-----------------------|

|                                                          |            | Annex XIV - Substances Subject to Authorization | Annex XVII - Restrictions on Certain Dangerous Substances           | 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------------------------------------------------|------------|-------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Triethylene tetramine                                    | 112-24-3   | -                                               | Use restricted. See entry 75.<br>(see link for restriction details) | -                                                                                |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | -                                               | -                                                                   | -                                                                                |

**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) |
|----------------------------------------------------------|------------|----------|------------------------------|---------------------------|--------------------------------------------|
| Triethylene tetramine                                    | 112-24-3   | Listed   | Not applicable               | Not applicable            | Not applicable                             |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | 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) |
|----------------------------------------------------------|------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Triethylene tetramine                                    | 112-24-3   | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |
| Amines, polyethylenepoly-, triethylenetetramine fraction | 90640-67-8 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

## 16. Other Information

**Prepared By**

Product stewardship (Regulatory Affairs)  
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19-Dec-2025

**Print Date**

19-Dec-2025

**Revision Summary**

Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024.

**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**