

# Liquid Nitrogen

PRODUCT : LIQUID NITROGEN MSDS NR : 300-00-0024 BOC VERSION : 1.02 DATE : 13 / 04 / 2002 PAGE : 1 / 1

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

Product name            Liquid Nitrogen  
Chemical formula        N<sub>2</sub>  
Company identification    see heading and/or footer  
Emergency phone Nos    see heading and/or footer

### Specific methods

If possible, stop flow of product. Move container away or cool with water from a protected position.

### Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

## 2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/  
Preparation            Substance  
Components/  
Impurities              Contains no other components or impurities which will influence the classification of the product.  
CAS Nr                    7727-37-9  
EEC Nr  
(from EINECS)        231-783-9  
E Nr                        941

## 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.

## 3 HAZARDS IDENTIFICATION

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

## 7 HANDLING AND STORAGE

**Handling and storage**        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. Keep container below 50°C in a well ventilated place.

## 4 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.

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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

## 5 FIRE FIGHTING MEASURES

**Specific hazards**            Exposure to fire may cause containers to rupture/explode.  
Non flammable

**Hazardous combustion products**    None

**Suitable extinguishing media**        All known extinguishants can be used.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

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

**10 STABILITY AND REACTIVITY**

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

**11 TOXICOLOGICAL INFORMATION**

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

**12 ECOLOGICAL INFORMATION**

**General** 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 Nr** 1977  
**Class/Div** 2.2  
**ADR/RID Item Nr** 2,3°A  
**ADR/RID Hazard Nr** 22  
**Labelling ADR** Label 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 they are firmly secured and:  
 - adequate ventilation.  
 - compliance with applicable regulations.

**15 REGULATORY INFORMATION**

**Number in Annex I of Dir 67/548** Not included in Annex I.  
**EC Classification** Not classified as dangerous substance.  
**Labelling of cylinders - Symbols** Label 2: non flammable non toxic gas

**16 OTHER INFORMATION**

Ensure all national/local regulations are observed.  
 Asphyxiant in high concentrations.  
 May cause frostbite.  
 Wear suitable protective clothing.  
 Keep container in well ventilated place.  
 Do not breathe the gas.  
 The hazard of asphyxiation is often overlooked and must be stressed during operator training.  
 Users of breathing apparatus must be trained.  
 Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.  
 May be used as a packaging or propellant gas in all foodstuffs.  
 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.

**17 PRODUCT SPECIFICATION**

	Specification	Typical Analysis
<b>Nitrogen</b>	99.999%	99.999%
<b>Oxygen</b>	<5 vpm	<2 vpm
<b>Moisture</b>	<2 vpm	<1 vpm
<b>Carbon Monoxide</b>		<1 vpm
<b>Carbon Dioxide</b>		<0.5 vpm
<b>Hydrocarbons</b>		<1 vpm
<b>Hydrogen</b>		<1 vpm
<b>Neon</b>		<3 vpm
<b>Helium</b>		<1 vpm

Argon is included in the nitrogen



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For product and safety enquiries please phone

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