

MATERIAL SAFETY DATA SHEET (MSDS)

HELIUM

SECTION 1: IDENTIFICATION (MATERIAL & SUPPLIER)

GHS Product Identifier:	Helium
Product Name:	Helium, compressed
Chemical Name:	Helium
Synonym(s):	HELIUM, BALLOON GAS
Uses:	Balloon Gas; Industrial Applications; Laser Applications; As an Inert Atmosphere and Inert Gas blanketing.
Supplier Name:	Puregas Aust Pty Ltd
Address:	262 Rex Road, Campbellfield VIC 3061
Telephone:	1300 733 097
Fax:	03 9464 4977
Emergency:	DIAL 000
Emergency:	24hr EMERGENCY TELEPHONE (Australia Only) 1300 994 556
Website:	www.puregas.com.au
MSDS Date:	30/5/2022

SECTION 2: HAZARD(S) IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE

GHS Classification: Gases Under Pressure: Compressed Gas

Label Elements:

Signal Word: WARNING



Pictogram(s):

Hazard Statements: H280 – Contains gas under pressure; May explode if heated.

Prevention Statements: None allocated

Response Statements: None allocated

Storage Statements: P410 + P403 Protect from sunlight. Store in a well-ventilated place.

Disposal Statements: None allocated

Other Hazards: Asphyxiant. In addition to any other important health or physical hazards, this product may displace oxygen and cause rapid suffocation.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
HELIUM	7440-79-7	231-168-5	>99%

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

Eyes:	Not applicable.
Inhaled:	Remove from exposure, but avoid becoming a casualty. To protect rescuer, use an Air-line respirator or Self-Contained Breathing Apparatus (SCBA) Apply artificial respiration if not

breathing. Give Oxygen if available. Rest and keep warm. Obtain medical attention. For advice contact Poisons Information Centre Ph: 13 11 26 or a doctor.

Skin: Not applicable.

Ingestion: Ingestion is not considered a potential route of exposure.

First Aid Facilities Not applicable

Most important symptoms and effects, both acute and delayed.

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation.

Immediate medical attention and special treatment needed.

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use water fog to cool containers from protected area.

Special hazards arising from the substance or mixture:

Non-Flammable.

Advice for Firefighters:

Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Do not approach cylinders or containers suspected of being hot.

Hazchem Code:

2T
2 - Fine Water Spray
T - Wear full fire kit and breathing apparatus. Dilute spill and run off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures.

Non-emergency personnel:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing gas. Provide adequate ventilation. If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.

Environmental Precautions:

Prevent from entering sewers, basements and work pits, or any place where its accumulation can be dangerous.

Methods of cleaning up:

Carefully move to a well-ventilated area. Allow gas to escape to atmosphere, preferably in an open remote location. Do not attempt to repair leaking valve or cylinder safety devices.

Reference to other sections:

See Section 8 for Exposure Controls and Section 13 for disposal considerations

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling.

Use safe work practices to avoid inhalation. Use appropriate personal protective equipment (see Section 8). Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement. Contains gas under pressure. Avoid contact with eyes, skin and clothing. Avoid breathing gas. Use equipment rated for cylinder pressure. Close valve after each use and when empty. The uncontrolled release of a gas under pressure may cause physical harm.

Conditions for safe storage, including any incompatibilities.

Store cylinders below 45oC upright in a secure enclosure, preferably outside of buildings, protected from direct sunlight. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete). Secure cylinders by chains or similar device to prevent falling over. Keep away from vehicular traffic, emergency exits and other thoroughfares.

MATERIAL SAFETY DATA SHEET (MSDS)

HELIUM *continued*

Specific end use(s): No information provided.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters.

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ²	ppm	mg/m ²
Helium	SWA (Aus)	Simple Asphxiant			

Biological limits: No biological limit values have been entered for this product.

Exposure Controls. Engineering Controls Provide suitable ventilation to minimise or eliminate exposure. Confined areas (e.g. tanks) should be adequately ventilated or gas tested.

PPE
Eye/Face Wear Safety Glasses
Hands Chemical-resistant, impervious gloves complying with an approved standard should be worn.
Body Personal protective equipment for the body and appropriate footwear should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties.

Appearance: Colourless gas
Odour: Odourless
Flammability: Not Flammable.
Flash Point: Not relevant
Boiling Point: -268.9°C
Melting Point: -272°C
Evaporation Rate: Not available.
pH: Not available.
Specific gravity: Not available.
Solubility in Water: 1.5 mg/l
Vapour Pressure: Not available
Upper explosion limit: Not Relevant
Lower explosion limit: Not Relevant
Partition Coefficient: Not available
Auto-Ignition Temperature: Not available
Decomposition Temperature: Not available
Viscosity: Not available
Explosive Properties: Not available
Oxidising Properties: Not available
Odour Threshold: Not available

Other Information

Critical Pressure: 229 kPa
Cylinder Pressure (when full): 13000 kPa to 20000 kPa @ 15°C
Density: 0.138 (Air=1)
Volatiles: 100%
Critical Temperature: -268°C (Permanent Gas)

SECTION 10: STABILITY AND REACTIVITY

Reactivity. No specific test data related to reactivity available for this product or its ingredients. Carefully review all information provided in sections below.

Chemical Stability. Stable under recommended conditions of storage.

Possibility of Hazardous Reactions. Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid. Avoid shock, friction, heavy impact and heat.

Incompatible Materials. Compatible with most commonly used materials.
Hazardous Decomposition Products.

This material will not decompose to form hazardous products other than that already present.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects.

Acute Toxicity: Swallowed: No liquid phase.
Skin: Not irritating to the skin.
Eyes: Not irritating to the eye.
Sensitisation: Not classified as causing skin or respiratory sensitisation.
Mutagenicity: No significant ingredient is classified as a mutagen.
Carcinogenicity: No significant ingredient is classified as a carcinogen.
Reproductive: No significant ingredient is classified as a reproductive toxin.
STOT Single Exposure: Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.
STOT Repeated Exposure: Not classified as causing organ damage from repeated exposure.
Aspiration: Not classified as causing aspiration.

SECTION 12: ECOLOGICAL INFORMATION

This product is not biodegradable. However, it is biologically inert so will not be harmful to flora or fauna, soil or water and will not cause long term problems. Not expected to be an environmental hazard.

Toxicity. Not available.
Persistence and Degradability. Not available.
Bioaccumulative Potential. No information provided.
Mobility in Soil Not applicable.
Other Adverse Effects Product is not harmful to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Waste disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Legislation Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

SECTION 14: TRANSPORT INFORMATION

CLASSIFIED AS DANGEROUS GOODS BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN Number	1046	1046	1046
Proper Shipping Name	Helium, Compressed	Helium, Compressed	Helium, Compressed
Transport Hazard Class	2.2	2.2	2.2
Packing Group	None Allocated	None Allocated	None Allocated

Environmental Hazards No information provided.
Special Precautions for User Hazchem Code 2T
 GTEPG 2C1
 EMS F-C, S-V

Other Information: Ensure cylinder is separated from driver and that outlet relief device is not obstructed.

MATERIAL SAFETY DATA SHEET (MSDS)

HELIUM *continued*

SECTION 15: REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Legislation Specific for the Substance or Mixture.

Poison Schedule:	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
Classifications:	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals. The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
Hazard Codes:	None Allocated
Risk Phrases:	None Allocated
Safety Phrases:	None Allocated
Inventory Listing(s):	AUSTRALIA: AICS (Australian Inventory of Chemical Substances) All components are listed on AICS, or are exempt.

SECTION 16: OTHER INFORMATION

Additional Information	The storage of significant quantities of gas cylinders must comply with AS4332 The Storage and Handling of Gases in Cylinders.
APPLICATION METHOD	Gas regulator of suitable pressure and flow rating fitted to cylinder or manifold with low pressure gas distribution to equipment.
PERSONAL PROTECTIVE EQUIPMENT GUIDELINES	The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.
HEALTH EFFECTS FROM EXPOSURE	It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

ABBREVIATIONS:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No. EC No -	European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonised System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average