

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: NITROUS OXIDE

Other name(s): Dinitrogen monoxide; Laughing gas.

Recommended Use of the Chemical and Restrictions on Use General chemical.

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

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

Classified as a Dangerous Good according to 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.

SIGNAL WORD: DANGER

Subclasses:

Class 2.2 - Non-flammable Gases

Subclass 5.1.2 Category A (Oxidising Substances that are gases) - Oxidising Substances.

Subclass 6.8 Category B - Substances that are suspected human reproductive or developmental toxicants.

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

Subclass 6.9 Category B (Narcotic effects) - Substances that are narcotic.

Approval Number: HSR001065



Hazard Statement(s):

H270 May cause or intensify fire; oxidizer.

H281 Contains refrigerated gas; may cause cryogenic burns or injury.

H336 May cause drowsiness or dizziness.

H361 Suspected of damaging fertility or the unborn child.

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

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Precautionary Statement(s):

Prevention:

P103 Read label before use.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P282 Wear cold insulating gloves/face shield/eye protection.
P281 Use personal protective equipment as required.

Response:

P336 Thaw frosted parts with lukewarm water. Do not rub affected area.
P315 Get immediate medical advice/attention.
P304+P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P310 Immediately call a POISON CENTER or doctor/physician.
P321 Specific treatment (see First Aid Measures on the 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.
P308+P313 IF exposed or concerned: Get medical advice/attention.
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.
P410+P403 Protect from sunlight. Store in a well-ventilated place.

Disposal:

P501 In 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.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Nitrous oxide	10024-97-2	>98.0%	H270 H336

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:

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:

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

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Ingestion:

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.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Extinguishing media appropriate to surrounding fire conditions. Allow gas fires to burn until exhausted.

Hazchem or Emergency Action Code: 2P

Specific hazards arising from the chemical:

Non-flammable, non-toxic gas. Compressed gas. Gas/vapour is heavier than air; may accumulate in confined spaces. Oxidizing substance. Will support combustion of other materials.

Special protective equipment and precautions for fire-fighters:

Decomposes on heating emitting toxic fumes, including those of oxides of nitrogen . Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Isolate spill or leak area immediately. Clear area of all unprotected personnel. Work up wind or increase ventilation. If contamination of sewers or waterways has occurred advise local emergency services.

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

If safe to do so, isolate the leak. Small spills are allowed to evaporate provided there is adequate ventilation. Avoid breathing in vapours. Work up wind or increase ventilation. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material).

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid skin and eye contact and breathing in vapour. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated place. Keep locked up. Store below 52°C. 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

Nitrous oxide: WES-TWA 25 ppm, 45 mg/m³

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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.

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. 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. 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:	Liquefied gas
Colour:	Colourless
Odour:	Sweet
Odour Threshold:	Not available
Specific Gravity:	Not available
Relative Vapour Density (air=1):	1.977 g/L (gas)
Vapour Pressure (20 °C):	5150 kPa
Flash Point (°C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (°C):	Not applicable
Solubility in water (g/L):	1.5 @15°C
Boiling Point/Range (°C):	-88.48

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Decomposition Point (°C): Not available
pH: Not available
Freezing Point/Range (°C): -90.86

10. STABILITY AND REACTIVITY

Reactivity: Oxidising, avoid contact with reducing agents.

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions: May react violently with reducing agents, and combustible materials.

Conditions to avoid: Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to direct sunlight. Avoid contact with water. Avoid exposure to moisture.

Incompatible materials: Incompatible with oxidising agents , strong bases , metals , metal oxides .

Hazardous decomposition products: Oxides of nitrogen.

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: Liquid splashes or spray may cause freeze burns to the eye.

Skin contact: Liquid splashes or spray may cause freeze burns.

Inhalation: Material may be irritant to the mucous membranes of the respiratory tract (airways). Breathing in vapour can result in headaches, dizziness, drowsiness, and possible nausea.

Acute toxicity: No LD50 data available for the product.

Chronic effects:

Mutagenicity: No information available.

Carcinogenicity: Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (STOT) - single exposure: May cause drowsiness and dizziness.

Specific Target Organ Toxicity (STOT) - repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not applicable.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

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Persistence/degradability: No information available.
Bioaccumulative potential: No information available.
Mobility in soil: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land.



UN No: 1070
Transport Hazard Class: 2.2 Non-Flammable Non-Toxic Gas
Subrisk 1: 5.1 Oxidising Agent
Proper Shipping Name or Technical Name: NITROUS OXIDE
Hazchem or Emergency Action Code: 2P

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: 1070
Transport Hazard Class: 2.2 Non-Flammable Non-Toxic Gas
Subrisk 1: 5.1 Oxidising Agent
Proper Shipping Name or Technical Name: NITROUS OXIDE
IMDG EMS Fire: F-C
IMDG EMS Spill: S-W

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: 1070
Transport Hazard Class: 2.2 Non-Flammable Non-Toxic Gas
Subrisk 1: 5.1 Oxidising Agent
Proper Shipping Name or Technical Name: NITROUS OXIDE

15. REGULATORY INFORMATION

Classification:

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

Subclasses:

Class 2.2 - Non-flammable Gases

Subclass 5.1.2 Category A (Oxidising Substances that are gases) - Oxidising Substances.

Subclass 6.8 Category B - Substances that are suspected human reproductive or developmental toxicants.

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

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16. OTHER INFORMATION

Supplier Safety Data Sheet; 10/ 2017.

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

Reason(s) for Issue:

First Issue 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.