

Material Safety Data Sheet

1. Product and Company Identification

Product Name: Helium, Compressed
Product Use: Many
Trade Name: Balloon gas, helium
IUPAC Name: Helium
Chemical Formula: He
Supplier: Sunox Industrial Gases Inc.
440 Sheldon Drive.
Cambridge, Ontario N1T 2C1
Tel: 1-800-342-6563
Emergency Contact: CANUTECH (24hr) @ 1-613-996-6666



2. Composition and Ingredient Information

Component	CAS Number	Concentration [%vol]
Helium	7440-59-7	100%

3. Hazards Identification

Emergency Overview

WARNING! High pressure gas with no odour or colour. General asphyxiant and can cause rapid suffocation. May cause dizziness, drowsiness, nausea, vomiting, sore throat and loss of consciousness. A self-contained breathing apparatus may be required by rescue workers.

Effect of an Acute Overexposure

Eye Contact: None expected
Skin Contact: None expected
Ingestion: Unlikely route of exposure
Inhalation: Gas is a general asphyxiant and its effects are due to lack of oxygen. May cause dizziness, drowsiness, nausea, vomiting and loss of consciousness.

Effect of Chronic Overexposure

Eye Contact: None expected
Skin Contact: None expected
Ingestion: Unlikely route of exposure
Inhalation: None expected

4. First Aid Measures

Eye Contact: None required
Skin Contact: None required
Ingestion: None required
Inhalation: Remove individual fresh air. Give artificial respiration if not breathing and consult a physician.

5. Fire Fighting Measures

Flammable?	No
Suitable Extinguishing Media:	N/A
Unsuitable Extinguishing Media:	N/A
Products of Combustion:	N/A
Sensitivity to Impact:	Avoid
Sensitivity to Static Discharge:	Avoid
Flash Point:	N/A
Autoignition Temperature:	N/A
Flammable Limits in Air, % vol, Upper	N/A
Flammable Limits in Air, % vol, Lower	N/A

Protection of Firefighters

WARNING! Evacuate all personnel from danger area. Cool cylinders with water spray from an extended distance until cool. Cylinders have a pressure relief system to vent gas when pressure limit is reached. Cylinder may explode/burst if relief system fails. Wear a self contained breathing apparatus.

6. Accidental Release Measures

Personal Precautions

Actively ventilate area or move cylinder outside. Evacuate all personnel if material release is significant. Helium is much lighter than air and will rise, be aware of personnel working where helium may accumulate (lofts etc.). Test for sufficient oxygen before re-entering workspace where helium concentrations are expected to be high.

Environmental Precautions and Containment/Cleaning Methods

None required.

7. Handling and Storage

Handling Precautions

Properly train all employees on proper handling procedures. Handle cylinders with care and avoid jolting, dropping and impact. Always wear metatarsal shoes when handling and moving cylinders. Use an appropriate hand truck to move cylinders. Ensure valve protection cap is on whenever gas is not being drawn. Do not attempt to remove over tight or rusty caps with a lever bar inserted into the cap opening; use an adjustable strap wrench. Keep cylinders upright and secured to a wall or immovable object during use. Avoid damaging cylinder labels.

Storage Precautions

Store in a secured, well ventilated and cool area below a temperature of 52°C. Store away from sunlight, fire exits, sparks, heat and high traffic areas. Firmly secure cylinders upright with the valve protection cap in place by hand. Store empty and full cylinders separately. Use a first in/first out inventory system to avoid storing cylinders for an extended period of time

8. Exposure Controls and Personal Protection

Exposure Limits

Component	CAS #	TLV-TWA	TLV-STEL	TLV-C
Helium	7440-59-7	No data	No data	No data

Environmental Controls

Use an active exhaust system to remove excess helium and fumes. An air supplied respirator may be required while working in confined spaces.

Personal Protective Equipment (PPE)

- Eye / Face: Wear safety glasses or goggles when drawing gas. Always wear goggles/welding helmet with a filter screen when welding, cutting or brazing.
- Skin: Wear work gloves when handling cylinders. Cover exposed skin with flame retardant material.
- Respiratory: Wear an approved respirator when welding, cutting or brazing to remove hazardous fume and gas byproducts.
- General Hygiene: Wash hands before and after shift to remove potentially harmful toxic residues.
- Other: Always wear metatarsal shoes while handling cylinders and operating within a manufacturing environment.
- Relevant Standards: Z94.1 "Industrial Protective Headwear – Performance, Selection, Care and Use"
- Z94.2 "Hearing Protection Devices – Performance, Selection, Care and Use"
- Z94.3.1 "Selection, Use and Care of Protective Eyewear"
- Z94.4 "Selection, Use and Care of Respirators"
- Z195.1 "Guideline on Selection, Care and Use of Protective Footwear"

9. Physical and Chemical Properties

Appearance:	Colourless Gas
Odor:	None
Physical State:	Gas
Melting Point @ 170kPa:	-272°C
Boiling Point @ 170kPa:	-268.9°C
Specific Gravity, Air @ 1atm, 0°C	.14
Solubility:	Negligible
Molecular Weight:	4g/mol

10. Stability and Reactivity

Chemical Stability:	Yes
Conditions to Avoid:	None
Incompatible Materials:	None
Hazardous Decomposition Products:	None
Possibility of Hazardous Reactions:	None

11. Toxicological Information

Dosage Thresholds

Component	LD50	LC50	NOAEL
Helium	No data	No data	No data

Dosage Effects

None, effects due to lack of oxygen.

12. Ecological Information

Ecotoxicity: None
Degradability: None
Bioaccumulation: None
Other: None

13. Disposal Considerations

Do not throw out cylinder or sell as scrap, return to supplier from proper waste disposal procedures.

14. Transport Information

TDG Regulation

Hazard Class 2.2
Identification Number: UN1046
Packing Group: -
Shipping Name: Helium, Compressed
Label: Nonflammable gas

Air Transport ICAO-TI and AITA-DGR Regulation

ICAO/IATA Class: 2.2
UN/ID Number: 1046
Label: Nonflammable gas
Packaging Group: -
Shipping Name: Helium, Compressed

Special Precautions

Always transport cylinder in the upright position with the safety cap on and firmly secured. Ensure proper labeling.

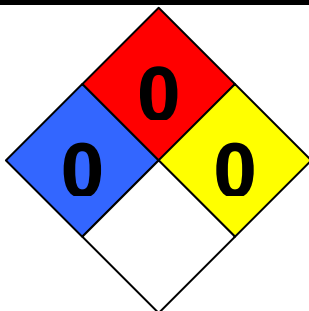
15. Regulatory Information

WHMIS Classification



Class A: Compressed Gas

HMIS / NFPA Rating



HEALTH	0
FIRE	0
REACTIVITY	0

CEPA (Canadian Environmental Protection Act): Not listed
 DSL (Canadian Domestic Substances List): Listed

16. Other Information

Read all other documentation and labels associated with all other materials used in your applicable process. Get a MSDS for every material you use.

This product has been classified according to the hazard criteria of the CPR and this MSDS contains all information required by the CPR.

Be aware of the many other hazards associated with the welding, brazing and metal cutting processes. For more information refer to ANSI Z49.1 'Safety in Welding, Cutting and Allied Processes' published by the American Welding Society.

USE PROPER CONNECTORS accidents will occur due to faulty, old or incorrectly attached connectors. **DO NOT USE ADAPTORS.** Ensure connectors are tight and threaded properly. Properly train employees on how to connect cylinders.

The Compressed Gas Association (CGA) has a number of publications available:

AV-1	<i>Safe Handling and Storage of Compressed Gases</i>
G-9.1	<i>Commodity Specification for Helium</i>
P-1	<i>Safe Handling of Compressed Gases in Containers</i>
P-14	<i>Accident Prevention in Oxygen-Rich, Oxygen-Deficient Atmospheres</i>
SB-2	<i>Oxygen-Deficient Atmospheres</i>
SB-8	<i>Use of Oxy-Fuel Gas Welding and Cutting Apparatus</i>
V-1	<i>Compressed Gas Cylinder Valve Inlet and Outlet Connections</i>
--	<i>Handbook of Compressed Gases</i>

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