## 1. Identification of the substance/mixture and of the Company

**Product Name:** NITROGEN, Refrigerated Liquid
**Chemical formula:** $N_2$
**Uses:** Food Packaging, Industrial and professional use
Perform risk assessment prior to use.
Contact supplier for more information on uses.

**Company Identification:**
Gaz Carbonique Ltée
Lot 1, Ground Floor, Le Hub,
DBM Industrial Zone, Phoenix
Mauritius - Indian Ocean
Tel: (230) 603 2992
Fax: (230) 696 5973
Email: contact@gazcarbo.mu

**Contact Person:**
Mr. Arnaud Rougier Lagane
Chief Operating Manager

## 2. Hazards Identification

**Classification of the substance or mixture**
Physical Hazards: Gases under pressure: Refrigerated liquefied gas - H281

**Label Elements**

**Hazard Pictograms:**

**Signal word**: Warning

**Hazard Statement:** H281 - Contains refrigerated gas; may cause cryogenic burns or injury.

**Precautionary Statements:**
**Prevention:** P282 -Wear cold insulating gloves, face shield / eye protection
**Response:** P336+P315 - Thaw frosted parts with lukewarm water. Do no rub affected area. Get immediate medical advice/attention.
**Storage:** P403 - Store in a well-ventilated place.

**Other Hazards:** Asphyxiant in high concentrations.

## 3. Composition/Information on Ingredients

**Substance/Preparation:** Substance
**Components/Impurities:** Nitrogen, refrigerated liquid
**CAS NO. :** 7727-37-9
**Index-Nr.:** -
**EC No:** 231-783-9



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**REACH Registration Number:** Listed in Annex IV/V of Regulation (EC) No 1907/2006(REACH), exempted from registration.
Contains no other components or impurities that will influence the classification of the product.

## 4. First Aid measures

**Inhalation**
Remove victim to uncontaminated area wearing self-breathing apparatus.
Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
**Skin contact**
In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
**Eye contact**
Immediately flush eyes thoroughly with water for at least 15 minutes.
**Ingestion**
Ingestion is not considered a potential route of exposure.

**Most important symptoms and effects, both acute and delayed.**
In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness.
Victim may not be aware of asphyxiation.

## 5. Fire Fighting Measures

**Extinguishing media**

**- Suitable extinguishing media:** Water spray or fog.
**- Unsuitable extinguishing media:** Do not use water jet to extinguish.

**Specific Hazards:** Exposure to fire may cause containers to rupture/explode.

**Hazardous combustion products:** None.

**Advice for fire fighters**
**Specific methods:** Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.
If possible, stop flow of product.
Move containers away from the fire area if this can be done without risk.
Use water spray or fog to knock down fire fumes if possible
Exposure to fire may cause containers to rupture/explode.

**Special protective equipment:** In confined space, use self-contained breathing apparatus.
Standard protective clothing and equipment for fire fighters.
Self-contained open-circuit compressed air breathing apparatus with full face mask.

## 6. Accidental Release Measures

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



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Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Act in accordance with local emergency plan.
Stay upwind.

**Environmental precautions:** Try to stop release.

**Clean up methods:** Ventilate area.
Liquid spillages can cause embrittlement of structural materials.

## 7. Handling and Storage

**Precaution for safe handling**

**Safe use of the product:**
The substance must be handled in accordance with good industrial hygiene and safety procedures.
Only experienced and properly instructed persons should handle gases under pressure.
Consider pressure relief device(s) in gas installations.
Ensure the complete gas system was (or is regularly) check for leaks before use.
Do not smoke while handling product.
Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
Do not breathe gas.
Avoid release of product into the atmosphere.

**Safe handling of gas receptacle:**
Do not allow back feed into the container.
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 use direct flame or electrical heating devices to raise the pressure of a container.
Suck back of water into the container must be prevented.

**Storage:**
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.
Container valve guards or caps should be in place.
Containers should be stored in the vertical position and properly secured to prevent them from falling over.
Stored containers should be periodically checked for general condition and leakage.
Store containers in location free from fire risk and away from sources of heat and ignition.
Keep away from combustible materials.



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## 8. Exposure Controls/personal protection

**Exposure controls**

Appropriate engineering control: Provide adequate general and local exhaust ventilation.
Systems under pressure should be regularly checked for leakages
Oxygen detectors should be used when asphyxiating gases may be released.
Consider work permit system e.g. for maintenance activities.

**Personal protection**

**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:
Protect eyes, face and skin from liquid splashes.
PPE compliant to the recommended EN/ISO standards should be selected.

**Eye/Face protection:** Wear safety glasses with side shields.
Wear goggles and a face shield when transfilling or breaking transfer connections.

**Skin protection:** Wear working gloves when handling gas containers
Wear safety shoes when handling containers.

## 8. Exposure Controls/personal protection (continued)

**Respiratory protection:** Self-contained breathing apparatus or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

**Thermal hazards:** Wear cold insulating gloves when transfilling or breaking transfer connections.

**Environmental exposure controls:** None.

## 9. Physical and Chemical Properties

**General Information**

**Appearance:**

| | |
|---|---|
| **Physical state at 20◦C / 101.3kPa:** | Gas |
| **Colour:** | Colourless liquid. |
| **Odour:** | No odour warning properties. |
| **Odour threshold:** | Odour threshold is subjective and inadequate to warm of overexposure. |
| **pH value:** | Not applicable |
| **Molar Mass:** | 28g/mol |
| **Melting point:** | -210◦C |
| **Boiling point:** | -196◦C |
| **Critical temperature:** | -147◦C |
| **Auto-ignition temperature:** | Not applicable |
| **Flammability range:** | Non-flammable |
| **Relative density, gas (air=1):** | 0,97 |
| **Relative density, liquid (water=1):** | 0,8 |
| **Solubility in water:** | 20 mg/l |
| **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

**Reactivity:** No reactivity hazard other than the effects described in sub-sections below.
**Chemical Stability:** Stable under normal conditions.
**Conditions to avoid:** None under recommended storage and handling conditions.

## 11. Toxicological Information

**General**
No known toxicological effects from this product.

## 12. Ecological Information

**General**
Can cause frost damage to vegetation.

## 13. Disposal Information

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

## 14. Transport Information.

**UN Number:** 1977
**UN proper shipping name:** NITROGEN, REFRIGERATED LIQUID

**Labelling:**


2.2 : Non flammable, non toxic gas.

**Land Transport (ADR/RID)**
**Hazard number**: 22
**Class:** 2

**Air Transport (IATA)**
Class / Div. (Sub.risk(s)): 2.2

**Sea Transport (IMDG)**
Class / Div. (Sub.risk(s)): 2.2
Emergency Schedule (EmS) Fire : F-C
Emergency Schedule (EmS) Spillage: S-V

**Packing Group:** Not applicable
**Environmental Hazards:** None.



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**Special precautions for user**

**Packing Instruction(s)**

| | |
|---|---|
| Land Transport: | P203 |
| Air Transport: | |
| Passenger and Cargo Aircraft: | 202 |
| Cargo Aircraft only: | 202 |
| Sea Transport: | P203 |

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. Ensure adequate ventilation. Avoid transport on vehicles where the load space is not separated from the driver's compartment. Before transporting product containers ensure that they are firmly secured. Ensure compliance with applicable regulations.

## 15. Regulatory Information

**General**
Ensure all national/local regulations are observed.

## 16. Other Information

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. Details given in this document are believed to be correct at the time going to press. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. This MSDS was prepared and is to be used only for this product.

**End of document.**



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