

Product Name: Helium (Gaseous)

MSDS No.: MSDS003

Date: 28 September 2010

MY GAS MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name:	Helium	Trade Name:	Helium
Product Use:	Many	UN Number:	1046
Chemical Name:	Helium	Synonym:	Helium-4
Chemical Formula:	He	Chemical Family:	Rare Gas (<i>Noble Gas</i>)
Telephone: Emergencies:	010-072 0995 * 0861 HELIUM	Supplier /Manufacture:	My Gas
		Fax:	086 508 3271
		Phone:	010-072 0995

**Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your My Gas sales representative.*

2. Hazards Identification

EMERGENCY OVERVIEW

WARNING! Extremely cold liquid and gas under pressure. Can cause rapid suffocation. Can cause severe frostbite. Liquid or cold gas will freeze air in vent lines. May cause dizziness and drowsiness. Rescue workers may require self-contained breathing apparatus and protective clothing. This is a colourless, odourless, cryogenic liquid.

ROUTES OF EXPOSURE: Inhalation.

EFFECTS OF A SINGLE (ACUTE) OVEREXPOSURE:

INHALATION:	Asphyxiate. Effects are due to lack of oxygen. Moderate concentrations may cause headaches, drowsiness, dizziness, excitation, excess salivation, vomiting, and unconsciousness. Lack of oxygen can kill.
SKIN CONTACT:	No harm expected.
SKIN ABSORPTION:	No harm expected.
SWALLOWING:	This product is a gas at normal temperature and pressure.
EYE CONTACT:	No harm expected.
EFFECTS OF REPEATED (CHRONIC) OVEREXPOSURE:	None known.
OTHER EFFECTS OF OVEREXPOSURE:	None known.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:	Repeated or prolonged exposure is not known to aggravate medical condition.
SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH HAZARD EVALUATION:	None currently known.
CARCINOGENICITY:	Not listed as carcinogen.

3. Composition and Information on Ingredients

COMPONENTS:	Helium
UN NUMBER:	1046
CONCENTRATION % by Mole:	100

4. First Aid Measures

INHALATION:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
SKIN CONTACT:	Wash with soap and water.
SWALLOWING:	This product is a gas at normal temperature and pressure.
EYE CONTACT:	Flush with water.



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5. Fire Fighting Measures	
FLAMMABLE: No	IF YES, UNDER WHAT CONDITIONS? Not applicable.
EXTINGUISHING MEDIA: This material cannot catch fire. Use media appropriate for surrounding fire.	PRODUCTS OF COMBUSTION: None
PROTECTION OF FIREFIGHTERS:	
CAUTION! High-pressure gas. Asphyxiate. Effects are due to lack of oxygen. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Rescue workers may require self-contained breathing apparatus.	
SPECIFIC PHYSICAL AND CHEMICAL HAZARDS:	
Gas cannot catch fire. Container may rupture due to heat of fire. No part of a container should be subjected to a temperature higher than 52°C. Most containers are provided with a pressure relief device designed to vent contents when they are exposed to elevated temperature.	
SENSITIVITY TO IMPACT: Avoid impact against container.	SENSITIVITY TO STATIC DISCHARGE: Not applicable.
PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: Fire fighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.	
FLAMMABLE LIMITS IN AIR, % by volume:	
LOWER: Not applicable.	UPPER: Not applicable.
FLASH POINT: Not applicable.	AUTOIGNITION TEMPERATURE: Not applicable.

6. Accidental Release Measures
STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
PERSONAL PRECAUTIONS: CAUTION! High-pressure gas. Evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off flow if you can do so without risk. Ventilate area or move cylinder to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before allowing re-entry.
ENVIRONMENTAL PRECAUTIONS: Discard any product, residue, disposable container, or liner in an environmentally acceptable manner.

7. Handling and Storage
PRECAUTIONS TO BE TAKEN IN HANDLING: Protect cylinders from damage. Use a suitable hand truck to move cylinders do not drag, roll, slide, or drop. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Open valve slowly. If valve is hard to open, discontinue use and contact My Gas.
PRECAUTIONS TO BE TAKEN IN STORAGE: Store and use with adequate ventilation. Firmly secure cylinders upright to keep them from falling or being knocked over. Screw valve protection cap firmly in place by hand. Store only where temperature will not exceed 52 C. Store full and empty cylinders separately. Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.
OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: High-pressure gas. Use piping and equipment adequately designed to withstand pressures to be encountered. Gas can cause rapid suffocation due to oxygen deficiency. Store and use with adequate ventilation. Close valve after each use; keep closed even when empty. Prevent reverse flow. Reverse flow into cylinder may cause rupture. Use a check valve or other protective device in any line or piping from the cylinder. When returning cylinder to supplier, be sure valve is closed, then install valve outlet plug tightly. Never work on pressurized system. If there is a leak, close the cylinder valve. Vent the system down in a safe and environmentally sound manner in compliance with all federal, provincial, and local laws; then repair the leak. Never place a compressed gas cylinder where it may become part of an electrical circuit.
RECOMMENDED PUBLICATIONS: Additional information on storage, handling, and use of this product is available from the South African Compressed Gas Association (SACGA).

8. Exposure Controls/Personal Protection				
INGREDIENTS	UN NUMBER	LD50(Species & Routes)	LC50 (Rat, 4 hrs.)	Exposure Limits
Helium	1046	Not applicable	Not available	Simple asphyxiate
IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH):				
VENTILATION/ENGINEERING CONTROLS:				
LOCAL EXHAUST:	Use a local exhaust system, if necessary, to maintain an adequate supply of oxygen in the worker's breathing zone.			
MECHANICAL (General):	Acceptable if it can maintain an adequate supply of oxygen in the worker's breathing zone.			
SPECIAL:	None			
OTHER:	None			
PERSONAL PROTECTION:				
RESPIRATORY PROTECTION: Use air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below a safe level. Select in accordance with the South African regulations or guidelines.				
SKIN PROTECTION: Wear work gloves when handling cylinders.				
EYE PROTECTION: Wear safety glasses when handling cylinders.				
OTHER PROTECTIVE EQUIPMENT: Metatarsal shoes for cylinder handling. Protective clothing where needed.				

9. Physical and Chemical Properties		
PHYSICAL STATE: Gas	FREEZING POINT: -272°C	pH: Not applicable
BOILING POINT: -268.9°C	VAPOUR PRESSURE: NA	MOLECULAR WEIGHT: 4g/mole
EVAPORATION RATE: High	ODOUR THRESHOLD: Odourless	SOLUBILITY IN WATER: Negligible
SPECIFIC GRAVITY: 0.147 @ -271C LIQUID (water=1)	COEFFICIENT OF WATER/OIL DISTRIBUTION: NA	
SPECIFIC GRAVITY: 0.14g/ml @ 21.1 C VAPOUR (air=1)	VAPOUR DENSITY: 0.000165 g/ml @ 21.1 C	
% VOLATILES BY VOLUME: 100% (v/v)	APPEARANCE & ODOUR: Colourless. Odourless	

10. Stability and Reactivity	
STABILITY:	The product is stable.
CONDITIONS OF CHEMICAL INSTABILITY:	None
INCOMPATIBILITY (materials to avoid):	None
HAZARDOUS DECOMPOSITION PRODUCTS:	None
HAZARDOUS POLYMERIZATION:	Will not occur.
CONDITIONS OF AVOID:	None Known.
CONDITIONS OF REACTIVITY:	None Known.

11. Toxicological Information	
ACUTE DOSE EFFECTS:	Helium is a simple asphyxiate.
STUDY RESULTS:	None known.

12. Ecological Information	
No adverse ecological effects expected. This product does not contain any Class I or Class II ozone depleting chemicals.	

13. Disposal Considerations	
WASTE DISPOSAL METHOD:	Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.



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14. Transport Information

TDG/IMO SHIPPING NAME: Helium, Compressed		
HAZARD CLASS: CLASS 2.2: Non-flammable, non-corrosive and non-poisonous gas.	IDENTIFICATION #: UN1046	PRODUCT RQ: Any accidental release in a quantity that could pose a danger to public safety or any sustained release of 10 minutes or more.
SHIPPING LABEL(s):	Non-flammable, non-poisonous gas	
PLACARD (When Required):	Non-flammable, non-poisonous gas	
SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, non-ventilated compartment of vehicle can present serious safety hazards.		

15. Regulatory Information

Users of this product are solely responsible for compliance with all applicable laws and local regulations.

16. Other Information

MIXTURES:

When two or more gases, or liquefied gases are mixed, their hazardous properties may combine to create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an Industrial Hygienist, or other trained person when you make your safety evaluation of the end product. Remember, gases and liquids have properties which can cause serious injury or death.

My Gas asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.