

SAFETY DATA SHEET



Revision date: 29-Sep-2020

Revision Number 7

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product identifier

Product Name DIETHANOLAMINE 85%

Product Code(s) 000033597601

Other means of identification

CAS No. 111-42-2

Synonyms DEA 85%; 2,2'-Dihydroxy diethylamine 85%; 2,2'-Iminodiethanol 85%; Diethanolamine 70-<90%.

Recommended use of the chemical and restrictions on use

Recommended use Chemical intermediate. Cosmetics.

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

Facimile: +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)

2. HAZARDS IDENTIFICATION

Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.

Classified as hazardous according to criteria in the Hazardous Substances (Minimum Degrees of Hazard) Notice 2017 and the Hazardous Substances (Classification) Notice 2017.

GHS Classification

SIGNAL WORD

Danger

Subclass 6.1 Category D - Substances which are acutely toxic.

Subclass 6.3 Category A - Substances that are irritating to the skin.

Subclass 6.9 Category B - Substances that are harmful to human target organs or systems.

Subclass 8.3 Category A - Substances that are corrosive to ocular tissue.

Subclass 9.1 Category D - Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action.

Subclass 9.3 Category C - Substances that are harmful to terrestrial vertebrates.

Approval Number: HSR002962

Label elements



Hazard statements

H302 - Harmful if swallowed

H315 - Causes skin irritation

H318 - Causes serious eye damage

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

H402 - Harmful to aquatic life

H433 - Harmful to terrestrial vertebrates

Precautionary Statements - Prevention

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

Wash hands thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

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

Avoid release to the environment

Precautionary Statements - Response

Specific treatment (see First aid on this SDS)

Get medical advice/attention if you feel unwell

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: Gently wash with plenty of soap and water

If skin irritation occurs: Get medical advice/attention

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

Precautionary Statements - Storage

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

Store locked up

Precautionary Statements - Disposal

In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Notice 2017. This may also include any method of disposal that must be avoided.

Other hazards which do not result in classification

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical name	CAS No.	Weight-%
Diethanolamine	111-42-2	70-<90%

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.
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 thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
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.

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. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media Do not use straight streams.

Specific hazards arising from the chemical

Specific hazards arising from the chemical No information available.

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. Do not touch or walk through spilled material. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition. Pay attention to flashback. Wash thoroughly after

handling.

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 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.

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. Remove all sources of ignition. Use personal protection equipment. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

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

Incompatible materials Oxidising agents , strong acids , strong bases , aldehydes , acrylates , ketones , halogens , formates , oxalates , reducing agents , organic anhydrides , organic halides , copper , iron , zinc , aluminium , bronze.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

Diethanolamine: 8hr WES-TWA = 3 ppm, 13 mg/m³, 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

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

Boots. Wear suitable protective clothing. Overalls.

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.

Environmental exposure controls

Prevent product from entering drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Transparent Liquid
Appearance	No information available.
Color	No information available.
Odor	Ammonia
Odor threshold	No information available.

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	
Boiling point / boiling range	118°C	
Flash point	163°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	<0.001 hPa @20°C	
Vapor density	3.6	
Relative density	No data available	
Water solubility	Miscible in water	
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	No data available	
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information**10. STABILITY AND REACTIVITY**Reactivity

Reactivity Reacts with strong oxidising agents.

Chemical stability

Stability Stable under normal conditions.

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.

Conditions to avoid

Conditions to avoid Heat, flames and sparks. UV-radiation/sunlight. Frost.

Incompatible materials

Incompatible materials Oxidising agents , strong acids , strong bases , aldehydes , acrylates , ketones , halogens , formates , oxalates , reducing agents , organic anhydrides , organic halides , copper , iron , zinc , aluminium , bronze.

Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Nitrogen oxides.

11. TOXICOLOGICAL INFORMATIONAcute toxicityInformation 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	Causes serious eye damage.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Symptoms	Irritation.

Acute toxicity**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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	Irritating to skin.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory or skin sensitization	Not a skin sensitizer. (guinea pig).
Germ cell mutagenicity	No information available.
Carcinogenicity	Refer to 'Chronic effects' section below.

Chemical name	New Zealand	IARC
Diethanolamine - 111-42-2		Group 2B

Reproductive toxicity	No information available.
STOT - single exposure	May cause respiratory irritation.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Ecotoxicity	Keep out of waterways. Harmful to aquatic life.
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Terrestrial ecotoxicity There is no data for this product.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Diethanolamine	EC50: =7.8mg/L (72h, Desmodemus 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** Material does not bioaccumulate.**Mobility****Mobility in soil** No information available.**Component Information**

Chemical name	Partition coefficient
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 in a way that is consistent with the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.**Contaminated packaging** Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.**14. TRANSPORT INFORMATION****ROAD AND RAIL TRANSPORT** Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.**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

Chemical name	New Zealand HSNO Chemical Classification
Diethanolamine - 111-42-2	6.1D (All),6.1D (O),6.3A,6.9B (All),6.9B (D),6.9B (O),8.3A,9.1D (All),9.1D (A),9.1D (C),9.1D (F),9.3C 6.1D (All),6.1D (O),6.3A,6.9B (All),6.9B (D),6.9B (O),8.3A,9.1D (All),9.1D (A),9.1D (C),9.3C 6.3B,6.4A,6.9B (All),6.9B (D),6.9B (O)

International Inventories

NZIoC	This material is 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.
AICS	This material is 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
- 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 03/ 2018

Issuing Date: 29-Sep-2020**Reason(s) For Issue:** 5 Yearly Revised Primary 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