

**Nitrogen****AL188****Warning****SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name : Nitrogen  
SDS Nr : AL188  
Chemical formula : N<sub>2</sub>

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use.  
Test gas / Calibration gas. Laboratory use Contact supplier for more uses information  
Use : Analytical chemistry. Industrial applications.

**1.3. Details of the supplier of the safety data sheet**

Company identification : Air Liquide Australia Limited  
Level 9 / 380 St. Kilda Road  
Melbourne VIC 3004 Australia  
Tel: + 61 3 9697 9888  
Fax: + 61 3 9690 7107  
ALAEquiries@AirLiquide.com

**1.4. Emergency telephone number**

Emergency telephone number : 1800 812 588

**SECTION 2. Hazards identification****2.1. Classification of the substance or mixture****Hazard Class and Category Code Regulation EC 1272/2008 (CLP)**

• Physical hazards : Gases under pressure - Compressed gas - Warning - (CLP : Press. Gas) - H280

**Classification EC 67/548 or EC 1999/45****2.2. Label elements****Labelling Regulation EC 1272/2008 (CLP)**

• Hazard pictograms



• Hazard pictograms code : GHS04  
• Signal word : Warning  
• Hazard statements : H280 - Contains gas under pressure; may explode if heated.  
• Supplemental hazard information : Asphyxiant in high concentrations.  
• Precautionary statements  
- Storage : P403 - Store in a well-ventilated place.

**2.3. Other hazards**

: Asphyxiant in high concentrations.



# MATERIAL SAFETY DATA SHEET

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## Nitrogen

**AL188**

### SECTION 3. Composition/information on ingredients

#### 3.1. Substance / 3.2. Mixture

##### Substance.

| Substance name | Contents | CAS No    | EC No     | Annex No | Classification                                      |
|----------------|----------|-----------|-----------|----------|---|
| Nitrogen       | : 100 %  | 7727-37-9 | 231-783-9 | -----    | *1<br>Not classified (DSD/DPD)<br>Press. Gas (H280) |

Contains no other components or impurities which will influence the classification of the product.

\* 1: Listed in Annex IV / V REACH, exempted from registration.

\* 2: Registration deadline not expired.

\* 3: Registration not required: Substance manufactured or imported < 1t/y

Full text of R-phrases see chapter 16. Full text of H-statements see chapter 16

### SECTION 4. First aid measures

#### 4.1. Description of first aid measures

##### First aid measures

- Inhalation : In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/ consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- Skin contact : Adverse effects not expected from this product.
- Eye contact : Adverse effects not expected from this product.
- Ingestion : Ingestion is not considered a potential route of exposure.

#### 4.2. Most important symptoms and effects, both acute and delayed

: Refer to section 11.

#### 4.3. Indication of any immediate medical attention and special treatment needed

: None.

### SECTION 5. Fire-fighting measures

#### 5.1. Extinguishing media

##### Extinguishing media

- Suitable extinguishing media : All known extinguishants can be used.

#### 5.2. Special hazards arising from the substance or mixture

- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : None.

#### 5.3. Advice for fire-fighters

- Specific methods : If possible, stop flow of product.  
Move away from the container and cool with water from a protected position.  
Coordinate fire measure to the surrounding fire. Cool endangered containers with water spray jet from a protected position. Do not empty contaminated fire water into drains.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.

**Nitrogen****AL188****SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

- Personal precautions**
- : Try to stop release.
  - : Evacuate area.
  - : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
  - : Ensure adequate air ventilation.

**6.2. Environmental precautions**

- : None.
- : Try to stop release.

**6.3. Methods and material for containment and cleaning up**

- Clean up methods**
- : None.
  - : Ventilate area.

**6.4. Reference to other sections**

- : See also sections 8 and 13.

**SECTION 7. Handling and storage****7.1. Precautions for safe handling**

- Safe use of the product**
- : Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
  - : Only experienced and properly instructed persons should handle gases under pressure. The product must be handled in accordance with good industrial hygiene and safety procedures.
  - : Do not smoke while handling product.
  - : Ensure the complete gas system was (or is regularly) checked for leaks before use.
- Safe handling of the gas receptacle**
- : Refer to supplier's container handling instructions.
  - : Do not allow backfeed into the container.
  - : Protect cylinders from physical damage; do not drag, roll, slide or drop.
  - : When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.
  - : Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.
  - : If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.
  - : Never attempt to repair or modify container valves or safety relief devices.
  - : Damaged valves should be reported immediately to the supplier.
  - : Keep container valve outlets clean and free from contaminants particularly oil and water.
  - : Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
  - : Close container valve after each use and when empty, even if still connected to equipment.
  - : Never attempt to transfer gases from one cylinder/container to another.
  - : Never use direct flame or electrical heating devices to raise the pressure of a container.
  - : Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.
- Handling**
- : Suck back of water into the container must be prevented.
  - : Do not allow backfeed into the container.
  - : Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
  - : Refer to supplier's container handling instructions.

**7.2. Conditions for safe storage, including any incompatibilities**

- : Keep container below 50°C in a well ventilated place.
- : Observe all regulations and local requirements regarding storage of containers.
- : Containers should not be stored in conditions likely to encourage corrosion.
- : Containers should be stored in the vertical position and properly secured to prevent toppling.
- : Stored containers should be periodically checked for general condition and leakage.
- : Container valve guards or caps should be in place.
- : Store containers in location free from fire risk and away from sources of heat and ignition.
- : Keep away from combustible materials.

**Nitrogen****AL188****SECTION 7. Handling and storage (continued)**

**Storage** : Keep container below 50°C in a well ventilated place.

**7.3. Specific end use(s)**

: None.

**SECTION 8. Exposure controls/personal protection****8.1. Control parameters**

**DNEL: Derived no effect level** : None available.

**PNEC: Predicted no effect concentration** : None available.

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls** : Systems under pressure should be regularly checked for leakages.  
Provide adequate general and local exhaust ventilation.  
Consider work permit system e.g. for maintenance activities.

**8.2.2. Individual protection measures, e.g. personal protective equipment** : A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.  
The following recommendations should be considered.  
Wear safety glasses with side shields  
Wear leather safety gloves and safety shoes when handling cylinders.

**Personal protection** : Ensure adequate ventilation.

**8.2.3. Environmental exposure controls** : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

**SECTION 9. Physical and chemical properties****9.1. Information on basic physical and chemical properties****• Appearance****Appearance**

- **Physical state at 20°C / 101.3kPa** : Gas.

- **Colour** : Colourless gas.

**• Odour**

**Odour** : No odour warning properties.

**• Odour threshold**

**Odour threshold** : Odour threshold is subjective and inadequate to warn for overexposure.

**• pH**

**pH value** : Not applicable for gas-mixtures.

**Molar mass [g/mol]** : Not applicable for gases and gas-mixtures.

**• Melting point / Freezing point**

**Melting point [°C]** : -210

**• Initial boiling point - boiling range**

**Boiling point [°C]** : -196

**Critical temperature [°C]** : -147

**• Flash point**

**Flash point [°C]** : Not applicable for gas-mixtures.

**• Evaporation rate**

**Evaporation rate (ether=1)** : Not applicable for gas-mixtures.

**• Flammability**

**Flammability range [vol% in air]** : Not applicable for gas-mixtures.

**• Explosion limits (lower - upper)****• Vapour pressure**

**Nitrogen****AL188****SECTION 9. Physical and chemical properties (continued)**

|   |                                    |
|---|------------------------------------|
| Vapour pressure [20°C]                      | : Not applicable.                  |
| • Vapour density                            |                                    |
| Relative density, gas (air=1)               | : 0.97                             |
| • Relative density                          |                                    |
| Relative density, liquid (water=1)          | : Not applicable.                  |
| • Solubility                                |                                    |
| Solubility in water [mg/l]                  | : 20                               |
| • Partition coefficient : n-octanol / water |                                    |
| Partition coefficient n-octanol/water       | : Not applicable for gas-mixtures. |
| • Auto-ignition temperature                 |                                    |
| • Thermal decomposition                     |                                    |
| • Viscosity                                 |                                    |
| Viscosity at 20°C [mPa.s]                   | : Not applicable.                  |
| • Explosive Properties                      |                                    |
| Explosive Properties                        | : Not applicable.                  |
| • Oxidising properties                      |                                    |

**9.2. Other information**

|                  |         |
|------------------|---------|
| Other data       | : None. |
| Molecular weight | : 28    |

**SECTION 10. Stability and reactivity****10.1. Reactivity**

|                          |  |
|--------------------------|--|
|                          | : No reactivity hazard other than the effects described in sub-sections below. |
| Stability and reactivity | : Stable under normal conditions.  |

**10.2. Chemical stability**

: Stable under normal conditions.

**10.3. Possibility of hazardous reactions**

: None.

**10.4. Conditions to avoid**

: None.

**10.5. Incompatible materials**

: None.

**10.6. Hazardous decomposition products**

: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11. Toxicological information****11.1. Information on toxicological effects**

|                                   |   |
|-----------------------------------|---|
| Toxicity information              | : No known toxicological effects from this product. |
| Acute toxicity                    | : No known toxicological effects from this product. |
| Rat inhalation LC50 [ppm/4h]      | : No data available.                                |
| Skin corrosion/irritation         | : No known effects from this product.               |
| Serious eye damage/irritation     | : No known effects from this product.               |
| Respiratory or skin sensitisation | : No known effects from this product.               |

**Nitrogen****AL188****SECTION 11. Toxicological information (continued)**

|  |  |
|--|--|
| <b>Carcinogenicity</b>                       | : No known effects from this product.        |
| <b>Germ cell mutagenicity</b>                | : No known effects from this product.        |
| <b>Toxic for reproduction : Fertility</b>    | : No known effects from this product.        |
| <b>Toxic for reproduction : unborn child</b> | : No known effects from this product.        |
| <b>STOT-single exposure</b>                  | : No known effects from this product.        |
| <b>STOT-repeated exposure</b>                | : No known effects from this product.        |
| <b>Aspiration hazard</b>                     | : Not applicable for gases and gas-mixtures. |

**SECTION 12. Ecological information****12.1. Toxicity**

: No data available.

**12.2. Persistence - degradability**

: No data available.

**12.3. Bioaccumulative potential**

: No data available.

**12.4. Mobility in soil**

: No data available.

**12.5. Results of PBT and vPvB assessment**

: No data available.

**12.6. Other adverse effects****Ecological effects information** : No known ecological damage caused by this product.**SECTION 13. Disposal considerations****13.1. Waste treatment methods**

**General** : May be vented to atmosphere in a well ventilated place.  
Do not discharge into any place where its accumulation could be dangerous.  
Refer to the code of practice of EIGA (Doc. 30/10 "Disposal of Gases, downloadable at <http://www.eiga.org>) for more guidance on suitable disposal methods  
Contact supplier if guidance is required.

**General** : Do not discharge into any place where its accumulation could be dangerous.  
May be vented to atmosphere in a well ventilated place.  
Contact supplier if guidance is required.

**13.2. Additional information**

: None.

**SECTION 14. Transport information****UN number** : 1066  
**Labelling ADR, IMDG, IATA**

: 2.2 : Non flammable, non toxic gas.

**Land transport (ADR/RID)**

**Nitrogen****AL188****SECTION 14. Transport information (continued)**

H.I. nr : 20  
UN proper shipping name : NITROGEN, COMPRESSED  
Transport hazard class(es) : 2  
Classification code : 1 A  
Packing Instruction(s) : P200  
Tunnel Restriction : E : Passage forbidden through tunnels of category E.  
HAZCHEM - Emergency Action Code : 2T  
: 2 = *Fine water spray.*  
: T = *Recommended personal protective equipment : Full fire kit and breathing apparatus.*  
: *Appropriate measures : dilute.*

**Sea transport (IMDG)**

Proper shipping name : NITROGEN, COMPRESSED  
Class : 2.2  
Emergency Schedule (EmS) - Fire : F-C  
Emergency Schedule (EmS) - Spillage : S-V  
Packing instruction : P200

**Air transport (ICAO-TI / IATA-DGR)**

Proper shipping name (IATA) : NITROGEN, COMPRESSED  
Class : 2.2  
Passenger and Cargo Aircraft : Allowed.  
Packing instruction - Passenger and Cargo Aircraft : 200  
Cargo Aircraft only : Allowed.  
Packing instruction - Cargo Aircraft only : 200

**Special precautions for user**

: Avoid transport on vehicles where the load space is not separated from the driver's compartment.  
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.  
Before transporting product containers :  
- Ensure there is adequate ventilation.  
- Ensure that containers are firmly secured.  
- Ensure cylinder valve is closed and not leaking.  
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.  
- Ensure valve protection device (where provided) is correctly fitted.

Labelling ADR : 2.2 : Non flammable, non toxic gas.

Other transport information : Avoid transport on vehicles where the load space is not separated from the driver's compartment.  
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.  
Before transporting product containers :  
- Ensure that containers are firmly secured.  
- Ensure cylinder valve is closed and not leaking.  
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.  
- Ensure valve protection device (where provided) is correctly fitted.  
- Ensure there is adequate ventilation.  
- Compliance with applicable regulations.

14.1. UN Number

14.2. Proper shipping name

14.3. Transport Hazard Classification

14.4. Packing group

14.5. Environmental hazards

**Nitrogen****AL188****SECTION 14. Transport information (continued)**14.7. Bulk transport - annex II Marpol  
73/78 - IBC**SECTION 15. Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**EU legislation

Seveso directive 96/82/EC : Not covered.

National legislation

: Ensure all national/local regulations are observed.

**15.2. Chemical Safety Assessment**

: A CSA does not need to be carried out for this product.

**SECTION 16. Other information**

|  |  |
|--|--|
| <b>Indication of changes</b>                           | : Revised safety data sheet in accordance with commission regulation (EU) No 453/2010  |
| <b>Training advice</b>                                 | : Asphyxiant in high concentrations.<br>Keep container in a well-ventilated place.<br>Do not breathe the gas.<br>Ensure all national/local regulations are observed.<br>The hazard of asphyxiation is often overlooked and must be stressed during operator training.<br>Receptacle under pressure.  |
| <b>List of full text of H-statements in section 3.</b> | : H280 - Contains gas under pressure; may explode if heated.   |
| <b>Further information</b>                             | : Classification in accordance with calculation methods of regulation (EC) 1272/2008 CLP / (EC) 1999/45 DPD.<br>This Safety Data Sheet has been established in accordance with the applicable European Union legislation.  |
| <b>Note</b>  | : This Safety Data Sheet has been established in accordance with the applicable European Union legislation.  |
| <b>DISCLAIMER OF LIABILITY</b>                         | : Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.<br>Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted. |

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