

Helium

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations
Revision Date: 09/17/2015 Date of issue: 09/17/2015

Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Substance

Product Name: Helium

CAS No: 7440-59-7

Product Code: N-1057

Formula: He

1.2. Intended Use of the Product

Industrial Use

1.3. Name, Address, and Telephone of the Responsible Party

Company

Nova Gas Technologies, Inc.
2781 Three Lakes Road
NORTH CHARLESTON, SC 29418
1-843-747-0956

www.lasergas.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300 or 1-703-527-3887 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Simple Asphyxiant

Compressed gas H280

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Warning

Hazard Statements (GHS-US)

: H280 - Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

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

2.3. Other Hazards

Exposure may aggravate those with pre-existing respiratory conditions. Contact with the product may cause cold burns or frostbite.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name	Product Identifier	%	Classification (GHS-US)
Helium	(CAS No) 7440-59-7	> 99	Simple Asphyxiant Compressed gas, H280

3.2. Mixture

Not applicable

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Inhalation: Move person to fresh air. Seek medical attention for discomfort or if symptoms do not subside.

Helium

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

First-aid Measures After Skin Contact: If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Eye Contact: If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Ingestion: Though risk of ingestion is extremely unlikely, in case of frostbite or freeze burns due to oral exposure seek immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Not expected to present a significant hazard under anticipated conditions of normal use. Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. May cause frostbite.

Symptoms/Injuries After Inhalation: May displace oxygen and cause rapid suffocation.

Symptoms/Injuries After Skin Contact: May cause frostbite. Symptoms may include redness, pain, and skin burns.

Symptoms/Injuries After Eye Contact: Non-irritating. However, contact with gas escaping the cylinder causes frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas escaping the cylinder may cause freeze burns and frostbite.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire. In case of fire: keep cylinders cool by spraying with water.

Unsuitable Extinguishing Media: Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Cool closed containers exposed to fire with water spray. Heat may build pressure, rupturing closed containers, spreading fire, and increasing risk of burns and injuries. Cylinders involved in a fire may explode even if the fire has been extinguished.

Reactivity: Hazardous reactions are not expected to occur under normal conditions of use.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Remove containers from fire area if this can be done without risk. Fight fire from safe distance and protected location.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Ensure adequate ventilation: gas will displace oxygen and cause rapid suffocation in confined areas. Avoid contact with the skin and the eyes. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Ruptured cylinders may rocket.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Eliminate ignition sources. Stop leak if safe to do so. Ensure adequate ventilation.

6.2. Environmental Precautions

Avoid unnecessary release into environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop leak if safe to do so.

Methods for Cleaning Up: Wear a self-contained breathing apparatus and appropriate personal protective equipment (PPE). Isolate area until gas has dispersed. Check oxygen levels before reentering area. Oxygen levels should be maintained above 19.5% at sea level.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. For further information refer to Section 13.

Helium

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: May cause asphyxiation. Symptoms may include loss of mobility/consciousness. Exposed person may not be aware of asphyxiation. Risk of explosion if heated under confinement. Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Do not pressurize, cut, or weld containers. Protect cylinders from physical damage: do not drag, roll, slide or drop. Mechanical impact may cause an explosion or cause cylinder to rocket. Contact with the product may cause cold burns or frostbite.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Keep at temperatures below 52°C / 125°F.

Storage Conditions: Keep away from heat, sparks, open flames, hot surfaces. – No smoking. Store tightly closed in a dry, cool and well-ventilated place. Keep valves free from grease and oil.

7.3. Specific End Use(s)

Industrial Use

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Helium (7440-59-7)

USA ACGIH	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
-----------	-------------------------	--

8.2. Exposure Controls

Appropriate Engineering Controls

: Ensure all national/local regulations are observed. Ensure adequate ventilation, especially in confined areas. Oxygen detectors should be used when asphyxiating gases may be released.

Personal Protective Equipment

: Protective goggles or safety glasses. Gloves. Protective clothing. High vapor/gas concentration: self-contained respirator.



Materials for Protective Clothing

: Wear suitable protective clothing.

Hand Protection

: Protective gloves.

Eye Protection

: Chemical safety goggles or safety glasses.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear a self-contained breathing apparatus (SCBA).

Thermal Hazard Protection

: If material is cold, wear thermally resistant protective gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Gas
Appearance	: Colorless
Odor	: Odorless
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point/ Freezing Point at 1 atm	: None
Boiling Point	: -268.9 °C (-452.1 °F)
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available

Helium

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Specific Gravity (Air = 1) at 21.1°C (70°F)	: 0.135
Solubility in Water vol/vol at 0°C (32°F) and 1 atm	: 0.0094
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Gas Density at 21.1 °C (70 °F)	: 0.0103 lb/ft ³ (0.165 kg/m ³)
Specific Volume at 21.1 °C (70 °F)	: 97.09 ft ³ /lb (6.061 m ³ /kg)
Critical Pressure	: 33.0 psia (227 kPa abs)
Molecular Weight	4.00

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions are not expected to occur under normal conditions of use.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see Section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous reactions are not expected to occur under normal conditions of use.
- 10.4. Conditions to Avoid:** Heat, open flame, and other sources of ignition. Pressurized container: may burst if heated.
- 10.5. Incompatible Materials:** None known.
- 10.6. Hazardous Decomposition Products:** None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified. Does not contain carcinogens listed in the National Toxicology Program (NTP) Report on Carcinogens, the International Agency for Research on Cancer (IARC), or by OSHA.

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May displace oxygen and cause rapid suffocation.

Symptoms/Injuries After Skin Contact: May cause frostbite. Symptoms may include redness, pain, and skin burns.

Symptoms/Injuries After Eye Contact: Non-irritating. However, contact with gas escaping the cylinder causes frostbite, freeze burns, and permanent eye damage.

Symptoms/Injuries After Ingestion: Not considered a potential route of exposure, but contact with gas escaping the cylinder may cause freeze burns and frostbite.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity** No additional information available
- 12.2. Persistence and Degradability** No additional information available
- 12.3. Bioaccumulative Potential** No additional information available
- 12.4. Mobility in Soil** No additional information available
- 12.5. Other Adverse Effects** No additional information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Dispose of empty container in accordance with all local regulations. Recycle or recondition if possible. Empty gas cylinders should be returned to the vendor for recycling or refilling.

Helium

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : HELIUM, COMPRESSED
 Hazard Class : 2.2
 Identification Number : UN1046
 Label Codes : 2.2
 ERG Number : 121



14.2. In Accordance with IMDG

Proper Shipping Name : HELIUM, COMPRESSED
 Hazard Class : 2
 Division : 2.2
 Identification Number : UN1046
 Label Codes : 2.2
 EmS-No. (Fire) : F-C
 EmS-No. (Spillage) : S-V



14.3. In Accordance with IATA

Proper Shipping Name : HELIUM, COMPRESSED
 Identification Number : UN1046
 Hazard Class : 2
 Label Codes : 2.2
 Division : 2.2
 ERG Code (IATA) : 2L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Helium (7440-59-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard

15.2 US State Regulations

Helium (7440-59-7)
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Hazardous Substance List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Washington - Permissible Exposure Limits - Simple Asphyxiants

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 09/17/2015
 Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Compressed gas	Gases under pressure Compressed gas
Simple Asphyxiant	May displace oxygen and cause rapid suffocation
H280	Contains gas under pressure; may explode if heated

NFPA Health Hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA Fire Hazard : 0 - Materials that will not burn.
NFPA Reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



Helium

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NFPA Specific Hazard	: SA - This denotes gases which are simple asphyxiants. The only gases for which this symbol is permitted are nitrogen, helium, neon, argon, krypton, and xenon.
HMIS III Rating	
Health	: 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	: 0 Minimal Hazard
Physical	: 3 Serious Hazard

The information contained in this SDS is believed to be correct as of the date issued and is intended to describe the product for the purposes of health, safety and environmental requirements only. The supplier assumes no liability for the accuracy or completeness of this information and does not guarantee that these are the only hazards that may exist. It should not therefore be construed as guaranteeing any specific property of the product. It is the user's responsibility to determine the suitability of any product for his/her use or application.

SDS US (GHS HazCom)