

Material Safety Data Sheet

Version 3.3
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Triethylamine

Product Number : T0886
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
OAKVILLE ON L6H 6J8
CANADA

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : $C_6H_{15}N$
Molecular Weight : 101.19 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Triethylamine			
121-44-8	204-469-4	612-004-00-5	-

3. HAZARDS IDENTIFICATION**Emergency Overview****Target Organs**

Heart, Kidney, Liver, Central nervous system

WHMIS Classification

B2 Flammable Liquid
D1A
E

Flammable Liquid
Highly toxic by skin absorption
Highly toxic by inhalation
Corrosive

HMIS Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating

Health Hazard: 3
Fire: 3
Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	Causes skin burns. May be fatal if absorbed through skin.
Eyes	Causes eye burns.
Ingestion	May be harmful if swallowed. Causes burns.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point -15 °C (5 °F) - closed cup

Ignition temperature 312 °C (594 °F)

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Triethylamine	121-44-8	TWA	1 ppm	2004-08-01	Canada. British Columbia OEL
Remarks	Contributes significantly to the overall exposure by the skin route.				
		STEL	3 ppm	2004-08-01	Canada. British Columbia OEL
	Contributes significantly to the overall exposure by the skin route.				
		TWAE V	1 ppm	2005-02-03	Canada. Ontario OELs
		STEV	3 ppm	2005-02-03	Canada. Ontario OELs
		TWA	1 ppm 4.1 mg/m3	2004-04-30	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin				
		STEL	3 ppm 12.4 mg/m3	2004-04-30	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin				
		TWA	5 ppm 20.5 mg/m3	2000-01-12	Canada. Quebec OELs
	Skin (percutaneous)				
		STEL	15 ppm 61.5 mg/m3	2000-01-12	Canada. Quebec OELs
	Skin (percutaneous)				

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid, clear
Colour	colourless
Odour	amine-like

Safety data

pH	12.7 at 100 g/l at 15 °C (59 °F)
Melting point	-115 °C (-175 °F)
Boiling point	88.8 °C (191.8 °F)
Flash point	-15 °C (5 °F) - closed cup
Ignition temperature	312 °C (594 °F)
Lower explosion limit	1.2 %(V)
Upper explosion limit	8 %(V)
Vapour pressure	68.99 hPa (51.75 mmHg) at 20 °C (68 °F) 85.06 hPa (63.80 mmHg) at 30 °C (86 °F)
Density	0.726 g/mL at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 1.15
Relative vapour density	3.49 - (Air = 1.0)

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 730 mg/kg

LC50 Inhalation - rat - 4 h - 4,200 - 8,400 mg/m³

LD50 Dermal - rabbit - 200 - 2,000 mg/kg

Irritation and corrosion

Skin - rabbit - Extremely corrosive and destructive to tissue.

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

Potential Health Effects

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Target Organs	Heart, Kidney, Liver, Central nervous system,

Additional Information

RTECS: YE0175000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 43.7 mg/l - 96 h
	LC50 - Oncorhynchus mykiss (rainbow trout) - 126 - 150 mg/l - 60 d
	LOEC - Brachydanio rerio (zebra fish) - 320 mg/l - 7 d
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 200 mg/l - 48 h
Toxicity to bacteria	LC50 - Bacteria - 95 mg/l - 17 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 1296 Class: 3 (8) Packing group: II
Proper shipping name: Triethylamine
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 1296 Class: 3 (8) Packing group: II EMS-No: F-E, S-C
Proper shipping name: TRIETHYLAMINE
Marine pollutant: No

IATA

UN-Number: 1296 Class: 3 (8) Packing group: II
Proper shipping name: Triethylamine

15. REGULATORY INFORMATION**DSL Status**

All components of this product are on the Canadian DSL list.

WHMIS Classification

B2 Flammable Liquid
D1A
E

Flammable Liquid
Highly toxic by skin absorption
Highly toxic by inhalation
Corrosive

16. OTHER INFORMATION**Further information**

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