

Safety-Data-Sheet

NITROGEN, liquefied

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1 Substance/Preparations- and Firm name

Product name	NITROGEN, liquefied
Chemical notation	N ₂
Commercial name	
Manufacturer	
Telephone	

2 Product name

Substance	Nitrogen, intense cooled, liquefied
Constituents	Nitrogen is poisonless, not combustible and chemically sluggish in reaction
CAS-No.	7727-37-9
EC-No./EINECS-No.	231-783-9

3 Possible dangers

Danger notice	Leaking of intense cooled liquefied Nitrogen vaporizes fast and forms cold mist. In case of contact with the skin frostbites are possible, in case of contact with the eyes heavy eye injury possible! In closed rooms gaseous Nitrogen displaces the air - DANGER OF SUFFOCATION! Gaseous Nitrogen is lighter as air, density ratio 0,97:1.
Warning notice	High concentrations cause suffocation. Symptoms can be loss of motivity and of consciousness. The affected doesn't realize the suffocation.

4 First-aid

Breathing	Use breathing apparatus and bring the persons to the fresh air. Hold them warm and calm. Call a doctor. At disorders of breathing use oxygen apparatus. Take off immediately moistened clothing parts, shoes and stockings. Wash concerning part of the body with warm water, don't rub.
Swallowing	Swallowing is not considered as possible way of exposition

5 Fire fighting

Special risks	No
Dangerous products of combustion	No
Appropriate medium for fire fighting	All known mediums for fire fighting may be used
Special methods	Cool bottles with water jet
Special protection for fire brigade	In closed rooms use breathing apparatus

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6 Unintentional release

Personal protective proceeding	ENTERing the area use breathing apparatus. Evacuate the area. Look for adequate aeration.
Environment protective proceeding	Prevent infiltration of the fluid into sewerage system, cellar, assembly pits or other places, on which accumulation can be dangerous.
Cleaning method	Aeration of the room

7 Handling and storing

Handling and storing	Use only equipment, which is appropriated for this product and the provided pressure and temperature. In case of doubt contact the vendor of the gas. Attend to tightness of the equipment. Attend to the notices for operation of the vendor of the gas.
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8 Limit of exposition and personal protection equipment

Personal protection proceeding	Check adequate aeration. Don't smoke in cause of handling with the product. In cause of manipulation with intense cooled liquefied Nitrogen always wear eye protection and use cold-insulated hand gloves.
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9 Physical and chemical characteristics

Molar mass	28,01 g/mol
Melting point	-210 °C
Boiling point	-196 °C
Critical temperature	-147 °C
Density (15 °C, 1 bar)	1,70 kg/m ³
Density (-196 °C, 1 bar)	0,80 kg/l
Relative density, gaseous (air = 1)	0,97
Steam pressure at 20 °C	not applicable
Solubility in water (25 °C, 1 bar)	0,015 l/kg
Appearance	colorless fluid
Smell	without smell
Inflammation point	not applicable
Explosibility limit (in air)	under: not applicable upper: not applicable
Other data	Gas and steam are heavier as air. They can assemble in closed rooms, specially on the floor or in lower areas.

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15 Directions

Designation (ChemG):

- Symbol	No
R-principles	No
S-principles	No

Designation of gas bottles:

- Symbol	Danger ticket No. 2
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Notices for special risks

No

Other directions

Kesselgesetz-BGBl Nr. 211/1992
 Versandbehälter-VO BGBl Nr. 368/1996 i.g.F.
 ADR-Übereinkommen BGBl Nr. 522/1976 i.g.F.
 Chemikaliengesetz 1996 (ChemG 1996) BGBl Nr. I 53/1997 und zugehörige
 Verordnungen
 ArbeitnehmerInnenschutzgesetz (ASchG) BGBl Nr. 450/1994 i.g.F. und
 zugehörige Verordnungen

16 Other data

At usage of intense cooled, liquefied Nitrogen must be secured, that gas-handling persons are familiar with the transport of gas bottles and with the technical gas equipment.

On the risk of suffocation because of inappropriate use will be indicated explicitly

All data are no contract assurances of product characteristics.
 They are according to today's state of knowledge.