

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name

CARBON DIOXIDE/ARGON GAS MIXTURE

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

Specific target organ toxicity - Single exposure - Category 3

GHS Label Elements

Symbol(s)



Signal Word

Warning

Hazard Statement(s)

Contains gas under pressure; may explode if heated.

May cause drowsiness and dizziness.

May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)

Prevention

Avoid breathing gas.

Use only outdoors or in a well-ventilated area.

Response

IF INHALED.

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

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

Keep container tightly closed.

Store locked up.

Disposal

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

Dispose in accordance with all applicable regulations.

Other Hazards

Rapid release of compressed gas may cause frostbite.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
7440-37-1	Argon	0-99.9
124-38-9	Carbon dioxide	0.1-100

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

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. Remove contact lenses, if present and easy to do. Continue rinsing. Then get immediate medical attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

suffocation, frostbite, central nervous system depression

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 water spray, fog or regular foam.

Unsuitable Extinguishing Media

Do not direct water at source of leak or safety devices; icing may occur.

Special Hazards Arising from the Chemical

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

Hazardous Combustion Products

Oxides of carbon

Fire Fighting Measures

Use extinguishing agents appropriate for surrounding fire. 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. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile). Do not get water directly on material. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Special Protective Equipment and Precautions for Firefighters

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

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

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

Stop leak if possible without personal risk. Do not touch or walk through spilled material. Use water spray to reduce vapors or divert vapor cloud drift. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Allow substance to evaporate. Ventilate closed spaces before entering. Stay upwind and keep out of low areas. Damaged cylinders should be handled only by specialists.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Conditions for Safe Storage, Including any Incompatibilities

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

Keep container tightly closed.

Store locked up.

Store and handle in accordance with all current regulations and standards. Cylinders should be stored upright (with valve protection cap in place). Protect from physical damage. Store in a well-ventilated area. Keep container tightly closed. Protect from sunlight. Do not store above 125 °F (52 °C). Keep locked up. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. 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

Argon	7440-37-1
ACGIH:	(See Appendix F: Minimal Oxygen Content)
Carbon dioxide	124-38-9
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]

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

	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 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.

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. 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.

Glove Recommendations

Wear insulated gloves.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless gas	Physical State	gas
Odor	odorless or sharp odor	Color	colorless
Odor Threshold	Not available	pH	Not available
Melting Point	Not available	Boiling Point	Not available
Boiling Point Range	Not available	Freezing point	Not available
Evaporation Rate	Not available	Flammability (solid, gas)	Not flammable
Autoignition Temperature	Not available	Flash Point	(Not flammable)
Lower Explosive Limit	Not available	Decomposition temperature	Not available
Upper Explosive Limit	Not available	Vapor Pressure	Not available
Vapor Density (air=1)	Not available	Specific Gravity (water=1)	Not available
Water Solubility	Not available	Partition coefficient: n-octanol/water	Not available
Viscosity	Not available	Kinematic viscosity	Not available
Solubility (Other)	Not available	Density	Not available

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

Physical Form	compressed gas	Molecular Weight	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

Protect from physical damage and heat. 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**

sensitivity to light, changes in blood pressure, nausea, irregular heartbeat, headache, drowsiness, dizziness, Disorientation, sleep disturbances, emotional disturbances, tingling sensation, tremors, muscle cramps, visual disturbances, suffocation, convulsions, Unconsciousness, coma, difficulty breathing, blood disorders, vomiting, mood swings, loss of coordination

Skin Contact

blisters, frostbite

Eye Contact

irritation, blurred vision, frostbite

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

suffocation, frostbite, central nervous system depression

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

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

No data available.

Tumorigenic Data

No data available

Reproductive Toxicity

No data available.

Specific Target Organ Toxicity - Single Exposure

central nervous system

Specific Target Organ Toxicity - Repeated Exposure

No target organs identified.

Aspiration hazard

Not applicable.

Medical Conditions Aggravated by Exposure

heart or cardiovascular disorders, respiratory 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.

Bioaccumulative Potential

No data available.

Mobility

No data available.

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 , Carbon dioxide)

Hazard Class: 2.2

UN/NA #: UN1956

Required Label(s): 2.2

IMDG Information:

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

Hazard Class: 2.2

UN#: UN1956

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.

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

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

Gas Under Pressure; Specific Target Organ Toxicity

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
Argon	7440-37-1	No	Yes	Yes	Yes	Yes
Carbon dioxide	124-38-9	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

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

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: 3 Fire: 0 Instability: 0

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

Summary of Changes

Updated:10/29/2015

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 -

Safety Data Sheet

Material Name: CARBON DIOXIDE/ARGON GAS MIXTURE

SDS ID: 00244580

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