Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 Reviewed on 12/11/2017

1 Identification

· **Product identifier**

· **Trade name: Nitrogen Gas, 99.998% UHP**

· **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 sherman@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

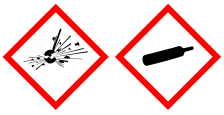
Org. Perox. A H240 Heating may cause an explosion.

GHS04 Gas cylinder

Press. Gas H281 Contains refrigerated gas; may cause cryogenic burns or injury.

Expl. 1.5 H205 May mass explode in fire.

· **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**
May mass explode in fire.
Contains refrigerated gas; may cause cryogenic burns or injury.
Heating may cause an explosion.
· **Precautionary statements**
Protect from sunlight. Store in a well-ventilated place.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 Reviewed on 12/11/2017

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 1)

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 4

The substance possesses oxidizing properties.
· **HMIS-ratings (scale 0 - 4)**

Health = 0
Fire = 3
Reactivity = 4

· **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**
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.
· **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.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 Reviewed on 12/11/2017

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 2)

· **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 item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
CAS: 7727-37-9 Nitrogen Gas, 99.998% UHP	
TLV	withdrawn TLV, see App. F; simple asphyxiant

· **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
· **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.

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 3)

· **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.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	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/cm³ (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.

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.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 Reviewed on 12/11/2017

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 4)

· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	mg/kg (mouse)

· **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:** Generally 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.

14 Transport information

· **UN-Number**
· **DOT, IMDG, IATA** UN1977

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 5)

· **UN proper shipping name**	
· **DOT**	Nitrogen, refrigerated liquid
· **IMDG, IATA**	NITROGEN, REFRIGERATED LIQUID
· **Transport hazard class(es)**	
· **DOT**	
	
· **Class**	2 Gases
· **Label**	2.2
· **IMDG**	
	
· **Class**	2.2
· **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
· **Danger code (Kemler):**	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
· **IMDG**	
· **Limited quantities (LQ)**	120 ml
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **Remarks:**	refrig. liquid. Compressed = 2.2, UN1066, 2-04, -

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 Reviewed on 12/11/2017

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 6)

· **UN "Model Regulation":** UN 1977 NITROGEN, REFRIGERATED LIQUID, 2.2

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **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):**
Nitrogen Gas, 99.998% UHP

· **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 established by ACGIH)** 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**
May mass explode in fire.
Contains refrigerated gas; may cause cryogenic burns or injury.
Heating may cause an explosion.
· **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:**
· **Date of preparation / last revision**
12-11-2017: review SDS for accuracy. STN
Creation date for SDS 10-28-2014. STN
12/11/2017 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/11/2017 *Reviewed on 12/11/2017*

Trade name: Nitrogen Gas, 99.998% UHP

(Contd. of page 7)

IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
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
Expl. 1.5: Explosives – Division 1.5
Press. Gas: Gases under pressure – Refrigerated liquefied gas
Org. Perox. A: Organic peroxides – Type A