

## Safety Data Sheet

Material Name: **HELIUM**

SDS ID: 00232350

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

HELIUM

**Synonyms**

MTG MSDS 48; HELIUM GAS; HELIUM COMPRESSED; HELIUM-4; ATOMIC HELIUM; UN 1046; He

**Chemical Family**

inorganic, Gas

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known

**Details of the supplier of the safety data sheet**

SPECIALTY CHEMICAL PRODUCTS

1407 Pennsylvania Ave.

South Houston, TX 77587

General Information: 713-944-0900

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 1-703-527-3887 (Call collect)

### Section 2 - HAZARDS IDENTIFICATION

**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Gases Under Pressure - Compressed gas

Simple Asphyxiant

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Warning

**Hazard Statement(s)**

Contains gas under pressure; may explode if heated.

May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)**

**Prevention**

None needed according to classification criteria.

**Response**

None needed according to classification criteria.

**Storage**

Protect from sunlight. Store in a well-ventilated place.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

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Rapid release of compressed gas may cause frostbite.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS       | Component Name | Percent |
|-----------|----------------|---------|
| 7440-59-7 | Helium         | 100     |

### Section 4 - FIRST AID MEASURES

**Inhalation**

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

**Skin**

Wash exposed skin with soap and water.

**Eyes**

Flush eyes with plenty of water.

**Ingestion**

If a large amount is swallowed, get medical attention.

**Most Important Symptoms/Effects****Acute**

frostbite, suffocation

**Delayed**

No information on significant adverse effects.

**Note to Physicians**

For inhalation, consider oxygen.

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media****Suitable Extinguishing Media**

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

**Unsuitable Extinguishing Media**

None known.

**Special Hazards Arising from the Chemical**

Negligible fire hazard. Containers may rupture or explode if exposed to heat.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).

**Special Protective Equipment and Precautions for Firefighters**

Wear personal protective clothing and equipment such as self-contained breathing apparatus (SCBA) for protection against possible exposure.

### Section 6 - ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

**Methods and Materials for Containment and Cleaning Up**

Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Dike for later disposal. Stay upwind and keep out of low areas. Ventilate closed spaces before entering.

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**Environmental Precautions**

Avoid release to the environment.

### Section 7 - HANDLING AND STORAGE

**Precautions for Safe Handling**

Subject to handling regulations: U.S. OSHA 29 CFR 1910.119. Protect from physical damage. Damaged cylinders should be handled only by specialists.

**Conditions for Safe Storage, Including any Incompatibilities**

Protect from sunlight. Store in a well-ventilated place.

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

**Incompatible Materials**

No data available.

### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

**Component Exposure Limits**

|               |                                           |
|---------------|-------------------------------------------|
| <b>Helium</b> | 7440-59-7                                 |
| <b>ACGIH:</b> | (See Appendix F: Minimal Oxygen Content ) |

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment**

**Eye/face protection**

Eye protection not required, but recommended.

**Skin Protection**

Protective clothing is not required.

**Respiratory Protection**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

Protective gloves are not required.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

|                       |                              |                       |                    |
|-----------------------|------------------------------|-----------------------|--------------------|
| <b>Appearance</b>     | Not available                | <b>Physical State</b> | gas                |
| <b>Odor</b>           | odorless                     | <b>Color</b>          | colorless          |
| <b>Odor Threshold</b> | Not available                | <b>pH</b>             | Not available      |
| <b>Melting Point</b>  | -272 °C at 26 Atm (-458 °F ) | <b>Boiling Point</b>  | -269 °C (-452 °F ) |

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|                                 |                  |                                               |                     |
|---------------------------------|------------------|-----------------------------------------------|---------------------|
| <b>Boiling Point Range</b>      | Not available    | <b>Freezing point</b>                         | Not available       |
| <b>Evaporation Rate</b>         | Not available    | <b>Flammability (solid, gas)</b>              | Not available       |
| <b>Autoignition Temperature</b> | Not available    | <b>Flash Point</b>                            | Not available       |
| <b>Lower Explosive Limit</b>    | Not available    | <b>Decomposition temperature</b>              | Not available       |
| <b>Upper Explosive Limit</b>    | Not available    | <b>Vapor Pressure</b>                         | 1719 mmHg @ -268 °C |
| <b>Vapor Density (air=1)</b>    | 0.138            | <b>Specific Gravity (water=1)</b>             | Not available       |
| <b>Water Solubility</b>         | 0.94 % (@ 0 °C ) | <b>Partition coefficient: n-octanol/water</b> | Not available       |
| <b>Viscosity</b>                | 0.02012 cp       | <b>Kinematic viscosity</b>                    | Not available       |
| <b>Solubility (Other)</b>       | Not available    | <b>Density</b>                                | 0.1785 g/L at 0 °C  |
| <b>Physical Form</b>            | Compressed gas   | <b>Taste</b>                                  | tasteless           |
| <b>Molecular Formula</b>        | He               | <b>Molecular Weight</b>                       | 4.0026              |

**Solvent Solubility**

**Insoluble**

alcohol

### Section 10 - STABILITY AND REACTIVITY

**Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

No data available.

**Hazardous decomposition products**

miscellaneous decomposition products

### Section 11 - TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Inhalation**

nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, Disorientation, emotional disturbances, tingling sensation, loss of coordination, suffocation, convulsions, Unconsciousness, coma

**Skin Contact**

frostbite

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**Eye Contact**

frostbite, blurred vision

**Ingestion**

ingestion of a gas is unlikely

**Acute and Chronic Toxicity**

**Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

**Product Toxicity Data**

**Acute Toxicity Estimate**

No data available.

**Immediate Effects**

frostbite, suffocation

**Delayed Effects**

No information on significant adverse effects.

**Irritation/Corrosivity Data**

No data available.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

**Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

**Aspiration hazard**

No data available.

**Medical Conditions Aggravated by Exposure**

No data available.

### Section 12 - ECOLOGICAL INFORMATION

**Component Analysis - Aquatic Toxicity**

No LOLI ecotoxicity data are available for this product's components.

**Persistence and Degradability**

No data available for this product.

**Bioaccumulative Potential**

No data available for this product.

**Mobility**

No data available for this product.

**Bioconcentration**

No data available for this product.

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### Section 13 - DISPOSAL CONSIDERATIONS

**Disposal Methods**

Dispose in accordance with all applicable regulations.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components.

### Section 14 - TRANSPORT INFORMATION

**US DOT Information:**

**Shipping Name:** HELIUM, COMPRESSED

**Hazard Class:** 2.2

**UN/NA #:** UN1046

**Required Label(s):** 2.2

**TDG Information:**

**Shipping Name:** HELIUM, COMPRESSED

**Hazard Class:** 2.2

**UN#:** UN1046

**Required Label(s):** 2.2

**International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

### Section 15 - REGULATORY INFORMATION

**U.S. Federal Regulations**

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**SARA Section 311/312 (40 CFR 370 Subparts B and C) reporting categories**

Gas Under Pressure; Simple Asphyxiant

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

| Component | CAS       | CA | MA  | MN  | NJ  | PA  |
|-----------|-----------|----|-----|-----|-----|-----|
| Helium    | 7440-59-7 | No | Yes | Yes | Yes | Yes |

**California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)**

Not listed under California Proposition 65.

**Component Analysis - Inventory**

**Helium (7440-59-7)**

| US  | CA  | AU  | CN  | EU  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|
| Yes | DSL | Yes | Yes | EIN | No        | No        | Yes               | No                |

| KR - REACH CCA | MX  | NZ  | PH  | TH-TECI | TW  | VN (Draft) |
|----------------|-----|-----|-----|---------|-----|------------|
| No             | Yes | Yes | Yes | Yes     | Yes | Yes        |

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### Section 16 - OTHER INFORMATION

#### NFPA Ratings

Health: 0 Fire: 0 Instability: 0 Other: SA

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

#### Summary of Changes

Updated: 12/13/2016

#### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID - International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX - Mexico; Ne - Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL - Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA - Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW - Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

#### Other Information

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