

SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Product Name: Triethylenetetramine 95%

Product Code: T22095

Supplier: Pfaltz & Bauer, Inc.
172 E. Aurora Street
Waterbury, CT 06708 USA

Phone: 203-574-0075

FAX: 203-574-3181

Emergency Phone: INFOTRAC, US: 1-800-535-5053
INFOTRAC, INTERNATIONAL: +1-352-323-3500

SECTION 2: HAZARDS IDENTIFICATION

Statement of Hazard: Corrosive, Irritant, Respiratory irritant, Skin sensitizer, Toxic

Acute Health Hazard: Irritant to eyes, skin, mucous membranes and respiratory system.
May be harmful by ingestion and inhalation, toxic by skin absorption.

Chronic Health Hazard: Not Available

HMIS Rating: H: 3 F: 1 P: 0

NFPA Rating: H: 3 F: 1 R: 0

To the best of our knowledge, the toxicological properties of this chemical have not been thoroughly investigated. Use appropriate procedures and precautions to prevent or minimize exposure.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
GHS Classification in accordance with Regulation (EC) No 1272/2008:

Acute toxicity, dermal (Category 3), H311
Acute toxicity, inhalation (Category 4), H332
Acute toxicity, oral (Category 4), H302
Sensitization, skin (Category 1), H317
Skin corrosion/irritation (Category 1A), H314
Specific target organ toxicity, single exposure; Respiratory tract irritation (Category 3), H335

Pictogram:



Signal Word:

Danger

Hazard Statement(s):

H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary Statement(s):

P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

SECTION 3: COMPOSITION/INFORMATION on INGREDIENTS

Chemical Name: Triethylenetetramine 95%

Synonyms: Trien; N,N-bis(2-Aminoethyl)ethylenediamine

CAS Number: 112-24-3

MDL Number: MFCD00008169

EINECS Number: 203-950-6

Beilstein Registry Number: 605448

Molecular Formula: $C_6H_{19}N_4$

Molecular Weight: 146.24

Content:

As specified in product name.

SECTION 4: FIRST AID MEASURES

<u>Eye Contact:</u>	Flush eyes with large amounts of water for fifteen minutes. Separate eyelids with fingers. If irritation persists, seek medical attention.
<u>Skin Contact:</u>	Wash skin with soap and water. If irritation persists, seek medical attention.
<u>Ingestion:</u>	Do not induce vomiting. Seek medical attention.
<u>Inhalation:</u>	Move to a fresh air environment. Contact a physician if breathing becomes difficult.

SECTION 5: FIRE FIGHTING MEASURES

<u>Flash Point (°C):</u>	129
<u>Explosion Limits:</u>	Not Available
<u>Auto Ignition Temperature (°C):</u>	Not Available
<u>Extinguishing Media:</u>	Carbon dioxide, dry chemical powder, alcohol-resistant foam, or water spray
<u>Protective Equipment:</u>	Wear self-contained respirator and fully protective impervious suit.
<u>Specific Hazards:</u>	May emit hazardous fumes under fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

<u>Personal Protection:</u>	Wear a self-contained breathing apparatus, rubber boots and gloves, and disposable coveralls. Dispose of coveralls after use. Remove from ignition sources if safe to do so. Follow emergency response plan and contact proper authorities if needed. Keep unprotected persons away.
<u>Environmental Protection:</u>	Keep spills out of sewers and bodies of water. Dike and contain the spill with inert material. Absorb on sand, vermiculite or diatomite. Transfer material to a container for disposal or recovery. Ventilate area and wash spill site after material pickup is complete.

SECTION 7: HANDLING and STORAGE

<u>Handling and Storage:</u>	Avoid breathing dust, vapor, mist or gas. Avoid contact with skin or eyes. Avoid prolonged or repeated exposure. Use only in a chemical fume hood. Open and handle container with care. Keep ignition sources away. Store in a tightly closed container in a dry, well-ventilated place.
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Sensitivities: Hygroscopic

Storage Temperature (°C): 15 to 30

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use product in a well ventilated area or under a fume hood. Use proper lab equipment while handling this product. Keep away from incompatible materials for possible risk of hazardous reaction.

Eye Protection: Wear appropriate protective eyeglass or chemical safety goggles. Make sure that there is an eyewash station in your vicinity.

Skin Protection: Wear impervious gloves and protective clothing.

Respiratory Protection: Use a NIOSH approved respirator when exposure limits are exceeded or if irritation or other symptoms are experienced.

<u>Exposure Limits:</u>	<u>Country</u>	<u>Source</u>	<u>Type</u>	<u>Value</u>
	USA	ACGIH	TWA	Not Available
	USA	OSHA	STEL	Not Available
	USA	OSHA	PEL	Not Available

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

Appearance: Clear colorless viscous liquid

Odor: Ammonia-like

Odor Threshold: Not Available

Flash Point (°C): 129

Auto Ignition Temperature (°C): Not Available

UEL % by Volume: Not Available

LEL % by Volume: Not Available

Melting Point (°C): 12

Boiling Point (°C): 266

Evaporation Rate: Not Available

<u>pH Value:</u>	Not Available
<u>Density (g/cm³):</u>	0.982
<u>Refractive Index (n²⁰_D):</u>	1.4980
<u>Viscosity:</u>	Not Available
<u>Solubility in Water:</u>	Soluble
<u>Solubility in Other:</u>	Miscible with Ether, Alcohol.
<u>Vapor Pressure (mmHg):</u>	Not Available
<u>Vapor Density (Air=1):</u>	Not Available

SECTION 10: STABILITY and REACTIVITY

<u>Stability:</u>	Stable under normal temperatures and pressures.
<u>Incompatibility:</u>	Oxidizing agents, Strong acids.
<u>Reactivity:</u>	Product may react with incompatible materials to release other hazardous substances.
<u>Conditions to Avoid:</u>	Heat, flame, sparks, other ignition sources.
<u>Hazardous Decomposition Products:</u>	Carbon oxides, Nitrogen oxides

SECTION 11: TOXICOLOGICAL INFORMATION

<u>RTECS Reference:</u>	YE6650000								
<u>Target Organs:</u>	Not Available								
<u>Toxicity Data:</u>	<table> <tr> <td>Oral Rat LD₅₀ mg/kg:</td><td>2500.00</td></tr> <tr> <td>Oral Mouse LD₅₀ mg/kg:</td><td>1600.00</td></tr> <tr> <td>Oral Rabbit LD₅₀ mg/kg:</td><td>5500.00</td></tr> <tr> <td>Dermal Rabbit LD₅₀ mg/kg:</td><td>550.00</td></tr> </table>	Oral Rat LD ₅₀ mg/kg:	2500.00	Oral Mouse LD ₅₀ mg/kg:	1600.00	Oral Rabbit LD ₅₀ mg/kg:	5500.00	Dermal Rabbit LD ₅₀ mg/kg:	550.00
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Dermal Rabbit LD ₅₀ mg/kg:	550.00								
<u>Carcinogenicity:</u>	National Toxicology Program (NTP) listed: Not Available International Agency for Research on Cancer (IARC) listed: Not Available								
<u>Potential Symptoms:</u>	Not Available								

SECTION 12: ECOLOGICAL INFORMATION

Toxicity: Not Available

SECTION 13: DISPOSAL CONSIDERATIONS

Contact a licensed professional waste disposal service. Dispose in a manner consistent with federal, state and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

DOT Shipping Name: Triethylenetetramine

DOT UN Number: UN2259

DOT Hazard Class: Class 8

DOT Packing Group: PGII

IMDG Shipping Name: Triethylenetetramine

IMDG UN Number: UN2259

IMDG Hazard Class: Class 8

IMDG Packing Group: PGII

Marine Pollutant: Yes

IATA Shipping Name: Triethylenetetramine

IATA UN Number: UN2259

IATA Hazard Class: Class 8

IATA Packing Group: PGII

SECTION 15: REGULATORY INFORMATION

United States

Toxic Substance Control Act (TSCA) listed: Yes

Superfund Amendments and Reauthorization Act (SARA 302) listed: No

Superfund Amendments and Reauthorization Act (SARA 311/312) listed: No

Superfund Amendments and Reauthorization Act (SARA 313) listed: No

European Union

European Inventory of Existing Chemical Substances (EINECS): 203-950-6

GHS Classification in accordance with Regulation (EC) No 1272/2008: Yes

Canada

Canadian Domestic Substances List (DSL) listed: No

Canadian Non-Domestic Substances List (NDSL) listed: Yes

SECTION 16: OTHER INFORMATION

Date Prepared: 9/26/2022

The information above is presented in good faith. It is believed to be accurate and represents the best information currently available to us. However, we make no warranty with respect to such information and we assume no liability resulting from its use. The user should consider this information as a supplement to other information that may be available and make independent judgement to ensure proper use to protect the health and safety of employees and the environment. Pfaltz and Bauer shall not be held liable for any damage resulting from handling or from contact with the above product.