

Liquid Nitrogen

PRODUCT: LIQUID NITROGEN MSDS NR: 300-00-0024 BOC VERSION: 1.03 DATE: 25/04/2004 PAGE: 1/1

1 IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY

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

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

3 HAZARDS IDENTIFICATION

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

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.

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.

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

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.
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8 EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Proper Shipping Name Nitrogen, Refrigerated Liquid
UN Nr 1977
Class/Div 2.2
ADR/RID Classification Code 3A
ADR/RID Hazard Nr 22
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 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 2.2: 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. 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. 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.

Product Specification

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

Argon is included in the nitrogen



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For product and safety enquiries please phone

In the United Kingdom:
0800 111 333

In the Republic of Ireland:
1850 333 435

BOC
Customer Service Centre
Priestley Road, Worsley
Manchester M28 2UT
Fax: 0800 111 555

BOC
P.O. Box 201
Bluebell, Dublin 12
Fax: 01 409 1801

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