

Gas and Engineering

Linde Gas Division

SAFETY DATA SHEET

Nitrogen, refrigerated liquid

Date: 14.10.2008
replaces version dated: 05.05.2002

Version 3.0

SDS-No.: 8348/8-Eng
Page 1 of 2

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

Product name

Nitrogen, refrigerated liquid

Chemical formula: N₂

Company identification

Linde Gas Singapore Pte. Ltd.

50 Jurong Island Highway

Singapore 627877

Emergency phone number: 65.6867 8998-850

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 No.: 07727-37-9

EEC No. (from EINECS): 231-783-9

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

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. If leaking do not spray water onto container. Water surrounding area (from 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

Use protective clothing. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation.

Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Try to stop release.

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.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

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

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.

Flammability range: Non flammable

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

Liquid spillages can cause embrittlement of structural materials. Stable under normal conditions.

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.

Gas and Engineering

Linde Gas Division

SAFETY DATA SHEET Nitrogen, refrigerated liquid

Date: 14.10.2008
replaces version dated: 05.05.2002

Version 3.0

SDS-No.: 8348/8-Eng
Page 2 of 2

14 TRANSPORT INFORMATION

ADR / RID: Class 2 Code 3A

IMDG: Class 2.2

IATA: Class 2.2

UN number and proper shipping name:

UN 1977 Stickstoff, tiefgekühlt, flüssig

UN 1977 Nitrogen, refrigerated liquid

Packing Instruction: P203

Labelling according to ADR / RID:

Label 2.2: Non flammable, non-toxic gases

ADR / RID Hazard No.: 22

CEFIC Trencard Nr.: 112

CEFIC Groupcard Nr.: 20g22

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:

- there is adequate ventilation.
- compliance with applicable regulations.

15 REGULATORY INFORMATION

End of document

Number in Annex I of Dir 67/548

Not included in Annex I.

EC Classification:

Proposed by the industry:

Not classified as dangerous substance.

Labelling of cylinders

-Symbols

No symbol required.

-Risk phrases

RA5 Asphyxiant in high concentrations.

Rfb May cause frostbite

-Safety phrases

S9 Keep container in well ventilated place.

S23 Do not breathe the gas.

S36 Wear suitable protective clothing

16 OTHER INFORMATION

Ensure all national/local regulations are observed. The hazard of asphyxiation is often overlooked and must be stressed during operator training. 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.