TRULUX SAFETY DATA SHEET

Provides critical information about hazardous chemicals.

1.1 COMPANY IDENTIFICATION

Company's Name:	Trulux Pty Ltd
Email address:	info@trulux.com.au
Website:	www.trulux.com.au
Contact number:	+61 (02) 9975 2655
Address:	C3/ 1-3 Rodborough Rd, Frenchs Forest NSW 2086 Australia

1.2 PRODUCT IDENTIFICATION

Trade name:	Triethanolamine 99%
Reference number:	RMTR-0530B
Classification:	Refer to clause 2

1.3 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Identified uses:	Raw Material
Uses advised against:	No further information available.

1.4 DETAILS OF THE SUPPLIER OF THE SUBSTANCE INFORMATION SHEET

Supplier's Company:	Trulux Pty Ltd
Website:	www.trulux.com.au
Address:	C3/ 1-3 Rodborough Rd, Frenchs Forest NSW 2086 Australia

1.5 EMERGENCY CONTACTS – INSTITUTIONAL CENTRES

Australia	Poisons Information Centre 13 11 26

2 HAZARDS IDENTIFICATION

GHS Classification

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Specific target organ toxicity (single exposure) Category 3

SIGNAL WORD

Warning.

Label elements

Exclamation mark

Hazard statements

H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.

Precautionary Statements - Prevention

Avoid breathing dust / fume / gas / mist / vapours / spray.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / protective clothing / eye protection / face protection.

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

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

Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

No storage statements.

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

Other hazards which do not result in classification

Poisons Schedule (SUSMP) 5.

3 COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Concentration (%)
Triethanolamine	102-71-6	≥ 99

4 FIRST AID MEASURES

General Advice: For advice, contact a Poisons Information Centre (e.g. phone Australia

	13 11 26; New Zealand 0800 764 766) or a doctor.
Emergency telephone number:	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
Inhalation:	Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
Ingestion:	Clean mouth with water. Do NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact:	Wash skin with soap and water. Get medical attention if symptoms occur.
Eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Most important symptoms and effects, both acute and delayed

Symptoms: Irritation.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

5 FIRE FIGHTING MEASURES

Suitable extinguishing media:	Dry chemical, CO_2, water spray or regular foam.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.

Special hazards arising from the substance or mixture:	Combustible material. Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks). Flash back possible over considerable distance.
Hazardous combustion products:	Carbon oxides. Nitrogen oxides. Ammonia. Aldehydes.
Advice for firefighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin, eyes and inhalation of vapors. Ensure adequate ventilation. Stop leak if you can do it without risk.

Methods and material for containment and cleaning up

- Methods for containment: Prevent further leakage or spillage if safe to do so.
- Methods for cleaning up: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Do not absorb with sawdust, woodchips or other cellulose materials. After cleaning, flush away traces with water.

7 HANDLING AND STORAGE

Advice on Safe Handling: Avoid contact with skin, eyes, and clothing. Avoid breathing vapors or mists. Use personal protection equipment. Wash thoroughly after handling. Keep out of reach of children. Do not add nitrites or other nitrosating agents.

Conditions for safe storage, including any incompatibilities

- Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from foodstuffs and sources of heat or ignition. Protect against frost. Keep container closed when not in use.

  Classified as a C2 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

  This material is a Scheduled Poison and must be stored, maintained and used in accordance with the relevant regulations.

- Packaging materials: Do not store in aluminium containers. Do not store in copper or copper alloy containers.

- Incompatible materials: Strong acids, strong oxidising agents, halogenated hydrocarbons, cellulose, sawdust, aluminium, alkali metals, metal hydrides, nitrites, nitrosating agents, water, moisture.

- Poisons Schedule (SUSMP): 5

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control parameters

Exposure Limits

Triethanolamine: 8hr TWA = 5 mg/m^3 , Sen

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

`Sen' Notice - sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to exposure to minute levels of that substance and should not be further exposed to the substance.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual Protection Measures, such as Personal Protective Equipment:

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES, RESPIRATOR.

- Eye / Face Protection — Goggles.
- Skin and Body Protection — Overalls. Wear suitable protective clothing. Boots.
- Hand Protection — Impervious gloves.
- Respiratory Protection — If determined by a risk assessment an inhalation risk exists, wear an organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State:	Liquid
Colour:	Colourless
Odour:	Ammonia
Melting / Freezing Point:	21.6 °C
Boiling Point / Range:	335.4 °C
Flash Point:	179 °C
Autoignition Temperature:	324 °C
Boiling Point/Range:	336.1 °C
Water solubility:	Miscible in water.
Specific Gravity:	1.125 @ 20 °C
Relative Density:	1.125 @ 20 °C
Vapour Pressure (20 °C):	< 0.01 hPa
Vapour Density:	5 (air=1)
pH:	11 (25%)
Dynamic viscosity	404 mPa.s @ 30 °C

10 STABILITY AND REACTIVITY

Reactivity:	Hygroscopic. Reacts with strong oxidising agents. Reacts with strong acids.
Chemical Stability:	Stable under normal conditions.
Explosion data:	Sensitivity to mechanical impact - None. Sensitivity to static discharge - None.

Possibility of Hazardous Reactions:	Absorbs moisture and can react with carbon dioxide in the air to form salts. It is decomposed by light and slowly oxidized by air, turning yellow and then brown. This reaction is accelerated by heat and the presence of metals. Triethanolamine is readily oxidized and may react violently, increasing the risk of fire and explosion. Corrosive to copper, brass, bronze and other copper alloys, zinc and galvanized iron. Contact with nitrosating agents, under acidic conditions such as nitrous acid, nitrite or nitrogen oxides, can form N-nitrosodiethanolamine, a potent carcinogen. May react with various halogenated organic solvents resulting in temperature and/or pressure increases.
Hazardous polymerization:	Hazardous polymerization does not occur.
Conditions to Avoid:	Exposure to air. Exposure to light. Heat. Moisture.
Incompatible Materials:	Strong acids, strong oxidising agents, halogenated hydrocarbons, cellulose, sawdust, aluminium, alkali metals, metal hydrides, nitrites, nitrosating agents, water, moisture.
Hazardous Decomposition Products:	Carbon oxides. Nitrogen oxides. Ammonia. Aldehydes

11 TOXICOLOGICAL INFORMATION

No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

Inhalation:	Irritating to respiratory system.
Eye contact:	Irritating to eyes.

Skin contact:	Irritating to skin.
Ingestion:	May cause gastrointestinal discomfort if consumed in large amounts.
Symptoms:	Irritation.

Numerical measures of toxicity - Product Information

Chemical Name	Oral LD50	Dermal LD50
Triethanolamine	= 4190 mg/kg (Rat)	> 20000 mg/kg (Rabbit) > 16 mL/kg (Rat)

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

- Skin corrosion/irritation: Irritating to skin.
- Serious eye damage / eye irritation: Irritating to eyes.
- Respiratory or skin sensitization: Not a skin sensitizer. (guinea pig). Patch test on human volunteers did not demonstrate sensitization properties.
- Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
- STOT - single exposure: May cause respiratory irritation.
- Chronic effects: Contact skin allergy has been reported in people occupationally exposed to Triethanolamine in the textile industry and in metalworking fluids and to people non-occupationally exposed to Triethanolamine in cosmetics and medicines. Negative results have been obtained in a large number of animal skin sensitization tests.

12 ECOLOGICAL INFORMATION

Ecotoxicity: Keep out of waterways.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Triethanolamine	EC50: =216mg/L (72h, Desmodesmus subspicatus) EC50: =169mg/L (96h, Desmodesmus subspicatus)	LC50: 10600 - 13000mg/L (96h, Pimephales promelas) LC50: >1000mg/L (96h, Pimephales promelas) LC50: 450 - 1000mg/L	EC50: =1386mg/L (24h, Daphnia magna)

Bioaccumulative potential

Chemical Name	Partition coefficient
Triethanolamine	-2.53

13 DISPOSAL CONSIDERATIONS

Waste treatment methods: Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

14 TRANSPORT INFORMATION

ADG

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

IATA

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

IMDG

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

15 REGULATORY AND OTHER INFORMATION

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

National regulations

Australia

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Classified as a hazardous chemical in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).

Poisons Schedule (SUSMP)

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National pollutant inventory

Subject to reporting requirement

Chemical Name	National pollutant inventory
Triethanolamine - 102-71-6	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

International Inventories

AICS: This material is listed on the Australian Inventory of Industrial Chemicals.

NZIoC: This material is listed on the New Zealand Inventory of Chemicals.

Legend: - Australian Inventory of Industrial Chemicals

16 OTHER INFORMATION

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition or other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user.

This sheet completes the technical sheets but it does not replace them. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied is made and Trulux Pty Ltd assumes no legal responsibility or liability whatsoever resulting from its use. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product.

This listing must not be considered exhaustive. It does exonerate the user from ensuring that other legal obligations than those mentioned do not exist, relating to the use and storage of the product for which he solely is responsible.

The information and recommendations contained herein are to the best of the manufacturer's knowledge and belief accurate and reliable as of the date indicated. No representation warranty or guarantee, however, is made with regard to accuracy, reliability or completeness. Conditions of use of the material are under the control of the user; therefore, it is the user's responsibility to satisfy itself as to the suitability and completeness of such information for its own particular use.