

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

Carbon Dioxide, Helium and Argon, Gas Mix

**Product Use**

Industrial and Specialty Gas Applications

**Restrictions on Use**

None known.

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

MATHESON TRI-GAS, INC.

909 Lake Carolyn Parkway

Suite 1300

Irving, TX 75039

General Information: 1-800-416-2505

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

Outside the US: 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**

Rapid release of compressed gas may cause frostbite.

### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

7440-37-1	Argon	0-100
7440-59-7	Helium	0-100
124-38-9	Carbon dioxide	<20

### 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**

If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

**Eyes**

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**Ingestion**

If swallowed, get medical attention.

**Most Important Symptoms/Effects**

**Acute**

frostbite, suffocation

**Delayed**

no information on significant adverse effects.

### Section 5 - FIRE FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media**

regular dry chemical, carbon dioxide

**Unsuitable Extinguishing Media**

None known.

**Special Hazards Arising from the Chemical**

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

**Hazardous Combustion Products**

oxides of carbon

**Advice for firefighters**

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

**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).

### Section 6 - ACCIDENTAL RELEASE MEASURES

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

Wear personal protective clothing and equipment, see Section 8.

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

Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

**Environmental Precautions**

Avoid release to the environment.

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

**Section 7 - HANDLING AND STORAGE**

**Precautions for Safe Handling**

Avoid breathing gas. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling.

**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. See original container for storage recommendations. Keep separated from incompatible substances.

**Incompatible Materials**

combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Component Exposure Limits**

<b>Argon</b>	<b>7440-37-1</b>
ACGIH:	(See Appendix F: Minimal Oxygen Content )
<b>Helium</b>	<b>7440-59-7</b>
ACGIH:	(See Appendix F: Minimal Oxygen Content )
<b>Carbon dioxide</b>	<b>124-38-9</b>
ACGIH:	5000 ppm TWA
	30000 ppm STEL
NIOSH:	5000 ppm TWA ; 9000 mg/m3 TWA
	30000 ppm STEL ; 54000 mg/m3 STEL
	40000 ppm IDLH
Europe:	5000 ppm TWA ; 9000 mg/m3 TWA
OSHA (US):	5000 ppm TWA ; 9000 mg/m3 TWA
Mexico:	5000 ppm TWA [VLE-PPT ]
	30000 ppm STEL [PPT-CT ]

**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 or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

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

**Eye/face protection**

For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

**Skin Protection**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

**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**

For the gas: Protective gloves are not required, but recommended. For the liquid: Wear insulated gloves.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	colorless gas	<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>	Not available	<b>Boiling Point</b>	Not available
<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 flammable
<b>Lower Explosive Limit</b>	Not available	<b>Decomposition temperature</b>	Not available
<b>Upper Explosive Limit</b>	Not available	<b>Vapor Pressure</b>	Not available
<b>Vapor Density (air=1)</b>	Not available	<b>Specific Gravity (water=1)</b>	Not available
<b>Water Solubility</b>	Not available	<b>Partition coefficient: n-octanol/water</b>	Not available
<b>Viscosity</b>	Not available	<b>Kinematic viscosity</b>	Not available
<b>Solubility (Other)</b>	Not available	<b>Density</b>	Not available
<b>Physical Form</b>	gas	<b>Molecular Weight</b>	Not available

**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**

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases

**Hazardous decomposition products**

oxides of carbon

### Section 11 - TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Inhalation**

irritation, cough, nausea, vomiting, diarrhea, stomach pain, changes in blood pressure, central nervous system effects, difficulty breathing, emotional disturbances, irregular heartbeat, headache, drowsiness, dizziness, fainting, tingling sensation, tremors, visual disturbances, loss of coordination, lung congestion, blood disorders, convulsions, Unconsciousness, coma, death, difficulty speaking, sensitivity to light, sleep disturbances, muscle cramps

**Skin Contact**

frostbite, irritation, blisters

**Eye Contact**

frostbite, irritation, blurred vision, tearing

**Ingestion**

ingestion of harmful amounts 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 animal testing data available for skin or eyes.

**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 for the mixture.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available for the mixture.

**Specific Target Organ Toxicity - Single Exposure**

No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

No data available.

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

**Aspiration hazard**

Not applicable.

**Medical Conditions Aggravated by Exposure**

respiratory disorders, heart or cardiovascular disorders

### **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 the mixture.

**Bioaccumulative Potential**

No data available for the mixture.

**Mobility**

No data available for the mixture.

### **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:** COMPRESSED GAS, N.O.S. , ( Contains: Argon , Helium , Carbon dioxide )

**Hazard Class:** 2.2

**UN/NA #:** UN1956

**Packing Group:** Not applicable

**Required Label(s):** 2.2

**IATA Information:**

**Shipping Name:** COMPRESSED GAS, N.O.S. , ( Contains: Argon , Helium , Carbon dioxide )

**Hazard Class:** 2.2

**UN#:** UN1956

**Packing Group:** Not applicable

**Required Label(s):** 2.2

**TDG Information:**

**Shipping Name:** COMPRESSED GAS, N.O.S. , ( Contains: Argon , Helium , Carbon dioxide )

**Hazard Class:** 2.2

**UN#:** UN1956

**Packing Group:** Not applicable

**Required Label(s):** 2.2

**IMDG Information:**

**Shipping Name:** COMPRESSED GAS, N.O.S. , ( Contains: Argon , Helium , Carbon dioxide )

**Hazard Class:** 2.2

**UN#:** UN1956

**Packing Group:** Not applicable

**Required Label(s):** 2.2

**International Bulk Chemical Code**

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

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
<b>Argon</b>	<b>7440-37-1</b>	No	Yes	Yes	Yes	Yes
<b>Helium</b>	<b>7440-59-7</b>	No	Yes	Yes	Yes	Yes
<b>Carbon dioxide</b>	<b>124-38-9</b>	Yes	Yes	Yes	Yes	Yes

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

Not listed under California Proposition 65.

**Component Analysis - Inventory**

**Argon (7440-37-1)**

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

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

**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	Yes	No	Yes	No

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

**Carbon dioxide (124-38-9)**

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

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

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

### Section 16 - OTHER INFORMATION

**NFPA Ratings**

Health: 2 Fire: 0 Instability: 0 Other: SA

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

**Summary of Changes**

Updated: 4/29/2015

**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; KR REACH CCA - Korea Registration and Evaluation of Chemical Substances Chemical Control Act; 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; TH-TECI - Thailand - FDA Existing Chemicals Inventory (TECI); 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**

**Disclaimer:**

Matheson Tri-Gas, Inc. makes no express or implied warranties, guarantees or representations regarding the product or the information herein, including but not limited to any implied warranty or merchantability or fitness for use. Matheson Tri-Gas, Inc. shall not be liable for any personal injury, property or other damages of any nature, whether

## Safety Data Sheet

**Material Name: Carbon Dioxide, Helium and Argon, Gas Mix**

**SDS ID: 00244619**

compensatory, consequential, exemplary, or otherwise, resulting from any publication, use or reliance upon the information herein.