

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: DIETHANOLAMINE

Other name(s): DEA; DELA; 2,2'-Dihydroxy diethylamine; 2,2'-Iminodiethanol; Dihydroxyethylamine.

Recommended Use of the Chemical and Restrictions on Use Chemical intermediate. Raw material for cosmetics.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: 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

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.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4
Skin Irritation - Category 2
Eye Damage - Category 1
Specific target organ toxicity (single exposure) - Category 3
Specific target organ toxicity (repeated exposure) - Category 2

SIGNAL WORD: DANGER



Hazard Statement(s):

H302 Harmful if swallowed.
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 Statement(s):

Prevention:

P260 Do not breathe mist, vapours, spray.
P264 Wash hands 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.

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Response:

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
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/physician.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P314 Get medical advice/attention if you feel unwell.

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): S6 Poison.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Diethanolamine	111-42-2	98.5%	H302 H315 H318 H335 H373

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water and soap. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

Ingestion:

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns.

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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Unsuitable Extinguishing Media:

Water jet.

Specific hazards arising from the chemical:

Combustible material. May form flammable vapour mixtures with air. Vapour may travel a considerable distance to source of ignition and flash back.

Special protective equipment and precautions for fire-fighters:

On burning will emit toxic fumes, including those of oxides of nitrogen, and oxides of carbon. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. Shut off all possible sources of ignition. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. After cleaning, flush away any residual traces with water.

7. HANDLING AND STORAGE

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 S6 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour. Do not add nitrites or other nitrosating agents. When using do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Keep away from aluminium, copper, zinc, bronze. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Diethanolamine: 8hr TWA = 13 mg/m³ (3 ppm)

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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.

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:

Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

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 (PPE):

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.



Wear overalls, chemical goggles and impervious gloves. Use with adequate ventilation. 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.

Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid (below melting point) , Liquid (above melting point)
Colour:	Colourless
Odour:	Ammonia
Molecular Formula:	HO(CH ₂) ₂ -NH(CH ₂) ₂ -OH
Solubility:	Miscible with water.
Specific Gravity:	1.097 @25°C
Relative Vapour Density (air=1):	3.63
Vapour Pressure (20 °C):	<0.022 hPa
Flash Point (°C):	138 (Closed cup)
Flammability Limits (%):	1.6-10.6 (V)
Autoignition Temperature (°C):	355

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Solubility in water (g/L):	105 @20°C
Melting Point/Range (°C):	27-28
Boiling Point/Range (°C):	269.9
Decomposition Point (°C):	269
pH:	11-12 (at 105 g/L, 25°C))
Viscosity:	0.35 Pa.s @ 30°C
Partition Coefficient:	log Pow = -2.18 (n-octanol/water)

10. STABILITY AND REACTIVITY

Reactivity:	Reacts with strong oxidising agents. Hygroscopic: absorbs moisture or water from surrounding air.
Chemical stability:	Unstable on exposure to light. Unstable on exposure to air. Absorbs carbon dioxide from the air. Do not mix with nitrites or other nitrosating agents because nitrosamine may be formed. Nitrosamines may cause cancer.
Possibility of hazardous reactions:	Reacts exothermically with some acids .
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to moisture.
Incompatible materials:	Strong acids, strong bases, acrylates, aldehydes, ketones, organic anhydrides, reducing agents, oxidising agents, halides, formates, oxalates, copper, iron, zinc.
Hazardous decomposition products:	Oxides of nitrogen. Oxides of carbon.

11. TOXICOLOGICAL INFORMATION

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

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation.
Eye contact:	A severe eye irritant. Contamination of eyes can result in permanent injury.
Skin contact:	Contact with skin will result in irritation.
Inhalation:	Breathing in vapour will produce respiratory irritation.
Acute toxicity: Oral LD50 (rat): 1600 mg/kg	
Skin corrosion/irritation:	Irritant (rabbit).
Serious eye damage/irritation:	Serious damage to eyes (rabbit).
Respiratory or skin sensitisation:	Not a skin sensitiser (guinea pig).

Chronic effects: Available evidence from animal studies indicate that repeated or prolonged exposure to this material could result in effects on the liver , kidneys , blood . Diethanolamine has been classified by the International Agency for Research on Cancer (IARC) as a Group 2B carcinogen. Group 2B - The agent is possibly carcinogenic to humans.

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Mutagenicity:	Non-mutagenic in AMES test. Negative (In vitro chromosomal aberration test)
Reproductive toxicity:	No information available.
Specific Target Organ Toxicity (STOT) - single exposure:	May cause respiratory irritation.
Specific Target Organ Toxicity (STOT) - repeated exposure:	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard:	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways.
Persistence/degradability:	The material is readily biodegradable.
Bioaccumulative potential:	Does not bioaccumulate.
Mobility in soil:	No information available.
48hr EC50 (Daphnia magna):	55 mg/L
96hr LC50 (fish):	1460 mg/L (Pimephales promelas)

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

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.

Marine Transport

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

Air Transport

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.

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4

Skin Irritation - Category 2

Eye Damage - Category 1

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**Hazard Statement(s):**

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Poisons Schedule (SUSMP): S6 Poison.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 10/ 2019.

This safety data sheet has been prepared by Ixom Operations Pty Ltd (Toxicology & SDS Services).

Reason(s) for Issue:

5 Yearly Revised Primary SDS

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.