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

Details of the supplier of the safety data sheet

Supplier
Ixom Operations Pty Ltd (Incorporated in Australia)
NZBN: 9429041465226 Address: 166 Totara Street
Mt Maunganui South
New Zealand

Telephone Number: +64 9 368 2700
Facsimile: +64 9 368 2710

For further information, please contact

Contact Point Product Safety Department

Emergency telephone number

Emergency Telephone **0 800 734 607 (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

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

GHS Classification

SIGNAL WORD
Danger

Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2020
Approval Number: HSR002503

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

Label elements

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
Do not breathe 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
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

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.

Emergency telephone number Poisons Information Center, New Zealand: 0800 764 766

Poisons Information Center, Australia: 13 11 26

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.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically. Can cause corneal burns. No specific antidote.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media High volume water jet.

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.

Hazardous combustion products Carbon oxides. Nitrogen oxides.

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.

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. Remove all sources of ignition. Use personal protective equipment as required. Wash thoroughly after handling.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

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.

Precautions to prevent secondary hazards

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

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. Wash thoroughly after handling. 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.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituent(s):

Triethanolamine: WES-TWA 5 mg/m^3
Diethanolamine: 8hr WES-TWA = 3 ppm, 13 mg/m^3, skin

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

`Skin' Notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

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.

Hand protection Impervious gloves.

Skin and body protection Wear suitable protective clothing. Boots. Overalls.

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

Property	**Values**	**Remarks • Method**
pH	8.0	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 mm2/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.

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

Hazardous polymerization Hazardous polymerization does not occur.

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.

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.

Acute toxicity

Numerical measures of toxicity
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.

Chemical name	New Zealand	IARC
Triethanolamine - 102-71-6		Group 3
Diethanolamine - 111-42-2		Group 2B

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.

Terrestrial ecotoxicity There is no data for this product.

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 (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.

Mobility

Mobility in soil No information available.

Component Information

Chemical name	Partition coefficient
Triethanolamine	-2.53
Diethanolamine	-2.18

Other adverse effects

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products	Dispose of product in packaging/container in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act, and Hazardous Substances (Amendments and Revocations) Notice 2020. Treat the chemical using a method that changes the characteristics or composition of the chemical so that the chemical is no longer a hazardous chemical; or export the chemical from New Zealand as waste.
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

ROAD AND RAIL TRANSPORT	Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; 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

New Zealand

National regulations	See section 8 for national exposure control parameters

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International Inventories

NZIoC	All the constituents of this material are listed on the New Zealand Inventory of Chemicals.
TSCA	Contact supplier for inventory compliance status.
DSL/NDSL	Contact supplier for inventory compliance status.
EINECS/ELINCS	Contact supplier for inventory compliance status.
ENCS	Contact supplier for inventory compliance status.
IECSC	Contact supplier for inventory compliance status.
KECL	Contact supplier for inventory compliance status.
PICCS	Contact supplier for inventory compliance status.
AIIC	All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

Legend:
NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC- Australian Inventory of Industrial 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

Prepared By	This Safety Data Sheet has been prepared by Ixom Operations Pty Ltd (Toxicology and SDS Services).
Issuing Date:	13-Jul-2023
Reason(s) For Issue:	Reissue of an obsolete SDS

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
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
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