

SAFETY DATA SHEET

Product: Helium
SDS Nr.: EN-HE-L-0001
Version: 1-1
Date: October 10th, 2019

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name: Helium, Refrigerated Liquid
Product form: Gas
Chemical formula: He
UN/ID no.: UN 1963
Use: Industrial and professional. Perform risk assessment prior to use

Company identification: PRO rare & pure gases GmbH
Westermühlstrasse 23
D-80469 München/Germany
Phone: +49 89 552 978 60
See paragraph 16 "OTHER INFORMATION"

Emergency phone number: **+ 49 89 552 978 60**

2. HAZARDS IDENTIFICATION

Hazards identification: Liquefied gas
Hazard pictograms: GHS04
Signal word: **Warning**



Hazard statement code: H280

Hazard statement: Gas under pressure – refrigerated liquefied gas.
May cause cryogenic burns or injury. May cause frostbite.
May displace oxygen and cause rapid suffocation.
Can solidify in air and block vent lines.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation:	Substance, sold as a pure product ~ 100%
Components/Impurities:	Contains no other components or impurities, which will influence the classification of the product
CAS Nr.:	7440-59-7
EC Nr.:	231-168-5
Exposure limits:	
Note 1:	Listed in Annex IV / V REACH, exempted from registration EU DSD/DPD: Not Classified - Data lacking EU CLP: Self Classified - Press. Gas - Comp., H280 OSHA HCS 2012: Press. Gas - Comp; Simple Asphyxiant

4. FIRST AID MEASURES

General advice:	Show this safety data sheet to the doctor in attendance
Inhalation:	Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing has stopped
Eye contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if symptoms occur.
Skin contact:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if adverse health effects persist or are severe. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

Most important symptoms and effects, both acute and delayed Symptoms:

Extremely cold material. Liquid can cause burns similar to frostbite. Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. Try to warm up the frozen tissues and seek medical attention. Ingestion of liquid can cause burns similar to frostbite. Over-exposure signs, adverse symptoms may include frostbite. Simple asphyxiant. May cause suffocation by displacing the oxygen in the air. Exposure to oxygen-deficient atmosphere (<19.5%) may cause dizziness, drowsiness, nausea, vomiting, excess salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing 8-10% or less oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help or protect themselves. Lack of sufficient oxygen may cause serious injury or death.

Indication of immediate medical attention and special treatment needed, if necessary:
 Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Protection of first-aiders: No action shall be taken in involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Helium is non-flammable and does not support combustion. Use extinguishing media appropriate for the surrounding fire.
Special instructions:	<p>Contains gas under pressure. Contains refrigerated gas.</p> <p>In a fire or if heated, a pressure increase will occur and the container may burst or explode.</p> <p>Evacuate all personnel from area. Cool cylinders with water spray. If possible without risk, move cylinders away from fire area.</p>
Special protective equipment for fire-fighters:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, for non-emergency personnel:	Evacuate area. Wear self-contained breathing apparatus when in area unless atmosphere is safe. Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid breathing gas. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders:	If specialized clothing is required to deal with the spillage, take note of any information in section 8 on suitable and unsuitable materials. See also the information in "for non-emergency personell".
Environmental precautions:	Stop release. Prevent from entering sewers, basements and work pits, or any place its accumulation can be dangerous. Inform the local authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Clean up method:	Ventilate area

7. HANDLING AND STORAGE

Storage:	Store cylinders in a well-ventilated, secure area, protected from weather. Cylinders should be upright with valve outlet seals and valve protection caps in place. Do not allow storage temperature to exceed 50° C. Storage should be away from heavily travelled areas and emergency exits. Full and empty cylinders should be segregated. Use a first-in and first-out inventory system to prevent full containers from being stored for long periods of time.
Handling:	Do not drag, roll, slide or drop cylinders. Use a suitable truck designed for cylinders movement. Never attempt to lift a cylinder by its cap. Secure cylinders at all times while in use. Use a pressure reducing regulator to safely discharge gas from the cylinder. Use a check valve to prevent reverse flow into cylinder. Never apply flame or localized heat directly to any part of the cylinder. Do not allow any part of the cylinder to exceed 50° C. Once a cylinder has been connected to process, open cylinder valve slowly and carefully. If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier. Use an adjustable strap-wrench to remove over-tight or rusted caps. Helium is chemically inert; therefore, it is compatible with all materials of construction.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Guidelines:	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies
Eye/face protection:	Wear safety glasses with side shields (or goggles)
Skin and body protection:	Work gloves and safety shoes are recommended when handling gas cylinders
Respiratory protection:	Use positive pressure airline respirator with escape cylinder, or self-contained breathing apparatus for oxygen-deficient atmospheres (oxygen <19.5%)
General Hygiene Considerations:	Handle in accordance with good industrial hygiene and safety practice. Ensure adequate ventilation.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance, odour and state:	Colourless, odourless liquid – cryogenic coolant
Molecular weight:	4 g/mol
Boiling point (at 1 atm):	-272,15° C
Melting point:	-269° C
Relative density, gas:	0,138 (air=1)
Vapor pressure (at 20° C):	Not known
Solubility mg/l water:	2,5 mg/l

10. STABILITY AND REACTIVITY

Hazardous polymerization:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
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11. TOXICOLOGICAL INFORMATION

General:	Known toxicological effects from this product, freezing of the tissues. Extremely cold material. Liquid can cause burns similar to frostbite.
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Acute toxicity
Aspiration Hazard
Carcinogenicity
Germ Cell Mutagenicity
Skin corrosion/Irritation
Skin sensitization
STOT-RE
Toxicity for Reproduction
Respiratory sensitization
Serious eye damage/Irritation

EU/CLP • Classification criteria not met
OSHA HCS 2012 • Classification criteria not met

12. ECOLOGICAL INFORMATION

General:	No known ecological damage caused by this product.
12.1 Toxicity:	No data available
12.2 Persistence and degradability:	No data available
12.3 Bio-accumulative potential:	0,28 (LogP ow) low (Potential)
12.4 Mobility in Soil:	No data available

13. DISPOSAL CONSIDERATION

General:	Do not discharge into any place where its accumulation could be dangerous. Discharge to atmosphere in a well-ventilated place. Contact supplier if guidance is required.
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14. TRANSPORT INFORMATION

Proper shipping name:	Helium, liquid; non-flammable nontoxic gas
Hazard Class:	2.2
Identification number:	UN 1046
ADR/RID Classification code:	2.1 oA
ADR/RID Hazard Nr.:	20
DOT:	Helium, liquid



UN/ID no.: UN1046; non-flammable gas
 Proper shipping name: Liquid gas, n.o.s.
 Hazard Class: 2.2
 Labelling DOT: 2.2 non-flammable gas
IATA/ICAO: **Helium, liquid**



UN/ID no.: UN1046; non-flammable gas
 Proper shipping name: Liquid gas, n.o.s.
 Hazard Class: 2.2



IMO/IMDG: **Helium, liquid**

UN/ID no.: UN 1046; non-flammable gas
 Proper shipping name: Liquified gas, n.o.s.
 Hazard Class: 2.2



Other transport information: Cylinders should be transported in a secure upright position in a well-ventilated area. Never transport in passenger compartment of a vehicle. Before transporting product containers, ensure that they are firmly secure and

- cylinder valve is closed and not leaking;
- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- there is adequate ventilation
- compliance with applicable regulations.

15. REGULATORY INFORMATION:

Safety, health & environmental: Ensure all national/local regulations are observed.

Regulations/legislation specific for the substance or mixture: **SARA Hazard Classifications** | Pressure (Sudden Release of)

Seveso regulation 96/82/EC: Not covered

16. OTHER INFORMATION

NFPA Rating: HEALTH=1 FIRE=0 REACTIVITY=0

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Last revision date: Preparation date: October 10th, 2019

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage from its use can be accepted. This SDS is for information purposes only and is subject to change without notice.

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