


SECTION 1: Product and company identification

1.1. Product identifier	: Substance
Product form	: Helium
Name	: Helium
CAS No	: 7440-59-7
Formula	: He
Other means of identification	: Helium-4, refrigerant gas R-704, LaserStar Helium, Medpure Helium, UltraLift Helium, Helium - Diving Grade
1.2. Relevant identified uses of the substance or mixture and uses advised against	
Use of the substance/mixture	: Industrial Use Diving Gas (Underwater Breathing)
1.3. Details of the supplier of the safety data sheet	
Praxair, Inc.	
39 Old Ridgebury Road	
Danbury, CT 06810-5113 - USA	
T 1-800-772-9247 (1-800-PRAXAIR) - F 1-716-879-2146	
WWW.PRAXAIR.COM	
1.4. Emergency telephone number	: Onsite Emergency: 1-800-645-4633
Emergency number	: CHEMTREC, 24hr/day 7days/week — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887 (collect calls accepted, Contract 17729)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture	
Classification (GHS-US)	
Compressed gas	H280
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 OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.
Precautionary statements (GHS-US)	: P271 - Do not handle until all safety precautions have been read and understood P403 - Store in a well-ventilated place P403 - Store in a well-ventilated place CGH-PC05 - Use a back flow preventive device in the piping. CGH-PC10 - Use only with equipment rated for cylinder pressure. CGA-PC06 - Close valve after each use and when empty. CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).
2.3. Other hazards	
Other hazards not contributing to the classification	: Asphyxiant in high concentrations.

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance	
Name	: Helium
CAS No	: 7440-59-7
Name	Product Identifier
Helium	(CAS No) 7440-59-7
	%
	99.5 - 100

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures	
First-aid measures after inhalation	: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Call a physician.
First-aid measures after skin contact	: Adverse effects not expected from this product.
First-aid measures after eye contact	: Adverse effects not expected from this product. In case of eye irritation: Rinse immediately with plenty of water. Consult an ophthalmologist if irritation persists.
First-aid measures after ingestion	: Ingestion is not considered a potential route of exposure.
4.2. Most important symptoms and effects, both acute and delayed	: No additional information available
4.3. Indication of any immediate medical attention and special treatment needed	: None.

SECTION 5: Firefighting measures

5.1. Extinguishing media	
Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
5.2. Special hazards arising from the substance or mixture	
No additional information available	
5.3. Advice for firefighters	
Firefighting instructions	: Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources, if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Protection during firefighting

Special protective equipment for fire fighters

Specific methods

Stop flow of product if safe to do so.

Use water spray or fog to knock down fire fumes if possible.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
General measures	: Evacuate area. Ensure adequate air ventilation. Wear self-contained breathing apparatus when entering area unless atmosphere is proven to be safe. Stop leak if safe to do so.



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- 6.1.1. For non-emergency personnel : No additional information available
- 6.1.2. For emergency responders : No additional information available
- 6.2. Environmental precautions : Try to stop release.
- 6.3. Methods and material for containment and cleaning up : No additional information available
- 6.4. Reference to other sections : See also sections 8 and 13.

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling :
 - Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage: do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. 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. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.
 - 7.2. Conditions for safe storage, including any incompatibilities :
 - Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods.
- Other PRECAUTIONS FOR HANDLING, STORAGE, AND USE: When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

Safe use of the product

Storage conditions

- 7.3. Specific end use(s) : None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters	
Helium (7440-59-7) ACGIH	Not established
USA OSHA	Not established
Helium (7440-59-7) ACGIH	Not established
USA OSHA	Not established

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- 8.2. Exposure controls :
 - Use a local exhaust system with sufficient flow velocity to maintain an adequate supply of air in the worker's breathing zone. Mechanical (general). General exhaust ventilation may be acceptable if it can maintain an adequate supply of air.
 - Wear safety glasses with side shields.
 - Wear metal/leather shoes and work gloves for cylinder handling, and protective clothing where product is possible. Wear appropriate chemical gloves during cylinder changeout or wherever contact with product is possible. Select per OSHA 29 CFR 1910.132, 1910.136, and 1910.138.
 - When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
- Appropriate engineering controls :
 - Eye protection
 - Skin and body protection
 - Respiratory protection

SECTION 9: Physical and chemical properties

- 9.1. Information on basic physical and chemical properties :
 - Physical state : Gas
 - Appearance : Colorless gas.
 - Molecular mass : 4 g/mol
 - Color : Colorless.
 - Odor : Odorless.
 - Odor threshold : No data available
 - pH : Not applicable.
 - Relative evaporation rate (butyl acetate=1) : No data available
 - Relative evaporation rate (ether=1) : Not applicable.
 - Melting point : -272 °C
 - Freezing point : No data available
 - Boiling point : -268.93 °C
 - Flash point : No data available
 - Critical temperature : -268 °C
 - Auto-ignition temperature : Not applicable.
 - Decomposition temperature : No data available
 - Flammability (solid, gas) : No data available
 - Vapor pressure : Not applicable.
 - Critical pressure : 230 kPa
 - Relative vapor density at 20 °C : No data available
 - Density : 0.166 kg/m³
 - Relative gas density : 0.14
 - Solubility : Water: 1.5 mg/l
 - Log Pow : Not applicable.
 - Log Kow : Not applicable.
 - Viscosity, kinematic : Not applicable.
 - Viscosity, dynamic : Not applicable.
 - Explosive properties : Not applicable.
 - Oxidizing properties : None.
 - Explosion limits : No data available
- 9.2. Other information :
 - Gas group : Compressed gas
 - Additional information : None.

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SECTION 10: Stability and reactivity

10.1. Reactivity	No additional information available
10.2. Chemical stability	Stable under normal conditions.
10.3. Possibility of hazardous reactions	None.
10.4. Conditions to avoid	None under recommended storage and handling conditions (see section 7).
10.5. Incompatible materials	None.
10.6. Hazardous decomposition products	None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	pH: Not applicable.
Respiratory or skin sensitization	pH: Not applicable.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity	Ecology - general	: No ecological damage caused by this product.
12.2. Persistence and degradability	Helium (7440-59-7)	No ecological damage caused by this product.
	Persistence and degradability	No ecological damage caused by this product.
	Helium (7440-59-7)	No ecological damage caused by this product.
	Persistence and degradability	No ecological damage caused by this product.
12.3. Bioaccumulative potential	Helium (7440-59-7)	Not applicable.
	Log Pow	Not applicable.
	Log Kow	Not applicable.
	Bioaccumulative potential	No ecological damage caused by this product.
	Helium (7440-59-7)	Not applicable for inorganic gases.
	Log Pow	Not applicable.
	Log Kow	Not applicable.

Helium (7440-59-7)

Bioaccumulative potential	No ecological damage caused by this product.
12.4. Mobility in soil	
Helium (7440-59-7)	No data available.
Mobility in soil	No ecological damage caused by this product.
Ecology - soil	
Helium (7440-59-7)	No data available.
Mobility in soil	No ecological damage caused by this product.
Ecology - soil	

12.5. Other adverse effects

Effect on ozone layer	: None.
Effect on the global warming	: None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods	: Dispose of contents/container, in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.
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SECTION 14: Transport information

In accordance with DOT	: UN1046 Helium, compressed, 2.2
Transport document description	: UN1046
UN-No.(DOT)	: Helium, compressed
Proper Shipping Name (DOT)	: 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115
Transport hazard class(es) (DOT)	: 2.2 - Non-flammable gas
Hazard labels (DOT)	



Additional information

Emergency Response Guide (ERG) Number : 120 (UN1963);121 (UN1046)

Other information : No supplementary information available.

Special transport precautions

: Avoid transport on vehicles, where the load space is not separated from the driver's compartment. Ensure the driver is aware of the position of the load and knows what to do in the event of an accident. Before unloading, ensure that the containers: - Ensure there is adequate ventilation. - Ensure that containers are firmly secured. - Ensure cylinder valve is closed and not leaking. - Ensure valve outlet cap out or plug (where provided) is correctly fitted. - Ensure valve protection device (where provided) is correctly fitted.

Transport by sea

UN-No. (IMDG)	: 1046
Proper Shipping Name (IMDG)	: HELIUM, COMPRESSED
Class (IMDG)	: 2 - Gases
MFAG-No	: 121

Air transport

UN-No.(ATA)	: 1046
Proper Shipping Name (ATA)	: Helium, compressed
Class (ATA)	: 2
Civil Aeronautics Law	: Gases under pressure/Gases nonflammable nontoxic under pressure



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SECTION 15: Regulatory information

15.1. US Federal regulations

Helium (7440-59-7)	Sudden release of pressure hazard (TSCA) inventory.
This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.	

15.2. International regulations

Helium (7440-59-7)	Listed on the Canadian DSL (Domestic Substances List)
Helium (7440-59-7)	Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Helium (7440-59-7)	Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
15.2.2. National regulations	
Listed on the AICS (Australian Inventory of Chemical Substances)	
Listed on the ECSC (European Community Inventory of Existing Commercial Chemical Substances Produced or Imported in China)	
Listed on the Korean ECI (Existing Chemicals Inventory)	
Listed on NZIC (New Zealand Inventory of Chemicals)	
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)	

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm		
Helium (7440-59-7)	U.S. - California - Proposition 65 - Carcinogens List	No
	U.S. - California - Proposition 65 - Developmental Toxicity	No
	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
	State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm		
Helium (7440-59-7)	U.S. - California - Proposition 65 - Carcinogens List	No
	U.S. - California - Proposition 65 - Developmental Toxicity	No
	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
No significance risk level (NSRL)		



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- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 6/23/2015 12:00:00 AM
Other information : When you mix two or more chemicals, you can 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 evaluate the end product. Before using any plastics, confirm their compatibility with this product.

Praxair asks users of this product to study this SDS and become aware of the 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 SDS 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.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

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- 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
- 0 - Materials that will not burn.
- 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.
- SA - This denotes gases which are simple asphyxiants.

NFPA health hazard
NFPA fire hazard
NFPA reactivity
NFPA specific hazard

HMIS III Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 0 Minimal Hazard
- Physical : 3 Serious Hazard

SDS US (GHS HazCom 2012) - Praxair

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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