

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/22/2024

Reviewed on 05/22/2024

## 1 Identification

- **Product identifier**
- **Trade name:** Nitrogen Gas, 99.998% UHP  
nitrogen
- **Article number:** N3945
- **CAS Number:**  
7727-37-9
- **EC number:**  
231-783-9
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson shermann@aquasolutions.org  
Technical Coordinator  
Sherman Nelson shermann@aquasolutions.org
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS01 Exploding bomb

Organic Peroxides - Type A

H240 Heating may cause an explosion.



GHS04 Gas cylinder

Gases under Pressure - Dissolved gas H280 Contains gas under pressure; may explode if heated.

Simple Asphyxiant

May displace oxygen and cause rapid suffocation.

- **Label elements**

- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS01



GHS04

- **Signal word** Danger

- **Hazard statements**

Contains gas under pressure; may explode if heated.

Heating may cause an explosion.

(Contd. on page 2)

# Safety Data Sheet

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**Trade name: Nitrogen Gas, 99.998% UHP  
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(Contd. of page 1)

*May displace oxygen and cause rapid suffocation.*

· **Precautionary statements**

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 3

Reactivity = 0

*The substance possesses oxidizing properties.*

· **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 3

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

CAS: 7727-37-9 Nitrogen Gas, 99.998% UHP

· **Identification number(s)**

· **EC number:** 231-783-9

## 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

· **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

# Safety Data Sheet

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**Trade name: Nitrogen Gas, 99.998% UHP  
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(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Remove persons from danger area.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** No special measures required.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
  - **PAC-1:** 7.96E+05 ppm
  - **PAC-2:** 8.32E+05 ppm
  - **PAC-3:** 8.69E+05 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

CAS: 7727-37-9 Nitrogen Gas, 99.998% UHP

TLV see App. F Minimal oxygen content (D)

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

(Contd. on page 4)

# Safety Data Sheet

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Printing date 05/22/2024

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**Trade name: Nitrogen Gas, 99.998% UHP  
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(Contd. of page 3)

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Not required.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Compressed gas

Color: Colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range: -210 °C (-346 °F)

Boiling point/Boiling range: -196 °C (-320.8 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Not determined.

· **Danger of explosion:** Not determined.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density at 20 °C (68 °F):** 0.97 g/cm<sup>3</sup> (8.09465 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information** No further relevant information available.

US

(Contd. on page 5)

# Safety Data Sheet

## acc. to OSHA HCS

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**Trade name:** Nitrogen Gas, 99.998% UHP  
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(Contd. of page 4)

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.
- **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

US

(Contd. on page 6)

# Safety Data Sheet

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(Contd. of page 5)

## 14 Transport information

· UN-Number	UN1977
· DOT, IMDG, IATA	
· UN proper shipping name	Nitrogen, refrigerated liquid
· DOT	NITROGEN, REFRIGERATED LIQUID
· IMDG, IATA	
· Transport hazard class(es)	
· DOT	
	
· Class	2 Gases
· Label	2.2
· IMDG	
	
· Class	2.2 Gases
· Label	2.2
· IATA	
	
· Class	2 Gases
· Label	2.2
· Packing group	
· DOT, IMDG, IATA	Not regulated
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Gases
· Hazard identification number (Kemler code):	22
· EMS Number:	F-C,S-V
· Stowage Category	D
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 50 kg On cargo aircraft only: 500 kg

(Contd. on page 7)

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(Contd. of page 6)

- |                                   |   |
|-----------------------------------|---|
| · <b>IMDG</b>                     |   |
| · <b>Limited quantities (LQ)</b>  | 120 ml  |
| · <b>Excepted quantities (EQ)</b> | Code: E1  |
|                                   | Maximum net quantity per inner packaging: 30 ml   |
|                                   | Maximum net quantity per outer packaging: 1000 ml |
| · <b>Remarks:</b>                 | refrig. liquid. Compressed = 2.2, UN1066, 2-04, - |
| · <b>UN "Model Regulation":</b>   | UN 1977 NITROGEN, REFRIGERATED LIQUID, 2.2        |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS01 GHS04

- **Signal word** Danger
- **Hazard statements**  
Contains gas under pressure; may explode if heated.  
Heating may cause an explosion.  
May displace oxygen and cause rapid suffocation.
- **Precautionary statements**  
Protect from sunlight. Store in a well-ventilated place.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Environment protection department.
- **Contact:**

(Contd. on page 8)

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(Contd. of page 7)

*Date of Preparation / Last Revision:*

· **Date of preparation / last revision**

Revision 1.2, 05/22/2024: Reviewed SDS for accuracy. MH/STN

Creation date for SDS 10-29-2014. STN

05/22/2024

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Gases under Pressure - Dissolved gas: Gases under pressure – Dissolved gas

Organic Peroxides - Type A: Organic peroxides – Type A

· **\* Data compared to the previous version altered.**

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