SAFETY DATA SHEET

in accordance with Regulation (EC) 1907/2006 (REACH) and its amendments

◘ **V7 –** *amendments in this revision* ◘

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING	
◘ V7 1.1 Идентификатори на продукта	
Substance name	NITROGEN LIQUEFIED, TECHNICAL GRADE
EC number:	231-783-9
REACH registration number	This substance is exempted from Registration according to the provisions of Article 2(7)(A) and Annex IV of REACH
CAS number:	7727-37-9
CLP notification number:	02-2119683711-35-0000
NEOCHIM PLC code	10-02◘
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Uses: agent for freezing cooling and heat transfer, a preservative of products etc.	
Uses advised against: No information available	
1.3 Details of the supplier of the safety data sheet	
Manufacturer: Address: ◘ V7 Tel: URL website: E-mail:	NEOCHIM PLC East Industrial Zone, Himkombinatska Str. 6403 Dimitrovgrad, Bulgaria +359 391 65 205◘ http:/ / www.neochim.bg neochim@neochim.bg
e-mail address of competent person responsible for the SDS	reach-neochim@neochim.bg
1.4 Emergency telephone number	
◘ V7 National Toxicology Center Hospital for Active Medical Treatment and Emergency Medicine “N.I.Pirogov”	+ 359 2 9154 233 24/24 h 7/7 d ◘
SECTION 2: HAZARDS IDENTIFICATION	
The most important adverse effects: Colorless, extremely cold liquid, odorless. Danger of cryogenic burns when used improperly. In depressurization this liquid evaporates very quickly, which can led to a glut of air and a serious risk of suffocation in indoors due to lack (deficit) of oxygen. Necessary level of oxygen for normal breathing is 19.5%.	
2.1 Classification of the substance or mixture	
Classification in accordance with Regulation 1272/2008 (CLP) and its amendments at the date of the issue of the document**.**	
Gases under pressure: Refrigerated liquefied gas, H281 - Contains refrigerated gas; may cause cryogenic burns or injury	
2.2 Label elements	
Labelling in accordance with Regulation 1272/2008 (CLP) and its amendments at the date of the issue of the document**.**	

Hazard pictogram(s):		
Signal word		Warning
Hazard statement(s):	H281	Contains refrigerated gas; may cause cryogenic burns or injury
Precautionary statement(s):	P282 P336 P315 P403	Wear cold insulating gloves face shield, eye protection. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention. Store in well-ventilated place.

2.3 Other hazards

PBT or vPvB criteria.	The substance is not assessed as persistent, bioaccumulative or toxic (PBT) or very persistent and very bioaccumulative (vPvT).
Endocrine disrupting properties	Data lacking

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

◘ V7 3.1 Substances

CAS №	Name	Content, % (w/w)	SCL, M – factor/ATE
7727-37-9	Nitrogen	min 99.5	- ◘

SECTION 4: FIRST- AID MEASURES

4.1 Description of first aid measures

- general notes	Speed is essential. If unconscious, place casualty in a recovery position with head sideways to avoid choking.
- following inhalation:	Immediately move the casualty to fresh air. If not breathing apply artificial respiration. If breathing is difficult qualified person to apply oxygen. Seek medical advice immediately.
- following skin contact:	Contact with the vapour-liquid can cause frostbite. If clothes are soaked with the liquid and are stuck to the skin, first warm the affected area with lukewarm water and then remove clothing. DO NOT USE HOT WATER. Seek medical attention immediately.
- following eye contact:	Immediately rinse the effective eye with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Seek medical advice if irritation develops and persists.
- following ingestion:	Not considered a potential route of exposure.
- self-protection of the first aider	The first aider must observe and apply all collective and personal protective equipment**.**

4.2 Most important symptoms and effects, both acute and delayed

Due to lack of oxygen, nitrogen inhalation can cause dizziness, vertigo, nausea, and loss of coordination. Prolonged inhalation can lead to unconsciousness.

4.3 Indication of any immediate medical attention and special treatment needed

Give oxygen if breathing is difficult. Implement general supportive measures and treat symptomatically.

SECTION 5: FIRE - FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:	Use appropriate extinguishing media for surrounding fire.
Unsuitable extinguishing media:	Not applicable (nitrogen is not flammable and does not support combustion)

5.2 Special hazards arising from the substance or mixture

The heat from the fire can lead to a rapid increase a pressure in the cryogenic vessels, which can cause their destruction, accompanied by explosion. Move if it is safe or cool cryogenic vessels by spraying water from a safe distance.

5.3 Advice for firefighters

Danger of suffocation due to lack of oxygen.
Heat resistant personnel protective equipment, gloves, boots and self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Immediately evacuate personnel not occupied with firefighting. Stop the leak if safe to do so. Isolate every releasing bottle. Eliminate all possible sources of ignition and provide maximum ventilation resistant to explosion. Monitor oxygen level. Personal protection equipment that should be available are: gloves, safety goggles, personal mask.

6.2 Environmental precautions

Avoid uncontrolled release into the environment.

6.3 Methods and material for containment and cleaning up

Provide adequate ventilation.

6.4 Reference to other sections

See section 8 for personal protective equipment and section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not allow liquid nitrogen to get into eyes, on skin or clothing. Never let unprotected part of your body to touch not insulated pipes or vessels containing cryogenic fluids. The flesh will adhere to extremely cold metal and will tear when trying to separate. Always storage and handling of cryogenic vessels upright. Do not drop, do not turn or do not roll containers for cryogenic liquids. Open the valve slowly. Close the valve of the cryogenic vessel after each use. Keep the valve closed even when empty.

7.2 Conditions for safe storage, including any incompatibilities

Store and use in conditions of adequate ventilation. Store at a temperature not higher
50 °C. Do not store in confined spaces. Cryogenic vessels are equipped with a valve for reducing the pressure and a pressure valve for controlling the pressure. Under normal conditions these containers will periodically released product. Use suitable devices for reducing pressure in systems and pipes in order to prevent the increasing of pressure. The liquid in the container can generate extremely high pressures when evaporated by heating.

¤ V7 **7.3 Specific end use(s):** no information¤

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Regulated occupational exposure limit values:	Nitrogen is not classified as hazardous substance. No official data available for occupational exposure

8.2 Exposure controls

Appropriate engineering controls:	Providing adequate ventilation is good industrial practice. Do not release large quantities of the substance in confined spaces. Pressure systems should be periodically checked for omissions.
Environmental exposure controls:	The product does not affect the environment.
Individual protection measures, such as personal protective equipment	
Respiratory protection:	Gas filter (EN 14387 is recommended)
Hand protection:	Protective gloves, Cold insulating gloves
Eye protection:	Chemical goggles (EN 166 is recommended)
Skin and body protection:	Working clothes
◘ **V7** Thermal hazard:	No precautionary measures are necessary. ◘
8.2.3 Environmental exposure controls:	The product does not affect the environment.
SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES	
9.1 Information on basic physical and chemical properties	
a) Physical state	liquid that evaporates in a colourless gas
b) Colour	Colourless, clear
c) Odour	Odourless
d) Melting/Freezing point	- 210°C
e) Boiling point	- 196°C
f) Flammability	Not flammable gas
g) Lower and upper exposure limit	Not applicable
h) Flash-point	Not applicable (gas)
i) Auto-ignition temperature	Not applicable
j) Decomposion temperature	Not known
k) pH	Not applicable
l)Viscosity	Not applicable (gas)
m) Solubility	20 mg/l in water at 20°C and 1bar
n) Partition coefficient n-octanol/water:	Not applicable (gas)
o) Vapour pressure:	Not applicable
p) Density and/or relative density	810 kg/m^3 at boiling point
q) Relative vapour density(air = 1)	0.967
r) Particle characteristics	Not applicable
9.2 Other information	
9.2.1 Information with regard to physical hazard classe	
a) Explosives	Not explosive
b) Flammable gases	Not flammable gas
c) Oxidising gases	Not oxidizer
d) Gases under pressure	Gases under pressure: compressed gases (Press. Gas.)

9.2.2 Other safety characteristics	
a) Conductivity	0,02598 W/(m K)
b) Critical temperature	-146.9°C
c) Critical preassure	34 bar

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.2 Chemical stability

Stable under recommended storage and handling conditions (see section 7, handling and storage).

10.3 Possibility of hazardous reactions

There are not known hazardous reactions.

10.4 Conditions to avoid

High temperatures and confined spaces.

10.5 Incompatible material

Lithium, titanium and ozone

10.6 Hazardous decomposition products

None

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) №1272/2008

Not known toxicological effects of this product

Acute toxicity	Based on available data, the classification criteria are not met
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met
Mutagenicity	Based on available data, the classification criteria are not met
Carcinogenicity	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT - single exposure	Based on available data, the classification criteria are not met
STOT - repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met Note: At high concentrations may cause suffocation due to lack of oxygen

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties - data lacking

◘ **V7** 11.2.2 Other information - data lacking◘

SECTION 12: ECOLOGICAL INFORMATION	
12.1 Toxicity Nitrogen is not toxic and does not pollute the soil and water. It is an ingredient of the air.	
12.1 Toxicity	not toxic and does not pollute the soil and aquatic environment.
12.2 Persistence and degradability	No ecological damages causes by this product
12.2 Bioaccumulative potential	The product does not show any bioaccumulation properties.
12.4 Mobility in soil	Unlikely to cause pollution due to its high volatility
12.5 Results of PBT and vPvB assessment	No data available
12.6 Endocrine disrupting properties	Data lacking
12.7 Other adverse effects	No known effects from this product
◘ **V7** 12.8 Additional information **-**	Data lacking◘

SECTION 13: DISPOSAL CONSIDERATIONS	
Waste treatment methods:	Do not discharge into any place where its accumulation could be dangerous.
Package waste disposal:	Dispose the packaging of the product in accordance with the requirements of local authorities, taking into account the characteristics of the packaging material.

SECTION 14: TRANSPORT INFORMATION

14.1 UN No
ADR/RID - 1977
14.2 Proper shipping name
ADR/RID - NITROGEN, REFRIGERATED LIQUID

14.3 Transport class
ADR/RID - 2
14.4 Packing group:
ADR/RID - not applicable

Labelling ADR

2.2: Non flammable, non toxic gas

Hazard identification number
ADR/RID: - 22

Classification code
ADR/RID : - 3A

14.5 Environmental hazards - none

14.6 Special precautions for users
The person transporting the product must be trained and know how to respond to an accident.
Avoid transport on vehicles where the load area is not separated from that of the driver. He should be familiar to the potential hazard of the cargo and how to react in case of an accident. Before transportation make sure bottles are secured.
¤ **V7 1**4.7 Maritime transport in bulk
according to IMO instruments - not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture:

EU regulations	Regulation EC 1907/2006 (REACH), Regulation EC 1272/2008 (CLP) * Regulations / legislation and amendments to the date of issue of the document are indicated
15.2 Chemical Safety Assessment	Does not required for this product

SECTION 16. OTHER INFORMATION

Indication of changes: Changes of the last version are highlighted with ¤ **V7...¤** . This version replaces all previous versions.

The information above is on the basis of our knowledge about the product and represents the data currently available to us t the moment of safety data sheet issue. This document is intended as guidance for the appropriate precautionary handling with the product by a properly trained person using this product, and does not legally bind in no way manufacturer with guarantee for specific properties, qualities and applications.
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