

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Product name : Methane (0.0000025% - 10.32%) in Argon  
Product code : SG-2002-01823

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Test gas/Calibration gas.

#### 1.3. Supplier

Air Liquide USA LLC and its affiliates  
9811 Katy Freeway, Suite 100  
Houston, TX 77024 - USA  
T 1-800-819-1704  
[www.us.airliquide.com](http://www.us.airliquide.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec: 1-800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Gases under pressure H280 Contains gas under pressure; may explode if heated  
Compressed gas

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS04

Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H280 - Contains gas under pressure; may explode if heated  
OSHA-H01 - May displace oxygen and cause rapid suffocation  
Precautionary statements (GHS-US) : P202 - Do not handle until all safety precautions have been read and understood.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear eye protection, face protection, protective gloves, protective clothing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P403 - Store in a well-ventilated place.  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C/125 °F  
CGA-PG05 - Use a back flow preventive device in the piping  
CGA-PG06 - Close valve after each use and when empty  
CGA-PG10 - Use only with equipment rated for cylinder pressure  
CGA-PG14 - Approach suspected leak area with caution  
CGA-PG21 - Open valve slowly

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

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### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

| Name    | Product identifier  | %                     | GHS-US classification                         |
|---------|---------------------|-----------------------|---|
| Argon   | (CAS-No.) 7440-37-1 | 89.68 -<br>99.9999975 | Press. Gas (Comp.), H280                      |
| Methane | (CAS-No.) 74-82-8   | 0.0000025 -<br>10.32  | Flam. Gas 1, H220<br>Press. Gas (Comp.), H280 |

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
- First-aid measures after skin contact : Adverse effects not expected from this product.
- First-aid measures after eye contact : Adverse effects not expected from this product.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

#### 4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after inhalation : May displace oxygen and cause rapid suffocation.
- Symptoms/effects after skin contact : Adverse effects not expected from this product.
- Symptoms/effects after eye contact : Adverse effects not expected from this product.
- Symptoms/effects after ingestion : Ingestion is not considered a potential route of exposure.
- Symptoms/effects upon intravenous administration : Not known.
- Chronic symptoms : Adverse effects not expected from this product.

#### 4.3. Immediate medical attention and special treatment, if necessary

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
- Unsuitable extinguishing media : Do not use water jet to extinguish.

#### 5.2. Specific hazards arising from the chemical

- Fire hazard : The product is not flammable.
- Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
- Reactivity : None known.
- Hazardous combustion products : Incomplete combustion may form carbon monoxide.

#### 5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
- Protection during firefighting : Standard protective clothing and equipment (e.g. Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Ensure adequate ventilation.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Wear protective equipment consistent with the site emergency plan.
- Emergency procedures : Evacuate personnel to a safe area. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

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### 6.1.2. For emergency responders

- Protective equipment : Standard protective clothing and equipment (e.g. Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.
- Emergency procedures : Evacuate and limit access. Ventilate area.

### 6.2. Environmental precautions

Try to stop release if without risk.

### 6.3. Methods and material for containment and cleaning up

- For containment : Try to stop release if without risk.
- Methods for cleaning up : Dispose of contents/container in accordance with local/regional/national/international regulations.

### 6.4. Reference to other sections

See also Sections 8 and 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Pressurized container: Do not pierce or burn, even after use. Use only with equipment rated for cylinder pressure. Close valve after each use and when empty.
- Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
- Hygiene measures : Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Comply with applicable regulations.
- Storage conditions : Do not expose to temperatures exceeding 52 °C/ 125 °F. Keep container closed when not in use. Protect cylinders from physical damage; do not drag, roll, slide or drop. Store in well ventilated area.
- Incompatible products : None known.
- Incompatible materials : None known.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Methane (74-82-8) |                |                   |
|-------------------|----------------|-------------------|
| ACGIH             | Remark (ACGIH) | Simple Asphyxiant |

  

| Argon (7440-37-1) |  |  |
|-------------------|--|--|
| Not applicable    |  |  |

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure exposure is below occupational exposure limits (where available). Provide adequate general and local exhaust ventilation. Systems under pressure should be regularly checked for leakages. Oxygen detectors should be used when asphyxiating gases may be released. Consider the use of a work permit system e.g. for maintenance activities.
- Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Wear working gloves when handling gas containers. 29 CFR 1910.138: Hand protection

#### Eye protection:

Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection

#### Skin and body protection:

Wear suitable protective clothing, e.g. lab coats, coveralls or flame resistant clothing.

#### Respiratory protection:

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None necessary during normal and routine operations. See Sections 5 & 6.

### Thermal hazard protection:

None necessary during normal and routine operations.

### Other information:

Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

|   |                                       |
|---|---------------------------------------|
| Physical state                              | : Gas                                 |
| Appearance                                  | : Clear, colorless gas.               |
| Color                                       | : Colorless                           |
| Odor  | : Odorless                            |
| Odor threshold                              | : No data available                   |
| pH  | : No data available                   |
| Melting point                               | : No data available                   |
| Freezing point                              | : No data available                   |
| Boiling point                               | : No data available                   |
| Flash point                                 | : Not applicable (non-flammable gas)  |
| Relative evaporation rate (butyl acetate=1) | : No data available                   |
| Flammability (solid, gas)                   | : See Section 2.1 and 2.2             |
| Vapor pressure                              | : No data available                   |
| Relative vapor density at 20 °C             | : No data available                   |
| Relative density                            | : No data available                   |
| Relative gas density                        | : Heavier than air                    |
| Solubility                                  | : Water: No data available            |
| Log Pow                                     | : No data available                   |
| Auto-ignition temperature                   | : No data available                   |
| Decomposition temperature                   | : No data available                   |
| Viscosity, kinematic                        | : No data available                   |
| Viscosity, dynamic                          | : No data available                   |
| Explosion limits                            | : Not applicable (non-flammable gas)  |
| Explosive properties                        | : Not applicable (non-flammable gas). |
| Oxidizing properties                        | : None.                               |

### 9.2. Other information

|                        |  |
|------------------------|--|
| Additional information | : Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level |
|------------------------|--|

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

None known.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation  
Acute toxicity : Not classified

| Methane (74-82-8)         |                    |
|---------------------------|--------------------|
| LC50 inhalation rat (ppm) | 820000 ppm/4h      |
| ATE US (gases)            | 820000.000 ppmV/4h |

| Argon (7440-37-1)         |               |
|---------------------------|---------------|
| LC50 inhalation rat (ppm) | 820000 ppm/4h |

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Not classified  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
  
Reproductive toxicity : Not classified  
Specific target organ toxicity – single exposure : Not classified  
  
Specific target organ toxicity – repeated exposure : Not classified  
  
Aspiration hazard : Not classified  
  
Symptoms/effects after inhalation : May displace oxygen and cause rapid suffocation.  
Symptoms/effects after skin contact : Adverse effects not expected from this product.  
Symptoms/effects after eye contact : Adverse effects not expected from this product.  
Symptoms/effects after ingestion : Ingestion is not considered a potential route of exposure.  
Symptoms/effects upon intravenous administration : Not known.  
Chronic symptoms : Adverse effects not expected from this product.

### SECTION 12: Ecological information

#### 12.1. Toxicity

| Methane (74-82-8)               |            |
|---------------------------------|------------|
| LC50-96 h - fish [mg/l]         | 147.5 mg/l |
| EC50 48h - Daphnia magna [mg/l] | 69.4 mg/l  |
| EC50 72h Algae [mg/l]           | 19.4 mg/l  |

#### 12.2. Persistence and degradability

| Methane (74-82-8)             |  |
|-------------------------------|--|
| Persistence and degradability | The substance is readily biodegradable. Unlikely to persist. |

| Argon (7440-37-1)             |  |
|-------------------------------|--|
| Persistence and degradability | No ecological damage caused by this product. |

#### 12.3. Bioaccumulative potential

| Methane (74-82-8)         |   |
|---------------------------|---|
| Bioaccumulative potential | Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9. |

| Argon (7440-37-1)         |  |
|---------------------------|--|
| Log Pow                   | Not applicable for inorganic gases.          |
| Bioaccumulative potential | No ecological damage caused by this product. |

#### 12.4. Mobility in soil

| Methane (74-82-8) |   |
|-------------------|---|
| Ecology - soil    | Because of its high volatility, the product is unlikely to cause ground or water pollution. |

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### Argon (7440-37-1)

Ecology - soil : No ecological damage caused by this product.

#### 12.5. Other adverse effects

Effect on ozone layer : No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Contact supplier if guidance is required. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded.

Product/Packaging disposal recommendations : Refer to the CGA Pamphlet P-63 "Disposal of Gases" available at [www.cganet.com](http://www.cganet.com) for more guidance on suitable disposal methods.

Ecology - waste materials : None known.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1956 Compressed gas, n.o.s. (Methane, Argon), 2.2

UN-No.(DOT) : UN1956

Proper Shipping Name (DOT) : Compressed gas, n.o.s.

Class (DOT) : 2.2 - Class 2.2 - Non-flammable compressed gas 49 CFR 173.115

Hazard labels (DOT) : 2.2 - Non-flammable gas



DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;305

DOT Packaging Bulk (49 CFR 173.xxx) : 314;315

DOT Symbols : G - Identifies PSN requiring a technical name

DOT Packaging Exceptions (49 CFR 173.xxx) : 306;307

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 75 kg

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 150 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

Other information : No supplementary information available.

#### Transportation of Dangerous Goods

Transport document description : UN1956 Compressed gas, n.o.s., 2.2

UN-No. (TDG) : UN1956

Proper Shipping Name : Compressed gas, n.o.s.

TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.

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|   |   |
|---|---|
| TDG Special Provisions  | : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a)UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; (b)UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; (c)UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; (d)UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or (e)UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the "Food and Drugs Act". (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a)UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b)UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. SOR/2014-306, 148 - (1) Part 5 (Means of Containment) does not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles if (a)the working pressure in each receptacle is less than 5 000 KPa; (b)the capacity of each receptacle is less than 12 L; (c)each receptacle has a minimum burst pressure of (i)at least 3 times the working pressure, when the receptacle is fitted with a relief device, or (ii)at least 4 times the working pressure, when the receptacle is not fitted with a relief device; (d)each receptacle is manufactured from material that will not fragment upon rupture; (e)each detector is manufactured under a quality assurance program; ISO 9001:2008 is an example of a quality assurance program. (f)the detectors are transported in strong outer means of containment; and (g)a detector in its outer means of containment is capable of withstanding a 1.2 m drop test without breakage of the detector or rupture of the outer means of containment. (2)Part 5 (Means of Containment) does not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles and that are included in equipment, if (a)the conditions set out in paragraphs (1)(a) to (e) are met; and (b)the equipment is contained in a strong outer means of containment or the equipment affords the detectors with protection that is equivalent to that provided by a strong outer means of containment. (3)These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to radiation detectors that contain these dangerous goods in non-refillable pressure receptacles, including detectors in radiation detection systems, if the detectors meet the requirements of subsection (1) or (2), as applicable, and the capacity of the receptacles that contain the detectors is less than 50 mL. SOR/2014-306 |
| Explosive Limit and Limited Quantity Index                                  | : 0.125 L   |
| Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index | : 75 L  |

### Transport by sea

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Transport document description (IMDG) | : UN 1956 COMPRESSED GAS, N.O.S., 2 |
| UN-No. (IMDG)                         | : 1956                              |
| Proper Shipping Name (IMDG)           | : COMPRESSED GAS, N.O.S.            |
| Class (IMDG)                          | : 2 - Gases                         |
| Limited quantities (IMDG)             | : 120 ml                            |

### Air transport

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Transport document description (IATA) | : UN 1956 COMPRESSED GAS, N.O.S., 2.2 |
| UN-No. (IATA)                         | : 1956                                |
| Proper Shipping Name (IATA)           | : COMPRESSED GAS, N.O.S.              |
| Class (IATA)                          | : 2                                   |

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Methane (74-82-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Argon (7440-37-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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### 15.2. International regulations

#### CANADA

##### Methane (74-82-8)

Listed on the Canadian DSL (Domestic Substances List)

##### Argon (7440-37-1)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

##### Methane (74-82-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

##### Argon (7440-37-1)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

#### National regulations

##### Methane (74-82-8)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Japanese ISHL (Industrial Safety and Health Law)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

##### Argon (7440-37-1)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

##### Methane (74-82-8)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

##### Argon (7440-37-1)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Other information : This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

|      |  |
|------|--|
| H220 | Extremely flammable gas                            |
| H280 | Contains gas under pressure; may explode if heated |

SDS US (GHS HazCom 2012)

*This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide USA LLC and its affiliates' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.*