

Safety Data Sheet – Helium

Warning




PLUSGAS

Safety Data Sheet (SDS)

Helium

1 PRODUCT AND COMPANY DETAILS	
1.1 Product Identifier	
Product Name	HELIUM
Proper Shipping Name	HELIUM
Chemical Formula	He
1.2 Recommended use and restrictions on use	
Use(s)	Industrial and professional. Perform risk assessment prior to use. Test gas/Calibration gas. Purge gas, diluting gas, inerting gas. Purging. Shield gas for welding processes. Use for manufacture of electronic/photovoltaic components. Laboratory use. Contact supplier for more information on uses.
Restrictions	Do not inhale product on purpose because of the risk of asphyxiation.
1.3 Supplier details	
Supply Company	Plusgas PO Box 1340 Browns Plains Q 4118
General Enquiries	TEL (07) 3800 2080

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Technical Enquiries Specific to product		plusgas.com.au Tel: (07) 3800 2080	
In Emergency Dial 000. Police or Fire Brigade			
2 HAZARDS IDENTIFICATION			
2.1 Classification of the substance or mixture			
Classification according to WHS Regulation			
Physical hazards			
Gases under pressure : Compressed gas		H280	
2.2 Label Elements			
Signal word	Warning		
Pictogram	 GHS04		
Hazard statement(s)	H280 - Contains gas under pressure; may explode if heated.		
Storage statement	P403 - Store in a well-ventilated place.		
Disposal Statement	None allocated		
2.3 Other Hazards			
Asphyxiant in high concentrations.			
3 COMPOSITION AND INFORMATION ON INGREDIENTS			
3.1 Substances			
Name	Product Identifier	%	Classification according to WHS Regulation
Helium	(CAS-No.) 7440-59-7 (EC-No.) 231-168-5 (EC Index-No.) --- (Registration-No.) *1	100	Press. Gas (Comp.), H280

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Contains no other components or impurities which will influence the classification of the product.

*1: Listed in Annex IV / V REACH, exempted from registration.

*2: Registration deadline not expired.

*3: Registration not required: Substance manufactured or imported < 1t/y.

Full text of R-phrases see section 16. Full text of H-statements see section 16.

3.2 Mixtures

Not applicable

4 FIRST AID

4.1 Description of first aid measures

Eye	Adverse effects not expected from this product.
Inhalation	Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped. Remove victim to uncontaminated area.
Skin	Adverse effects not expected from this product.
Ingestion	Ingestion is not considered a potential route of exposure.

4.2 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.
Refer to section 11.

4.3 Indication of any immediate medical attention and special treatment needed

None

5 FIRE FIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media	Water spray or fog.
- Unsuitable extinguishing media	Do not use water jet to extinguish.

5.2 Special hazards arising from the substance or mixture

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	None.

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5.3 Advice for fire-fighters	
Specific methods	Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.
Special protective equipment for fire fighters	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.
5.4 Hazchem code	2T
6 ACCIDENTAL RELEASE MEASURES	
6.1 Personal precautions, protective equipment and emergency procedures	
Try to stop release. Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Act in accordance with local emergency plan. Stay upwind. Oxygen detectors should be used when asphyxiating gases may be released.	
6.2 Environmental precautions	
Try to stop release.	
6.3 Methods and material for containment and cleaning up	
Ventilate area.	
6.4 Reference to other sections	
See sections 8 and 13 for exposure controls and disposal.	
7 HANDLING AND STORAGE	
7.1 Precautions for safe handling	
7.1.1 Safe use of the product The product must be handled in accordance with good industrial hygiene and safety procedures.	

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Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations.

Ensure the complete gas system was (or is regularly) checked for leaks before use.

Do not smoke while handling product.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Avoid suck back of water, acid and alkalis.

Do not breathe gas.

Avoid release of product into atmosphere.

7.1.2 Safe handling of the gas receptacle

Refer to supplier's container handling instructions.

Do not allow backfeed into the container.

Protect cylinders from physical damage; do not drag, roll, slide or drop.

When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.

Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.

If user experiences any difficulty operating cylinder valve discontinue use and contact supplier.

Never attempt to repair or modify container valves or safety relief devices.

Damaged valves should be reported immediately to the supplier.

Keep container valve outlets clean and free from contaminants particularly oil and water.

Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.

Close container valve after each use and when empty, even if still connected to equipment.

Never attempt to transfer gases from one cylinder/container to another.

Never use direct flame or electrical heating devices to raise the pressure of a container.

Do not remove or deface labels provided by the supplier for the identification of the cylinder contents.

Suck back of water into the container must be prevented.

Open valve slowly to avoid pressure shock.

7.2 Conditions for safe storage, including any incompatibilities

Observe all regulations and local requirements regarding storage of containers.

Containers should not be stored in conditions likely to encourage corrosion.

Container valve guards or caps should be in place.

Containers should be stored in the vertical position and properly secured to prevent them from falling over.

Stored containers should be periodically checked for general condition and leakage.

Keep container below 50°C in a well ventilated place.

Segregate from flammable gases and other flammable materials in store.

Store containers in location free from fire risk and away from sources of heat and ignition.

Keep away from combustible materials.

7.3 Specific end use(s)

None.

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8 EXPOSURE CONTROLS AND PERSONAL PROTECTION	
8.1 Control parameters	
OEL (Occupational Exposure Limits) : DNEL (Derived-No Effect Level) : PNEC (Predicted No-Effect Concentration) :	No data available. No data available. No data available.
8.2 Exposure Controls	
8.2.1. Appropriate engineering controls Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities.	
8.2.2. Individual protection measures, e.g. personal protective equipment A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.	
Respiratory protection	Self-contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.
Thermal hazards	None in addition to below.
Eye / Face	Wear safety glasses with side shields. Standard EN 166 - Personal eye-protection - specifications
Hands	Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk.
Body	Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
8.2.3. Environmental exposure controls None necessary.	
9 PHYSICAL AND CHEMICAL PROPERTIES	
9.1 Physical Description/Properties	
Appearance	Physical state at 20 °C / 101.3kPa Colourless gas.
Odour	No odour warning properties.
Flammability	Non flammable
Boiling Point = -269 °C	Flash Point = Not applicable for gases and gas mixtures.

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Melting Point = -272 °C	Auto Ignition Temperature Non flammable
Critical Temperature -268 °C	pH: Not applicable
Specific Gravity Liquid: Not applicable	Relative Vapour Density = 0.14.
Solubility (water): 1.5 mg/l	Partition coefficient: Not applicable
Vapour Pressure (at 50°C) Not applicable	Vapour Pressure (at 20°C) Not applicable
Decomposition temperature Not applicable	Viscosity: Not available
Explosive properties: Not applicable	Molar mass = 4 g/mol
Partition coefficient n-octanol/water [log Kow] : Not applicable for inorganic gases.	
9.2 Other Information	
None	
10 STABILITY AND REACTIVITY	
10.1 Reactivity	
No reactivity hazard other than the effects described in sub-sections below.	
10.2 Chemical stability	
Stable under normal conditions.	
10.3 Possibility of hazardous reactions	
None	
10.4 Conditions to avoid	
Avoid moisture in installation systems.	
10.5 Incompatible materials	
None. For additional information on compatibility refer to ISO 11114.	
10.6 Hazardous decomposition products	
None	
11 TOXICOLOGICAL INFORMATION	
11.1 Information on toxicological effects	

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Acute toxicity	No known toxicological effects from this product.
Skin corrosion/irritation	No known toxicological effects form this product.
Serious eye damage/irritation	No known toxicological effects form this product.
Respiratory or skin sensitisation	No known toxicological effects form this product.
Germ cell mutagenicity	No known toxicological effects form this product.
Carcinogenicity	No known toxicological effects form this product.
Toxic for reproduction : Fertility	No known toxicological effects form this product.
Toxic for reproduction : unborn child	No known toxicological effects form this product.
STOT - single exposure	No known toxicological effects form this product.
STOT - repeated exposure	No known toxicological effects form this product.
Aspiration hazard	Not applicable for gases and gas mixtures.
12 ECOLOGICAL INFORMATION	
12.1 Toxicity	
No ecological damage caused by this product.	
12.2 Persistence and degradability	
No ecological damage caused by this product.	
12.3 Bio-accumulative potential	
No data available.	
12.4 Mobility in soil	
Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.	
12.5. Results of PBT and vPvB assessment	
No data available.	
12.5 Other adverse effects	

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Effect on the ozone layer : No known effects from this product.
 Effect on global warming : No known effects from this product.

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste disposal	May be vented to atmosphere in a well ventilated place. Do not discharge into any place where its accumulation could be dangerous. Return unused product in original cylinder to supplier.
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Legislation	16 05 05 : Gases in pressure containers other than those mentioned in 16 05 04.
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13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

14 TRANSPORT INFORMATION

14.1. UN number **1046**

14.2. UN proper shipping name

Transport by road/rail (ADG) :	HELIUM, COMPRESSED
Transport by air (ICAO-TI / IATA-DGR) :	HELIUM, COMPRESSED
Transport by sea (IMDG)	HELIUM, COMPRESSED

14.3. Transport hazard class(es)

Labelling



2.2 : Non-flammable, non-toxic gases

Transport by road/rail (ADG)

Class :	2
Hazchem code :	2T
Hazard identification number :	20
Tunnel Restriction :	E - Passage forbidden through tunnels of category E

Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) :	2.2
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Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) :	2.2
Emergency Schedule (EmS) - Fire :	F-C
Emergency Schedule (EmS) - Spillage :	S-W

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14.4. Packing group	
Transport by road/rail (ADR/RID) :	Not applicable
Transport by air (ICAO-TI / IATA-DGR) :	Not applicable
Transport by sea (IMDG) :	Not applicable
14.5 Environmental hazards	
Transport by road/rail (ADR/RID) :	None.
Transport by air (ICAO-TI / IATA-DGR) :	None.
Transport by sea (IMDG) :	None.
14.6 Special precautions for user	
Hazchem Code	2T.
Packing Instruction(s)	Transport by road/rail (ADR/RID) : P200 Transport by air (ICAO-TI / IATA-DGR) Passenger and Cargo Aircraft : 200 Cargo Aircraft only : 200 Transport by sea (IMDG) : P200
Special transport precautions	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap nut or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
Not applicable.	
15 REGULATORY INFORMATION	
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
National regulations	
Ensure all national/local regulations are observed.	
15.2. Chemical safety assessment	
A CSA does not need to be carried out for this product.	
16 OTHER INFORMATION	

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Indication of changes

Revised safety data sheet in accordance with commission regulation (EU) No 453/2010

Abbreviations and acronyms

ATE - Acute Toxicity Estimate. CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008. REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006. EINECS - European Inventory of Existing Commercial Chemical Substances. CAS# - Chemical Abstract Service number. PPE - Personal Protection Equipment. LC50 - Lethal Concentration to 50 % of a test population. RMM - Risk Management Measures. PBT - Persistent, Bioaccumulative and Toxic. vPvB - Very Persistent and Very Bioaccumulative. STOT- SE : Specific Target Organ Toxicity - Single Exposure. CSA - Chemical Safety Assessment. EN - European Standard. UN - United Nations. ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road. IATA - International Air Transport Association. IMDG code - International Maritime Dangerous Goods. RID - Regulations concerning the International Carriage of Dangerous Goods by Rail. WGK - Water Hazard Class. STOT - RE : Specific Target Organ Toxicity - Repeated Exposure.

Training advice

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Full text of H-statements

Press. Gas (Comp.)	Gases under pressure : Compressed gas
H280	Contains gas under pressure; may explode if heated.

DISCLAIMER OF LIABILITY

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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 resulting from its use can be accepted.

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Safety Data Sheet Receipt Form

I hereby acknowledge that I have been provided with a copy of the Plusgas Safety Data Sheet for Helium

Issue 1 dated March 2022.

To be returned to Plusgas at:

31 Anders Street Jimboomba Queensland 4280

Name	
Title	
Company	
Signed	Dated