

Safety Data Sheet

Section 1: Identification

Product identifier

- Product Name** • **Helium, compressed**
- CAS Number** • 7440-59-7
- Product Code** • P-4602-G
- EC Number** • 231-168-5
- Molecular Formula** • :He 1:

Relevant identified uses of the substance or mixture and uses advised against

- Recommended use** • Industrial Use

Details of the supplier of the safety data sheet

- Manufacturer** • Riviera Operating, LLC
600 Travis
Suite 1700 Houston, TX 77002
United States
www.rivieraresourcesinc.com
- Telephone (General)** • 281-840-4000 - EHS Telephone No.

Emergency telephone number

- Manufacturer** • 1-866-951-9825 - Company Emergency Telephone No. (3E)

Section 2: Hazard Identification

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- OSHA HCS 2012** • Compressed Gas - H280
Simple Asphyxiant

Label elements

OSHA HCS 2012

WARNING



- Hazard statements** • Contains gas under pressure; may explode if heated - H280
May displace oxygen and cause rapid suffocation.

Precautionary statements

Storage/Disposal • Protect from sunlight. Store in a well-ventilated place. - P410+P403

Other hazards**OSHA HCS 2012**

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients**Substances**

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Helium	CAS:7440-59-7 UN:UN1046	> 99%	NDA	OSHA HCS 2012: Press. Gas - Comp; Simp. Asphyx.	NDA

Mixtures

- Material does not meet the criteria of a mixture.

Section 4: First-Aid Measures**Description of first aid measures****Inhalation**

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- Although exposure is unlikely, in case of contact immediately flush skin with running water. If skin irritation develops get medical advice/attention.

Eye

- First aid is not expected to be necessary if material is used under ordinary conditions and as recommended.

Ingestion

- Ingestion is not considered a potential route of exposure.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. A potential health hazard associated with this gas is anoxia.

Other information

- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. RESCUERS SHOULD NOT ATTEMPT TO RETRIEVE VICTIMS OF EXPOSURE TO GASES WITHOUT ADEQUATE PERSONAL PROTECTIVE EQUIPMENT. At a minimum, Self-Contained Breathing Apparatus must be worn. Victim(s) who experience any adverse effect after over-exposure to this material must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of the label and the SDS to physician or other health professional with victim(s).

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media ● Use extinguishing agent suitable for type of surrounding fire.

Unsuitable Extinguishing Media ● No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards ● Containers may explode when heated.
Ruptured cylinders may rocket.

Hazardous Combustion Products ● No data available

Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear positive pressure self-contained breathing apparatus (SCBA).
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.
Move containers from fire area if you can do it without risk.
FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out.
FIRE INVOLVING TANKS: Do not direct water at source of leak or safety devices; icing may occur.
FIRE INVOLVING TANKS: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
FIRE INVOLVING TANKS: ALWAYS stay away from tanks engulfed in fire.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions** ● Test for sufficient oxygen, especially in confined spaces, before allowing reentry. Ventilate the area before entry. Use self-contained breathing apparatus where needed.
- Emergency Procedures** ● Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. Do not direct water at spill or source of leak. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile)

Environmental precautions

- No special environmental precautions necessary.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures** ● Stop leak if you can do it without risk.
Do not direct water at spill or source of leak.
Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
If possible, turn leaking containers so that gas escapes rather than liquid.
Isolate area until gas has dispersed.
Ventilate the area.

Section 7 - Handling and Storage

Precautions for safe handling

- Handling** ● Use only with adequate ventilation. Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations

of this material could occur without any significant warning symptoms, due to oxygen deficiency. Cylinders should be firmly secured to prevent falling or being knocked-over. Do not attempt to repair, adjust, or in any other way modify cylinders. If there is a malfunction or another type of operational problem, contact nearest distributor immediately.

Conditions for safe storage, including any incompatibilities

Storage

- Store in a cool, dry, well-ventilated place. Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked-over.

Section 8 - Exposure Controls/Personal Protection

Control parameters

- Exposure Limits/Guidelines**
- Currently there are no applicable exposure limits established for this material.

Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear leather gloves when handling cylinders. Metatarsal shoes should be worn during cylinder handling.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Gas	Appearance/Description	Colorless gas with no odor.
Color	Colorless	Odor	Odorless
Odor Threshold	Data lacking		
General Properties			
Boiling Point	-452.07 F(-268.9278 C)	Melting Point	-456.5 F(-271.3889 C)
Decomposition Temperature	None	pH	Not relevant
Specific Gravity/Relative Density	0.138 Water=1	Water Solubility	0.0094 % @ 0 C(32 F)
Viscosity	Not relevant	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizing gas.		
Volatility			
Vapor Pressure	Not relevant	Vapor Density	0.166 kg/m ³
Evaporation Rate	Not relevant	Volatiles (Vol.)	100 %
Flammability			
Flash Point	Not relevant	UEL	Not relevant
LEL	Not relevant	Autoignition	Not relevant
Flammability (solid, gas)	Not flammable.		
Environmental			

Octanol/Water Partition coefficient	Data lacking		
-------------------------------------	--------------	--	--

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Excess heat.

Incompatible materials

- None known. Helium is chemically inert.

Hazardous decomposition products

- Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11 - Toxicological Information

Information on toxicological effects

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • Classification criteria not met
Aspiration Hazard	OSHA HCS 2012 • Classification criteria not met
Carcinogenicity	OSHA HCS 2012 • Classification criteria not met
Germ Cell Mutagenicity	OSHA HCS 2012 • Classification criteria not met
Skin corrosion/Irritation	OSHA HCS 2012 • Classification criteria not met
Skin sensitization	OSHA HCS 2012 • Classification criteria not met
STOT-RE	OSHA HCS 2012 • Classification criteria not met
STOT-SE	OSHA HCS 2012 • Classification criteria not met
Toxicity for Reproduction	OSHA HCS 2012 • Classification criteria not met
Respiratory sensitization	OSHA HCS 2012 • Classification criteria not met
Serious eye damage/Irritation	OSHA HCS 2012 • Classification criteria not met

Potential Health Effects

Inhalation

Acute (Immediate)

- If this material is released in a small, poorly ventilated area (i.e. an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with decreased levels of oxygen: increase in breathing and pulse rate, emotional upset, abnormal fatigue, nausea, vomiting, collapse, loss of consciousness, convulsive movements, respiratory collapse and death.

Chronic (Delayed)

- No data available

Skin

- Acute (Immediate)**
 - Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)**
 - Under normal conditions of use, no health effects are expected.

Eye

- Acute (Immediate)**
 - Under normal conditions of use, no health effects are expected.
- Chronic (Delayed)**
 - Under normal conditions of use, no health effects are expected.

Ingestion

- Acute (Immediate)**
 - Ingestion is not anticipated to be a likely route of exposure to this product.
- Chronic (Delayed)**
 - Ingestion is not anticipated to be a likely route of exposure to this product.

Mutagenic Effects

- No data available.

Carcinogenic Effects

- The components of this material are not found on the following lists: FEDERAL OSHA Z LIST, NTP and IARC; therefore, they are not considered to be, nor suspected to be, cancer-causing agents by these agencies.

Reproductive Effects

- No data available.

Section 12 - Ecological Information**Toxicity**

- This gas does not present a hazard of toxicity to the environment.

Persistence and degradability

- This gas does not present a hazard of persistence and does not biodegrade as it is an elemental gas.

Bioaccumulative potential

- This gas does not present a hazard of bio-accumulation.

Mobility in Soil

- This gas does not present a hazard of mobility in the soil.

Other adverse effects**Potential Environmental Effects**

- No known environmental effects.

Section 13 - Disposal Considerations**Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1046	Helium, compressed	2.2	NDA	NDA

Special precautions for user

- Cylinders should be transported in a secure position, in a well-ventilated vehicle. The

transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Pressure(Sudden Release of)

Section 16 - Other Information

Last Revision Date

- 13/August/2013

Preparation Date

- 25/July/2012

Disclaimer/Statement of Liability

- This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

Key to abbreviations

NDA = No Data Available
