



# MATERIAL SAFETY DATA SHEET

## PRODUCT NAME: HELIUM, GAS

MSDS: G-5

### 1. Chemical Product and Company Identification

TAKORADI GAS LTD

**Supplier/ Manufacturer:** Takoradi Gas Ltd

P.O.Box 1050  
Takoradi, Ghana  
0540-111 898

**Emergency phone:** 0244-330 594.

0244-354 394

**PRODUCT NAME:** HELIUM, GAS

**CHEMICAL NAME:** Helium

**COMMON NAMES/SYNONYMS:** Helium; Helium, compressed; Helium-4

**UN CLASSIFICATION:** 2.2

**WHMIS CLASSIFICATION:** A



**HELIUM (He) UN 1046**

### 2. Composition, Information on Ingredients

**INGREDIENT % VOLUME PEL-OSHA1 TLV-ACGIH2 LD50 or LC50**

**Route/Species**

Helium

FORMULA: He

CAS: 7440-59-7

RTECS #: MH6520000

99.995 to

99.9999

Simple Asphyxiant Simple Asphyxiant Not Available

1 As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

2 As stated in the ACGIH 1994-95 Threshold Limit Values for Chemical Substances and Physical Agents

### 3. Hazards Identification

EMERGENCY OVERVIEW

Simple Asphyxiant - This product does not contain oxygen and may cause asphyxia if released in a confined area. Maintain oxygen levels above 19.5%. Nonflammable.

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**ROUTE OF ENTRY:**

Skin Contact-Yes

Skin Absorption-No

Eye Contact-Yes

Inhalation-Yes

Ingestion-No

**HEALTH EFFECTS:**

Exposure Limits-No  
Irritant-No  
Sensitization-No  
Teratogen-No  
Reproductive Hazard-No  
Mutagen-No  
Synergistic Effects-None reported  
Carcinogenicity: -- NTP: No IARC: No OSHA: No

**EYE EFFECTS:**

No adverse effects anticipated.

**SKIN EFFECTS:**

No adverse effects anticipated.

**INGESTION EFFECTS:**

No adverse effects anticipated.

**INHALATION EFFECTS:**

Product is a non-toxic simple asphyxiant. Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgement, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death. Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

**NFPA HAZARD CODES HMIS HAZARD CODES RATINGS SYSTEM**

Health: 0 Health: 0 0 = No Hazard  
Flammability: 0 Flammability: 0 1 = Slight Hazard  
Reactivity: 0 Reactivity: 0 2 = Moderate Hazard  
3 = Serious Hazard  
4 = Severe Hazard

**4. First Aid Measures****EYES:**

Never introduce ointment or oil into the eyes without medical advice! If pain is present, refer the victim to an ophthalmologist for treatment and follow up.

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**SKIN:**

No adverse effects anticipated.

**INGESTION:**

Ingestion is not anticipated.

**INHALATION:**

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims 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, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

## 5. Fire Fighting Measures

Conditions of Flammability: Nonflammable

Flash point:

None

Method:

Not Applicable

Autoignition

Temperature: None

LEL(%): None UEL(%): None

Hazardous combustion products: None

Sensitivity to mechanical shock: None

Sensitivity to static discharge: None

**FIRE AND EXPLOSION HAZARDS:**None. Nonflammable

**EXTINGUISHING MEDIA:**None required. Use as appropriate for surrounding materials.

## 6. Accidental Release Measures

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest TGL location.

## 7. Handling and Storage

**Electrical classification:**

Non-hazardous.

This gas mixture is noncorrosive and may be used with all common structural materials.

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve protection outlet piped to use 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 (<3000 psig) 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.

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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 125 oF (52 oC). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

## 8. Exposure Controls, Personal Protection

**EXPOSURE LIMITS1:**

**INGREDIENT % VOLUME PEL-OSHA2 TLV-ACGIH3 LD50 or LC50**

**Route/Species**

Helium

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99.995 to

99.9999

Simple Asphyxiant Simple Asphyxiant Not Available

1 Refer to individual state of provincial regulations, as applicable, for limits which may be more stringent than those listed here.

2 As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

3 As stated in the ACGIH 1994-1995 Threshold Limit Values for Chemical Substances and Physical Agents.

#### **ENGINEERING CONTROLS:**

Local exhaust to prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 19.5%.

#### **EYE/FACE PROTECTION:**

Safety goggles or glasses as appropriate for the job.

#### **SKIN PROTECTION:**

Protective gloves of material appropriate for the job.

#### **RESPIRATORY PROTECTION:**

Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

#### **OTHER/GENERAL PROTECTION:**

Safety shoes or other footwear as appropriate for the job.

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### **9. Physical and Chemical Properties**

#### **PARAMETER VALUE UNITS**

Physical state (gas, liquid, solid) : Gas

Vapor pressure : Not Available

Vapor density (Air = 1) : 0.14 (Gas)

Evaporation point : Not Available

Boiling point : -452.1: -268.9oFoC

Freezing point : Not Available

: Not Available

pH : Not Applicable

Specific gravity : Not Available

Oil/water partition coefficient : Not Available

Solubility (H2O) : Negligible

Odor threshold : Not Applicable

Odor and appearance : Colorless, odorless gas

### **10. Stability and Reactivity**

#### **STABILITY:**

Stable

#### **INCOMPATIBLE MATERIALS:**

None

#### **HAZARDOUS POLYMERIZATION:**

Does not occur.

### **11. Toxicological Information**

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals. No data given in the Registry of Toxic Effects of Chemical Substances (RTECS) or Sax, Dangerous Properties of Industrial Materials, 7th ed.

## 12. Ecological Information

No data given.

## 13. Disposal Considerations

Do not attempt to dispose of residual 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 BOC Gases or authorized distributor for proper disposal.

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## 14. Transport Information

PARAMETER United States DOT Canada TDG

PROPER SHIPPING NAME: Helium, compressed Helium, compressed

HAZARD CLASS: 2.2 2.2

IDENTIFICATION NUMBER: UN 1046 UN 1046

SHIPPING LABEL: NONFLAMMABLE GAS NONFLAMMABLE GAS

## 15. Regulatory Information

SARA TITLE III NOTIFICATIONS AND INFORMATION

SARA TITLE III - HAZARD CLASSES:

Sudden Release of Pressure Hazard

## 16. Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner.

Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

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