

SAFETY DATA SHEET



Revision date: 13-Jul-2023

Revision Number 4

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name TRIETHANOLAMINE 85 (WITH DEA)

Product Code(s) 000000050374

Other means of identification

Synonyms TEA 85

Recommended use of the chemical and restrictions on use

Recommended use Personal care. Construction industry.

Uses advised against No information available

Supplier

Ixom Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

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 1
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2

SIGNAL WORD

Danger

Label elements

Health hazard
Corrosion
Exclamation mark

**Hazard statements**

H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements - Prevention

Wash hands thoroughly after handling

Do not breathe fume, gas, mist, vapours, spray

Use only outdoors or in a well-ventilated area

Wear protective gloves/protective clothing

Precautionary Statements - Response

Get medical advice/attention if you feel unwell

Specific treatment (see First aid on this SDS)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Immediately call a POISON CENTER or doctor/physician

IF ON SKIN: Wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

Wash contaminated clothing 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

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

Store locked up

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

May be harmful if swallowed

General Hazards

Poisons Schedule (SUSMP) 5

3. COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

Chemical name	CAS No.	Weight-%
Triethanolamine	102-71-6	70-<90
Diethanolamine	111-42-2	10-<20

4. FIRST AID MEASURES**Description of 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. Show this safety data sheet to the doctor in attendance.

Inhalation	Remove to fresh air. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
Skin contact	Wash skin with soap and water. Call a physician if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Self-protection of the first aider	Avoid contact with skin, eyes, and clothing. Do not breathe fume, gas, mist, vapours, spray. Use personal protective equipment as required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Coughing and/ or wheezing. Difficulty in breathing.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically. Can cause corneal burns. No specific antidote.
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5. FIRE FIGHTING MEASURES**Suitable Extinguishing Media**

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
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Unsuitable extinguishing media	High volume water jet.
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Specific hazards arising from the chemical

Specific hazards arising from the chemical	Combustible liquid. Sealed containers may rupture when heated. In the event of fire, cool tanks with water spray.
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Hazardous combustion products	Carbon oxides. Nitrogen oxides.
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Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
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6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal precautions	Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling.
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Other information	Ventilate the area. Refer to protective measures listed in Sections 7 and 8.
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For emergency responders	Use personal protection recommended in Section 8.
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Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Do not absorb with sawdust, woodchips or other cellulose materials.

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. Dike to collect large liquid spills.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes, and clothing. Do not breathe vapor or mist. Use personal protection equipment. Do not add nitrites or other nitrosating agents. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. Do not eat, drink or smoke when using this product. If product is frozen allow it to thaw. Stir well before use.

General hygiene considerations Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Wear suitable gloves.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Store away from foodstuffs and sources of heat or ignition. Keep out of the reach of children. 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 copper or copper alloy containers. Do not store in galvanized containers. Do not store in zinc containers.

Incompatible materials Strong acids. Strong oxidizing agents. Nitrites. Halogenated solvents. Halogenated hydrocarbons.

Poisons Schedule (SUSMP) 5

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Triethanolamine: 8hr TWA = 5 mg/m³, Sen
 Diethanolamine: 8hr TWA = 13 mg/m³ (3 ppm)

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

Engineering controls

Eyewash stations. 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

Tight sealing safety goggles.

Skin and body protection

Wear suitable protective clothing. Boots. Overalls.

Hand protection

Impervious gloves.

Respiratory protection

If determined by a risk assessment an inhalation risk exists, wear an organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Colourless
Odor	Ammonia

Odor threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8.0	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	
Boiling point / boiling range	354-400°C	
Flash point	185°C	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	
Vapor density	5.1 (air = 1.0)	
Relative density	1.126 @15°C	
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	324°C	
Decomposition temperature	No data available	None known
Kinematic viscosity	182.4 mm ² /s @40°C	ASTM D 445
Dynamic viscosity	313.5 mPa.s @20°C	ASTM_D 445

Other information

10. STABILITY AND REACTIVITY

Reactivity

Reactivity Hygroscopic: absorbs moisture or water from surrounding air.

Chemical stability

Stability Stable under normal conditions. Unstable under light and high temperatures, gradually decomposes.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Possibility of hazardous reactions

Possibility of hazardous reactions Do not mix with nitrites or other nitrosating agents. Do not use nitrosating agents with this product since nitrosamines may form. Some nitrosamines have been shown to be carcinogenic in tests with laboratory animals. Heating above 60°C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid

Conditions to avoid Heat, flames and sparks. UV-radiation/sunlight. Avoid freezing temperatures.

Incompatible materials

Incompatible materials Strong acids. Strong oxidizing agents. Nitrites. Halogenated solvents. Halogenated

hydrocarbons.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Information on likely routes of exposure

Product 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	Severely irritating to eyes. Causes serious eye damage.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Irritation/Corrosion. May cause redness and tearing of the eyes. Erythema (skin redness). Coughing and/ or wheezing. Difficulty in breathing.

Numerical measures of toxicity - Product Information

Refer to component information below.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Triethanolamine	= 4190 mg/kg (Rat)	> 20000 mg/kg (Rabbit) > 16 mL/kg (Rat)	-
Diethanolamine	= 780 mg/kg (Rat) = 620 µL/kg (Rat)	= 11.9 mL/kg (Rabbit) = 7640 µL/kg (Rabbit)	-

See section 16 for terms and abbreviations

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

Skin corrosion/irritation	Causes skin irritation. Classification is based on mixture calculation methods based on component data.
Serious eye damage/eye irritation	Causes serious eye damage. Classification is based on mixture calculation methods based on component data.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	Refer to 'Chronic effects' section below.
Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation. Classification is based on mixture calculation methods based on component data.

STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure. Classification is based on mixture calculation methods based on component data.
Aspiration hazard	No information available.
Chronic effects:	Diethanolamine has been classified by the International Agency for Research on Cancer (IARC) as a Group 2B agent. The agent is possibly carcinogenic to humans. Triethanolamine has been classified by the International Agency for Research on Cancer (IARC) as a Group 3 -Not classifiable as to its carcinogenicity to humans.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	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 (96h, Lepomis macrochirus)	-	EC50: =1386mg/L (24h, Daphnia magna)
Diethanolamine	EC50: =7.8mg/L (72h, Desmodesmus subspicatus) EC50: 2.1 - 2.3mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 4460 - 4980mg/L (96h, Pimephales promelas) LC50: 1200 - 1580mg/L (96h, Pimephales promelas) LC50: 600 - 1000mg/L (96h, Lepomis macrochirus)	-	EC50: =55mg/L (48h, Daphnia magna)

Persistence and degradability

Persistence and degradability Readily biodegradable.

Bioaccumulative potential

Bioaccumulation This chemical shows a low bioaccumulation potential.

Component Information

Chemical name	Partition coefficient
Triethanolamine	-2.53
Diethanolamine	-2.18

Mobility

Mobility in soil No information available.

Other adverse effects

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers.

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 INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****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).

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

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

Poisons Schedule (SUSMP) 5

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
Diethanolamine - 111-42-2	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**AIIC**

All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

NZIoC

All the constituents of this material are listed on the New Zealand Inventory of Chemicals.

Legend:**AIIC- Australian Inventory of Industrial Chemicals****NZIoC - New Zealand Inventory of Chemicals****International Regulations****The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable**The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**16. OTHER INFORMATION**

Supplier Safety Data Sheet 08/ 2022

Reason(s) For Issue: Reissue of an obsolete SDS**Issuing Date:** 13-Jul-2023

This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGl(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 Japan GHS Classification
 Australian Industrial Chemicals Introduction Scheme (AICIS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set

RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet