

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006

Date of issue: 14.12.2015

Revision date:

Revision:

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1 Product identifier

Product name: Nitrogen (N-15 labeled)  
CAS No. (non-labeled): 7727-37-9  
CAS No. (labelled): 29817-79-6  
EC No. (non labeled): 231-783-9  
Formula: N<sub>2</sub>

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Research purposes, Manufacture of substances

### 1.3 Details of the supplier of the safety data sheet

Supplier: NUKEM Isotopes GmbH  
Industriestrasse 13, 63755 Alzenau, Germany  
Telephone: +49 6023 91 1726  
Fax: +49 6023 91 1614  
E-mail: christian.schuch@nukemisotopes.de

### 1.4 Emergency telephone number

Emergency number +1-703-253-4254 (English; Contract No.: 01009)

## 2. HAZARDS INDICATION

### 2.1 Classification of the substance or mixture

Gases under pressure (compressed gas), H280

For the full text of the H-phrases mentioned in this section, see section 2.2.

Classification according to directive 67/548/EEG or directive 1999/45/EG

Not classified as hazardous to health.

### 2.2 Label elements

Labeling according to Regulation (EC) No. 1272/2008

The substance is classified and labeled according to the CLP regulation

- Asphyxiant in high concentrations.

Hazard pictograms (GHS-US):



GHS04

Signal word (GHS-US):

Warning

Hazard statement(s):

H280

Contains gas under pressure; may explode if heated.

EIGA-As

Asphyxiant in high concentrations.

Precautionary statement(s):

P410 + P403

Protect from sunlight. Store in a well-ventilated place.

### 2.3 Other hazards

Other hazards not contributing to the classification:

Asphyxiate in high concentrations. Contact with liquid may cause cold burns/frostbite.

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## 3. CHEMICAL CHARACTERIZATION

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### 3.1 Substance

CAS-No. (labeled):	29817-79-6
CAS No. (non-labeled):	7727-37-9
EC-Number (Non-labeled):	231-783-9
Index-Number:	---
Formula:	$^{15}\text{N}_2$
Molar mass [g/mol]:	30

## 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### First-aid measures after 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.

#### First-aid measures after skin contact:

Adverse effects not expected from this product.

#### First-aid measures after eye contact:

Adverse effects not expected from this product..

### 4.2 Most important symptoms and effects, both acute and delayed

No additional information available

### 4.3 Indication of any immediate medical attention and special treatment needed

None.

## 5. FIREFIGHTING MEASURES

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### 5.1 Extinguishing media

#### Suitable extinguishing media:

Material will not burn. In case of fire in the surroundings: use appropriate extinguishing agent.

### 5.2 Special hazards arising from the substance or mixture

None

### 5.3 Advice for firefighters

#### Firefighting instructions:

In case of fire: Stop leak if safe to do so. Continue water spray from protected position until container stays cool. Use extinguishants to contain the fire. Isolate the source of the fire or let it burn out.

#### Protection during firefighting:

Compressed gas; Danger of asphyxiation.

#### Special protective equipment for fire fighters:

Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) 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. Stop flow of product if safe to do so.

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

#### General measures:

Evacuate area. Provide adequate ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Guideline EN 137 Respiratory protective devices – Selfcontained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking.

### 6.2 Environmental precautions

Try to stop release, if safe to do so.

### 6.3 Methods and material for containment and cleaning up

Provide adequate ventilation.

### 6.4 Reference to other sections

See also sections 8 and 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Precautions for safe handling:

Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; Never apply flame or localized heat directly to any part of the container.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions:

Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately.

#### OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:

Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. Never place a container where it may become part of an electrical circuit.

### 7.3 Specific end use(s)

None.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

Oxygen depletion → Asphyxiate

### 8.2 Exposure controls

#### Appropriate engineering controls:

Ensure adequate air ventilation. Oxygen detectors should be used when asphyxiating gases may be released. Systems under pressure should be regularly checked for leakages.

#### Hand protection:

Wear working gloves when handling gas containers.

#### Eye protection:

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Wear safety glasses with side shields or goggles when transfilling or breaking transfer connections.

#### Respiratory protection:

Self-contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.

#### **8.3 Environmental exposure controls:**

None necessary.

### **9. PHYSICAL/ CHEMICAL PROPERTIES**

#### **9.1 Information on basic physical and chemical properties**

Physical state:	Gas
Molecular mass:	30 g/mol (depending on the enrichment)
Color:	Colorless.
Odor:	No data available
Odor threshold:	No data available
Melting point:	-210 °C
Freezing point:	No data available
Boiling point:	-196 °C
Flash point:	Not applicable.
Critical temperature:	-147 °C
Auto-ignition temperature:	Not applicable.
Decomposition temperature:	No data available
Flammability (solid, gas):	No data available
Vapor pressure:	Not applicable.
Critical pressure:	No data available
Vapor density (air = 1):	0.97
Relative density:	0.8
Specific gravity / density:	No data available
Relative gas density:	No data available
Solubility:	Water: 20 mg/l
Log Pow:	Not applicable.
Log Kow:	Not applicable.
Explosive properties:	Not applicable.
Oxidizing properties:	None.
Explosive limits:	Non flammable.

#### **9.2 Other information**

##### Additional information:

Gas/vapor heavier than air. May accumulate in confined spaces.

### **10. STABILITY AND REACTIVITY**

#### **10.1 Reactivity**

No reactivity hazard other than the effects described in sub-section below.

#### **10.2 Chemical stability**

Stable under normal conditions.

#### **10.3 Possibility of hazardous reactions**

None.

#### **10.4 Conditions to avoid**

None under recommended storage and handling conditions (see section 7).

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## 10.5 Incompatible materials

No additional information available

## 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

No known toxicological effects from this product.

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## 12. ECOLOGICAL INFORMATION

No ecological damage caused by this product.

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Waste disposal recommendations:

Dispose of contents/container in accordance with local/regional/national/international regulations.

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## 14. TRANSPORT INFORMATION

### In accordance with DOT

Transport document description:	UN1066 Nitrogen, compressed, 2.2
UN-No. (DOT):	UN1066
Proper Shipping Name (DOT):	Nitrogen, compressed
Department of Transportation (DOT) Hazard Classes:	2.2 - Class 2.2 - Non-flammable compressed gas
Hazard labels (DOT):	



2.2 - Non-flammable gas

### Additional information

Special transport precautions:

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 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.

### Transport by sea

UN-No. (IMDG):	UN1066
Class (IMDG):	2.2

### Air transport

UN-No.(IATA):	UN1066
Class (IATA):	2.2
Civil Aeronautics Law:	Gases under pressure/Gases nonflammable nontoxic under pressure

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## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### US Federal regulations

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2 Chemical safety assessment

No information available.

## 16. OTHER INFORMATION

### Other information:

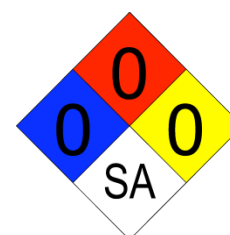
When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product.

NUKEM Isotopes GmbH asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within NUKEM Isotopes GmbH. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of NUKEM Isotopes GmbH, it is the user's obligation to determine the conditions of safe use of the product.

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NFPA health hazard:	0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard:	0 - Materials that will not burn.
NFPA reactivity:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
NFPA specific hazard:	SA - This denotes gases which are simple asphyxiants.



### Disclaimer

Product is supplied for research and laboratory use only. Not for drug, household or other uses.

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. See invoice or packing slip for additional terms and conditions of sale..*