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**MSDS: Helium**

### PRODUCT INFORMATION

**PRODUCT:** Helium (Compressed)  
**TRADE NAME:** Helium  
**CHEMICAL NAME:** Helium  
**SYNONYMS:** Helium compressed  
**FORMULA:** He  
**CHEMICAL FAMILY:** Inert gas or rare gas  
**SUPPLIER'S NAME:** MEGS Inc.  
**SUPPLIER'S ADDRESS:** 2675 De Miniac  
Ville St-Laurent, Qc, H4S 1E5  
**EMERGENCY PHONE NUMBER:** (514) 956-7503  
**MOLECULAR WEIGHT:** 4.00  
**PRODUCT USE:** Various  
**PRODUCT IDENTIFICATION UN 1046**  
**NUMBER:**

### HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
Helium	>97.5%	7440-59-7	None	None

### PHYSICAL DATA

**PHYSICAL STATE:** Gas under pressure  
**APPEARANCE:** Colorless gas  
**ODOR:** Odorless  
**ODOR THRESHOLD:** Not applicable (gas)  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** See Vapor Density (air = 1)  
**VAPOR PRESSURE:** Not applicable (gas)  
**VAPOR DENSITY (air = 1):** 0.138  
**EVAPORATION RATE:** Not applicable (gas)

**BOILING POINT:** -268.96°C  
**FREEZING POINT:** -271.387°C  
**pH:** Not applicable (gas)  
**GAS DENSITY:** 0.169 kg/m<sup>3</sup> @ 15°C, 101.3 kPa  
**COEFFICIENT OF WATER/OIL @ 15°C, Bunsen Coefficient =**  
**DISTRIBUTION:** 0.0088

### **FIRE OR EXPLOSION HAZARD**

**CONDITIONS OF FLAMMABILITY:** Nonflammable

**MEANS OF EXTINCTION:** Nonflammable gas

**FLASHPOINT AND METHOD OF DETERMINATION:** Nonflammable gas

**UPPER EXPLOSION LIMIT (% BY VOL):** Nonflammable gas

**LOWER EXPLOSION LIMIT (% BY VOL):** Nonflammable gas

**AUTO-IGNITION TEMPERATURE:** Nonflammable gas

**FLAMMABILITY CLASSIFICATION:** Nonflammable gas

**HAZARDOUS COMBUSTION PRODUCTS:** Nonflammable gas

**EXPLOSION DATA:** Nonflammable gas

**SENSITIVITY TO STATIC DISCHARGE:** None

### **REACTIVITY DATA**

**CHEMICAL STABILITY:** Stable

**INCOMPATIBLE MATERIALS:** None

**CONDITIONS OF REACTIVITY:** Non-reactive

**HAZARDOUS DECOMPOSITION PRODUCTS:** None

### **TOXICOLOGICAL PROPERTIES**

**ROUTES OF ENTRY:**

**SKIN CONTACT:** None

**SKIN ABSORPTION:** None

**EYE:** None

**INHALATION:** Effects of exposure to high concentrations so as to displace the oxygen in the air necessary for life are headache, dizziness, labored breathing and eventual unconsciousness. Breathing mixtures of helium with adequate oxygen to support life modifies the voice sound so that it is higher "pitched".

DO NOT INHALE OR ALLOW ANYONE ELSE TO INHALE HELIUM FROM FILLING EQUIPMENT, BALLOONS OR THE CYLINDER. EVEN FOR A SHORT PERIOD OF TIME. INHALING HELIUM COULD RESULT IN DEATH OR SERIOUS PERSONAL INJURY.

**INGESTION:** None

**ACUTE OVER EXPOSURE EFFECTS:** Helium is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

**CHRONIC OVER EXPOSURE EFFECTS:** None

**EXPOSURE LIMITS:** Helium is defined as a simple asphyxiant. Oxygen levels should be maintained greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH 1995-1996)

**IRRITANCY OF PRODUCT:** None

**SENSITIZATION TO MATERIAL:** None

**CARCINOGENICITY, REPRODUCTIVE EFFECTS:** None

**TERATOGENICITY, MUTAGENICITY:** None

**TOXICOLOGICALLY SYNERGISTIC PRODUCTS:** None

## **PREVENTIVE MEASURES**

**PERSONAL PROTECTIVE EQUIPMENT:** Protective gloves. Safety goggles or glasses. Safety shoes.

**SPECIFIC ENGINEERING CONTROLS:** Helium is noncorrosive and may be used with any common structural material.

**LEAK AND SPILL PROCEDURES:** EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is on container or container valve, contact the closest MEGS location.

**WASTE DISPOSAL:** Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to MEGS for proper disposal. For

emergency disposal, contact the closest MEGS location.

**HANDLING PROCEDURES AND EQUIPMENT:** USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to usage point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Keep cylinder away from heat and flame. Do not tamper with (valve) safety device. Close valve after each use and when empty.

**STORAGE REQUIREMENTS:** Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.

**TDG CLASSIFICATION:** 2.2

**WHMIS CLASSIFICATION:** A

**SPECIAL SHIPPING INFORMATION:** Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

<b>FIRST AID MEASURES</b>
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**SPECIFIC FIRST AID PROCEDURES:** PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO HELIUM. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

**INHALATION:** Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Medical assistance should be sought immediately.

**EYE CONTACT:** Not applicable

**SKIN CONTACT:** Not applicable

<b>PREPARATION INFORMATION</b>
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**PREPARED BY:** Safety Department

**DATE PREPARED:** 09/01/1999

**LAST REVISION DATE:** 01/01/2011

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