

# SAFETY DATA SHEET

Australian statement of hazardous nature: Classified as hazardous according to criteria of Safe Work Australia

# Section 1 - Identification

Product Name <u>Triethylamine</u>

**CAS No** 121-44-8

Synonyms TETN

Product Code 432280000; 432280010; 432280025

Address ThermoFisher Scientific Australia Pty Ltd

5 Caribbean Drive, Scoresby VICTORIA 3179, Australia

Emergency Tel. CHEMTREC®

03 9757 4559 or +613 9757 4559

Telephone / Fax Numbers Tel: 1300 735 292

Fax: 1800 067 639

E-mail address ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National

Code of Practice for Chemicals of Security Concern.

# Section 2 - Hazard(s) Identification

## Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

Flammable liquids Category 2

**Health hazards** 

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
Category 1
Category 3

Environmental hazards

No hazards identified

**Label Elements** 

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Signal Word

Danger

#### **Hazard Statements**

H225 - Highly flammable liquid and vapor

H314 - Causes severe skin burns and eye damage

H335 - May cause respiratory irritation

H301 + H311 + H331 - Toxic if swallowed, in contact with skin or if inhaled

#### **Precautionary Statements**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P240 - Ground and bond container and receiving equipment

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P242 - Use non-sparking tools

P243 - Take action to prevent static discharges

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep 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

P310 - Immediately call a POISON CENTER or doctor

P330 - Rinse mouth

P331 - Do NOT induce vomiting

P363 - Wash contaminated clothing before reuse

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

#### Other information

Toxic to terrestrial vertebrates

This product does not contain any known or suspected endocrine disruptors

# Section 3 - Composition and Information on Ingredients

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

# Section 4 - First Aid Measures

#### 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.

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**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. 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.

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

required.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

First Aid Facilities Eyewash, safety shower and washroom.

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.

# Section 5 - Fire Fighting Measures

#### **Suitable Extinguishing Media**

Water mist may be used to cool closed containers. CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

## **Hazardous Decomposition Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NOx).

### **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.

## Special protective equipment and precautions for fire fighters

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.

# Section 6 - Accidental Release Measures

#### **Emergency procedures**

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

## Clean-up methods - small spillage

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.

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#### Clean-up methods - large spillage

Typically only supplied is small quantiites as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

#### **Reference to Other Sections**

Refer to protective measures listed in Sections 8 and 13.

# Section 7 - Handling and Storage

### **Precautions for Safe 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.

#### Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Corrosives area.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals AS 1940-2004 - The storage and handling of flammable and combustible liquids

# Section 8 - Exposure Controls and Personal Protection

#### **Exposure limits**

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)] Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

**ACGIH** - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

**DE** - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Triethylamine	STEL: 4 ppm	TWA: 3 ppm	TWA: 1 ppm	STEL: 4 ppm 15 min	TWA: 1 ppm (8
	STEL: 17 mg/m <sup>3</sup>	TWA: 12 mg/m <sup>3</sup>	STEL: 3 ppm	STEL: 17 mg/m <sup>3</sup> 15 min	Stunden). AGW -
	TWA: 2 ppm	STEL: 5 ppm	Skin	TWA: 2 ppm 8 hr	exposure factor 2
	TWA: 8 mg/m <sup>3</sup>	STEL: 20 mg/m <sup>3</sup>		TWA: 8 mg/m <sup>3</sup> 8 hr	TWA: 4.2 mg/m <sup>3</sup> (8
		Skin		Skin	Stunden). AGW -
					exposure factor 2
					TWA: 1 ppm (8
					Stunden). MAK
					TWA: 4.2 mg/m <sup>3</sup> (8
					Stunden). MAK
					Höhepunkt: 2 ppm
					Höhepunkt: 8.4 mg/m <sup>3</sup>
					Haut

## **Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

### **Exposure Controls**

## **Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the

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workstation location. Use explosion-proof electrical/ventilating/lighting equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

**Eye Protection** Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial

applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Nitrile rubber	< 60 minutes	0.38 mm	AS/NZS 2161	Permeation rate ~ 2000 µg/cm2/min As
				tested under EN374-3 Determination of
				Resistance to Permeation by Chemicals

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

**Repiratory Protection** Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

and maintenance of repiratory protective devices

Recommended Filter type: Ammonia and organic ammonia derivatives filter Type K Green conforming to EN14387 (or

AUS/NZ equivalent)

Recommended half mask:- Valve filtering: EN405 or Half mask: EN140 plus filter, EN 141 (or AUS/NZ equivalent)

When RPE is used a face piece Fit Test should be conducted

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

**Environmental exposure controls** Prevent product from entering drains.

# Section 9 - Physical and Chemical Properties

### Information on basic physical and chemical properties

Appearance Colorless Physical State Liquid

**Odor** Fishy

Odor Threshold No data 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 Method - No information available

Evaporation Rate 5.6 (Butyl Acetate = 1.0)

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 1.2 vol% Upper 8.8 vol%

Vapor Pressure 69 mbar @ 20 °C

**Vapor Density** 3.5 (Air = 1.0)

Specific Gravity / Density 0.728

Bulk DensityNot applicableLiquidWater Solubility133 g/L (20°C)

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Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowTriethylamine1.45

Autoignition Temperature 215 °C / 419 °F Decomposition Temperature No data available Viscosity 0.36 mPa.s @ 20 °C

Explosive Properties

Oxidizing Properties No information available

Vapors may form explosive mixtures with air

Other information

Molecular Formula C6 H15 N Molecular Weight 101.19

# Section 10 - Stability and Reactivity

Reactivity 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 (CO2). Nitrogen oxides (NOx).

Hazardous Polymerization Hazardous polymerization does not occur.

# Section 11 - Toxicological Information

#### Information on Toxicological Effects

### **Product Information**

(a) acute toxicity;

OralCategory 3DermalCategory 3InhalationCategory 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation		
Triethylamine		415 mg/kg (Rabbit)	1250 ppm (Rat) 4 h		

(b) skin corrosion/irritation; Category 1 A

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;

**Respiratory**Skin
Based on available data, the classification criteria are not met
Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

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Based on available data, the classification criteria are not met (g) reproductive toxicity;

Category 3 (h) STOT-single exposure;

Results / Target organs Respiratory system

Based on available data, the classification criteria are not met (i) STOT-repeated exposure;

**Target Organs** None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

delayed

Symptoms / effects, both acute and 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

# Section 12 - Ecological Information

**Ecotoxicity effects** 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 Fish Water Flea Freshwater Algae Microtox EC50 = 200 mg/L/48h Triethylamine Oryzias latipes: LC50 = EC50 = 127 mg/L/2 h50.7 mg/L/48h EC50 = 95 mg/L/17 h

Persistence and Degradability

**Persistence** 

Readily biodegradable Persistence is unlikely.

Degradation in sewage treatment plant

No inhibition of bacteria is expected if properly introduced into a biological treatment facility. Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Bioaccumulative Potential** Bioaccumulation is unlikely

Component	log Pow			Bioconcentration factor (BCF)							
Triethylamine		1.45		<0.5 dimensionless							
	<b>—</b>					 			1 A /*11 1*1 1 1		

Mobility

The product is water soluble, and may spread in water systems. : Will likely be mobile in

the environment due to its water solubility. Highly mobile in soils

**Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential** 

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

# Section 13 - Disposal Considerations

Waste from Residues/Unused **Products** 

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

**Contaminated Packaging** 

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Solutions with high pH-value must be neutralized before discharge.

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# Section 14 - Transport Information

## IMDG/IMO

**UN-No** UN1296

Proper Shipping Name TRIETHYLAMINE

Hazard Class 3
Subsidiary Hazard Class 8
Packing Group ||

#### ADG

UN-No UN1296

Proper Shipping Name TRIETHYLAMINE

Hazard Class 3 Subsidiary Hazard Class 8 Packing Group ||

Component	Hazchem Code			
Triethylamine	2WE			
121-44-8 ( 100 )				

#### IATA

UN-No UN1296

Proper Shipping Name TRIETHYLAMINE

Hazard Class 3
Subsidiary Hazard Class 8
Packing Group ||

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

# Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

## Standard for the Uniform Scheduling of Medicines and Poisons

Classified as a scheduled poison according to the Standard for Uniform Scheduling of Medicines and Poisons.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Triethylamine - 121-44-8	Schedule 5 listed - for use as curing agents for Epoxy resins except when separately specified in these
·	Schedules

### **Australian Industrial Chemicals Introduction Scheme (AICIS)**

Component	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Triethylamine - 121-44-8	Present	-

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## Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

### **Chemicals of Security Concern**

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Not applicable

## Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

### **International Inventories**

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	<b>ENCS</b>	ISHL	IECSC	KECL
Triethylamine	X	Х	204-469-4	-	X	Х	-	Х	Χ	Х	Х	X

Legend: X - Listed. '-' - Not Listed. KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

## International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their dispoal Not applicable.

Component	CAS No	OECD HPV	Restriction of	Seveso III Directive	Seveso III Directive
· ·			Hazardous	(2012/18/EC) -	(2012/18/EC) -
			Substances (RoHS)	Qualifying Quantities	Qualifying Quantities
				for Major Accident	for Safety Report
				Notification	Requirements
Triethylamine	121-44-8	Listed	Not applicable	Not applicable	Not applicable

### Authorisation/Restrictions according to EU REACH

	Component		REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	
Ī	Triethylamine	-	Use restricted. See entry 75.	-
			(see link for restriction details)	

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

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# **Section 16 - Other Information**

#### Legend

AICS - Australian Inventory of Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

ICAO/IATA - International Civil Aviation Organization/International Air **Transport Association** 

MARPOL - International Convention for the Prevention of Pollution from Ships

NZS 5433:2020 - Transport of Dangerous Goods on Land

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50% WEL - Workplace Exposure Limit

**DNEL** - Derived No Effect Level POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

NZIoC - New Zealand Inventory of Chemicals

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

**ACGIH** - American Conference of Governmental Industrial Hygienists

Predicted No Effect Concentration (PNEC)

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

LC50 - Lethal Concentration 50% ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration

**BCF** - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

#### Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

#### **Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

**Revision Date** 09-Jul-2025

**Revision Summary** SDS sections updated.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

#### **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 Safety Data Sheet**

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