

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: HELIUM

TRADE NAMES/SYNONYMS:

MTG MSDS 48; HELIUM GAS; HELIUM COMPRESSED; HELIUM-4; ATOMIC HELIUM; UN 1046; He; MAT10640; RTECS MH6520000

CHEMICAL FAMILY: inorganic, gas

PRODUCT USE: industrial

CREATION DATE: Jan 24 1989

REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: HELIUM
CAS NUMBER: 7440-59-7
PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=0 FIRE=0 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: gas

ODOR: odorless

MAJOR HEALTH HAZARDS: difficulty breathing

PHYSICAL HAZARDS: Containers may rupture or explode if exposed to heat.

POTENTIAL HEALTH EFFECTS:

INHALATION:



SHORT TERM EXPOSURE: nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, emotional disturbances, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma

LONG TERM EXPOSURE: no information is available

SKIN CONTACT:

SHORT TERM EXPOSURE: frostbite

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: frostbite, blurred vision

LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: ingestion of a gas is unlikely

LONG TERM EXPOSURE: ingestion of a gas is unlikely

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 CONTACT: Wash exposed skin with soap and water.

EYE CONTACT: Flush eyes with plenty of water.

INGESTION: If a large amount is swallowed, get medical attention.

NOTE TO PHYSICIAN: For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Containers may rupture or explode if exposed to heat.

EXTINGUISHING MEDIA: Use extinguishing agents appropriate for surrounding fire.

Large fires: Use water spray to keep containers cool.

FIRE FIGHTING: 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).

FIRE FIGHTING PROTECTIVE EQUIPMENT: Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

FLASH POINT: Not available
LOWER FLAMMABLE LIMIT: Not available
UPPER FLAMMABLE LIMIT: Not available
AUTOIGNITION: Not available

HAZARDOUS COMBUSTION PRODUCTS:
Thermal decomposition or combustion products: Not applicable

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
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.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Protect from sunlight. Store in a well-ventilated area. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

HANDLING: Avoid breathing gas. Use only with adequate ventilation.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
HELIUM:
ACGIH (simple asphyxiant)

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

EYE PROTECTION: Eye protection not required, but recommended.

CLOTHING: Protective clothing is not required.

GLOVES: Protective gloves are not required.

RESPIRATOR: 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.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: gas

COLOR: colorless

ODOR: odorless

TASTE: tasteless

MOLECULAR WEIGHT: 4.0026

MOLECULAR FORMULA: He

BOILING POINT: -452 F (-269 C)

FREEZING POINT: -458 F (-272 C) @ 26 atm

DECOMPOSITION POINT: Not available

VAPOR PRESSURE: 1719 mmHg @ -268 C

VAPOR DENSITY (air=1): 0.138

SPECIFIC GRAVITY: Not applicable

DENSITY: 0.1785 g/L @ 0 C

WATER SOLUBILITY: 0.94% @ 0 C

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: odorless

EVAPORATION RATE: Not applicable

VISCOSITY: 0.02012 cP @ 26.8 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

SOLVENT SOLUBILITY:

Insoluble: alcohol

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Protect from physical damage and heat. Containers may rupture or explode if exposed to heat. Avoid inhalation of material or combustion by-products.

INCOMPATIBILITIES: No data available.

HAZARDOUS DECOMPOSITION:

Thermal decomposition or combustion products: Not applicable

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

HELIUM:

TARGET ORGANS: simple asphyxiant

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: No data available.

INVERTEBRATE TOXICITY: No data available.

ALGAL TOXICITY: No data available.

FATE AND TRANSPORT:

BIODEGRADATION: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Helium, compressed

ID NUMBER: UN1046

HAZARD CLASS OR DIVISION: 2.2

LABELING REQUIREMENTS: 2.2



CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Helium, compressed

UN NUMBER: UN1046

CLASS: 2.2

15. REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart B): Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355 Subpart C): Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):

ACUTE: Yes

CHRONIC: No

FIRE: No

REACTIVE: No

SUDDEN RELEASE: Yes

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29 CFR 1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: A.

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDL): Not determined.

16. OTHER INFORMATION

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