



SAFETY DATA SHEET

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Revised edition no : 1

Date : 15/7/2005

Supersedes : 0/0/0

Nitrogen (refrigerated)**AL089B**

Label 2.2 : Non flammable, non toxic gas.

1 IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Trade name : Nitrogen (refrigerated)
MSDS No : AL089B
Chemical formula : N₂
Company identification : AIR LIQUIDE SA
France
See paragraph 16 "OTHER INFORMATION"
Emergency phone nr : See paragraph 16 "OTHER INFORMATION"

2 COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Preparation : Substance.

| Substance name | Contents | CAS No | EC No | Index No | Classification |
|-------------------------|----------|-----------|-----------|----------|----------------|
| Nitrogen (refrigerated) | 100 % | 7727-37-9 | 231-783-9 | ---- | |

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

3 HAZARDS IDENTIFICATION

Hazards identification : Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite. In high concentrations may cause asphyxiation.

4 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/eye contact** : Immediately flush eyes thoroughly with water for at least 15 minutes. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- **Ingestion** : Ingestion is not considered a potential route of exposure.

5 FIRE-FIGHTING MEASURES

- Flammable class** : Non flammable.
- Specific hazards** : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products** : None.
- Extinguishing media**
- **Suitable extinguishing media** : All known extinguishants can be used.
- Specific methods** : If possible, stop flow of product.
Move away from the container and cool with water from a protected position.
If leaking do not spray water onto container. Water surrounding area (from



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5 FIRE-FIGHTING MEASURES (continued)

protected position) to contain fire.

Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Evacuate area.
Use protective clothing.
Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.
Ensure adequate air ventilation.
- Environmental precautions** : Try to stop release.
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
- Clean up methods** : Ventilate area.

7 HANDLING AND STORAGE

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

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- Personal protection** : Ensure adequate ventilation.
Protect eyes, face and skin from liquid splashes.

9 PHYSICAL AND CHEMICAL PROPERTIES

- Physical state at 20 °C** : Refrigerated liquefied gas.
- Colour** : Colourless liquid.
- Odo(u)r** : No odour warning properties.
- Molecular weight** : 28
- Melting point [°C]** : -210
- Boiling point [°C]** : -196
- Critical temperature [°C]** : -147
- Vapour pressure, 20°C** : Not applicable.
- Relative density, gas (air=1)** : 0.97
- Relative density, liquid (water=1)** : 0.8
- Solubility in water [mg/l]** : 20
- Other data** : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.



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10 STABILITY AND REACTIVITY

Stability and reactivity : Stable under normal conditions.
Liquid spillages can cause embrittlement of structural materials.

11 TOXICOLOGICAL INFORMATION

Toxicity information : No known toxicological effects from this product.

12 ECOLOGICAL INFORMATION

Ecological effects information : Can cause frost damage to vegetation.

13 DISPOSAL CONSIDERATIONS

General : Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN No. : 1977
H.I. nr : 22
ADR/RID
- **Proper shipping name** : NITROGEN, REFRIGERATED LIQUID
- **ADR Class** : 2
- **ADR/RID Classification code** : 3 A
- **Labelling ADR** : Label 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.

15 REGULATORY INFORMATION

EC Classification : Not included in Annex I.
Not classified as dangerous preparation/substance.
EC Labelling : No EC labelling required.
- **Symbol(s)** : None.
- **R Phrase(s)** : None.
- **S Phrase(s)** : None.

| | | |
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16 OTHER INFORMATION

May cause frostbite.

Keep container in a well-ventilated place.

Do not breathe the gas.

Ensure all national/local regulations are observed.

Asphyxiant in high concentrations.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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.

Recommended uses and restrictions : This SDS is for information purposes only and is subject to change without notice. [Prior to purchase of products, please contact your local AIR LIQUIDE office for a complete SDS (with Manufacturer's name and emergency phone number).]

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