

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: DIMETHYLAMINE

Other name(s): Dimethyl amine; DMA.

Recommended Use of the Chemical and Restrictions on Use Chemical intermediate.

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

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

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

Classification of the chemical:

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

SIGNAL WORD: DANGER



Hazard Statement(s):

H220 Extremely flammable gas.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary Statement(s):

Prevention:

P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P261 Avoid breathing mist, vapours, spray.
P264 Wash hands thoroughly after handling.
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:

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 Eliminate all ignition sources if safe to do so.
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.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
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.

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): None allocated.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Dimethylamine	124-40-3	>99%	H220 H315 H318 H332 H335

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. Seek immediate medical advice.

Skin Contact:

For freeze burns, immediately flood burnt area with large amounts of luke-warm water and cover with a clean, dry dressing. Do not use hot water. Seek immediate 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:

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns. Delayed pulmonary oedema may result.

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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:

Halogenated agents.

Hazchem or Emergency Action Code: 2SE

Specific hazards arising from the chemical:

Highly flammable liquefied gas. May form flammable vapour mixtures with air. Avoid all ignition sources. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing switches and electrical equipment etc) must be eliminated both in and near the work area. Do NOT smoke. Flameproof equipment is necessary in all areas where this chemical is being used. Nearby equipment must be earthed. Vapour may travel a considerable distance to source of ignition and flash back.

Special protective equipment and precautions for fire-fighters:

Heating can cause expansion or decomposition of the material, which can lead to the containers exploding. If safe to do so, remove containers from the path of fire. Keep containers cool with water spray. On burning will emit toxic fumes, including those of oxides of carbon, and oxides of nitrogen. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

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

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

Shut cylinder valves to stop gas leaking from equipment if possible and safe to do so. If cylinder or cylinder valve is leaking then shut the cylinder valve, depressurise the equipment, disconnect cylinder from equipment and move the cylinder to a well ventilated area, preferably outdoors and allow gas to escape. High pressure leaks can usually be heard.

7. HANDLING AND STORAGE

Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry, well ventilated place. Store below 52°C. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Do not store in copper or copper alloy containers. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Dimethylamine: 8hr TWA = 3.8 mg/m³ (2 ppm), 15 min STEL = 11 mg/m³ (6 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.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

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, CHEMICAL GOGGLES, SAFETY SHOES, FACE SHIELD OR AIR MASK, GLOVES (Long).

* Not required if wearing air supplied mask.



Wear overalls, chemical goggles, full face shield, elbow-length impervious gloves. Use with adequate ventilation. If determined by a risk assessment an inhalation risk exists, wear an air-supplied mask 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:	Compressed gas
Colour:	Colourless
Odour:	Fishy Ammonia
Molecular Formula:	(CH ₃) ₂ NH
Solubility:	Very soluble in water.
Specific Gravity:	0.824
Relative Vapour Density (air=1):	1.59

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Vapour Pressure (20 °C):	1277 mmHg
Flash Point (°C):	-50 (Closed cup)
Flammability Limits (%):	2.8-14.4
Autoignition Temperature (°C):	400
% Volatile by Volume:	100
Boiling Point/Range (°C):	6.9
pH:	Not available
Freezing Point/Range (°C):	-92.2

10. STABILITY AND REACTIVITY

Reactivity:	Reacts violently with oxidising agents.
Chemical stability:	Stable.
Possibility of hazardous reactions:	Hazardous polymerisation will not occur.
Conditions to avoid:	Avoid exposure to heat, sources of ignition, and open flame.
Incompatible materials:	Incompatible with acids , acid chlorides , acid anhydrides , acrylaldehyde , nitrosating agents , strong oxidising agents, halogenated compounds, some metals (mercury, silver, copper and its alloys, tin, nickel, zinc and its alloys), halogens.
Hazardous decomposition products:	Oxides of carbon. Oxides of nitrogen. Ammonia. Hydrocarbons. Amines.

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:	Not a likely route of exposure, however, swallowing liquid will result in freeze burns of the mouth, throat and stomach.
Eye contact:	A severe eye irritant. Contamination of eyes can result in permanent injury.
Skin contact:	Contact with skin will result in irritation. May cause skin sensitisation in sensitive individuals. Repeated or prolonged skin contact may lead to allergic contact dermatitis.
Inhalation:	Breathing in vapour will produce respiratory irritation. Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea. Breathing in vapour can irritate the nose and throat causing coughing and wheezing.
Acute toxicity:	
Oral LD50 (rat):	698 mg/kg
Inhalation LC50 (rat):	4540 ppm/6h

Chronic effects: May have effects on the nasal mucosa as well as respiratory and olfactory lesions.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways.
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48hr EC50 (Daphnia magna): 88.7 mg/L
96hr LC50 (rainbow trout): 111-125 mg/L

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

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



UN No: 1032
Transport Hazard Class: 2.1 Flammable Gas
Proper Shipping Name or Technical Name: DIMETHYLAMINE, ANHYDROUS
Hazchem or Emergency Action Code: 2SE

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 1032
Transport Hazard Class: 2.1 Flammable Gas
Proper Shipping Name or Technical Name: DIMETHYLAMINE, ANHYDROUS

IMDG EMS Fire: F-D
IMDG EMS Spill: S-U

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS. TRANSPORT PROHIBITED under the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air in Passenger and Cargo Aircraft; may be transported by Cargo Aircraft Only.

UN No: 1032
Transport Hazard Class: 2.1 Flammable Gas
Proper Shipping Name or Technical Name: DIMETHYLAMINE, ANHYDROUS

15. REGULATORY INFORMATION

Classification:

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

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Hazard Statement(s):

H220 Extremely flammable gas.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Poisons Schedule (SUSMP): None allocated.

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

16. OTHER INFORMATION

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.