



# Safety Data Sheet

## 75% Argon 25% Carbon Dioxide

### Section 1: Product and Company Identification

**Purity Cylinder Gases, Inc.**

2580 28th St SW  
Wyoming, MI 49519  
P: (616)532-2375  
www.puritygas.com

Product Code: 75% Argon 25% Carbon Dioxide

**Synonyms:**

**Recommended Use:** Industrial and professional uses.

**Usage Restrictions:**

### Section 2: Hazards Identification



**Warning**

**Hazard Classification:**

Gases Under Pressure

**Hazard Statements:**

Contains gas under pressure; may explode if heated

**Precautionary Statements**

**Storage:**

Protect from sunlight.  
Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

|                | CAS #     | Concentration |
|----------------|-----------|---------------|
| Argon          | 7440-37-1 | 75            |
| Carbon Dioxide | 124-38-9  | 25            |

|                | Chemical Substance  | Chemical Family | Trade Names                                                                       |
|----------------|---------------------|-----------------|-----------------------------------------------------------------------------------|
| Argon          | ARGON, COMPRESSED   | Inorganic gases | ARGON; UN 1006; AR                                                                |
| Carbon Dioxide | CARBON DIOXIDE, GAS | Inorganic gases | CARBONIC ACID GAS; CARBONIC ANHYDRIDE; CARBON DIOXIDE; CARBON OXIDE; UN 1013; CO2 |

## Section 4: First Aid Measures

|                | Skin Contact                                                                                                                                                                                                                         | Eye Contact                                                                                                                     | Ingestion                        | Inhalation                                                                                                                                                                                                               | Note to Physicians               |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Argon          | Not applicable route of exposure                                                                                                                                                                                                     | Flush eyes with plenty of water.                                                                                                | Not applicable route of exposure | 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. | For inhalation, consider oxygen. |
| Carbon Dioxide | 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. | Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention. | Do not induce vomiting.          | 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. | For inhalation, consider oxygen. |

## Section 5: Fire Fighting Measures

|                | Suitable Extinguishing Media | Products of Combustion | Protection of Firefighters                                                                                                                |
|----------------|------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Argon          | Non-flammable gas            | Not applicable         | <ul style="list-style-type: none"> <li>N/A</li> <li>N/A</li> </ul>                                                                        |
| Carbon Dioxide | Non-flammable                | Non-flammable          | <ul style="list-style-type: none"> <li>Any appropriate escape-type, self-contained breathing apparatus.</li> <li>Non-flammable</li> </ul> |

## Section 6: Accidental Release Measures

|                | Personal Precautions                                                                                                                      | Environmental Precautions                                                                                                            | Methods for Containment                      |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Argon          | Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.                                  | None known.                                                                                                                          | Stop leak if possible without personal risk. |
| Carbon Dioxide | Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Do not touch spilled material. | Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers. | Stop leak if possible without personal risk. |

|                | Methods for Cleanup                              | Other Information |
|----------------|--------------------------------------------------|-------------------|
| Argon          | Leaks may be detected by a soapy-water solution. |                   |
| Carbon Dioxide | Stop leak, evacuate, remove source of ignition.  | None              |

## Section 7: Handling and Storage

| Handling | Storage |
|----------|---------|
|----------|---------|

|                       | Handling                                                                                                                                                                           | Storage                                                                   |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>Argon</b>          | 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. | Avoid using in confined spaces.                                           |
| <b>Carbon Dioxide</b> | Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.                                                                            | Store and handle in accordance with all current regulations and standards |

## Section 8: Exposure Controls/Personal Protection

|                       | Exposure Guidelines                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Argon</b>          | ARGON, COMPRESSED: ARGON: ACGIH (simple asphyxiant)                                                                                                                                                                                                                                                                                                                  |
| <b>Carbon Dioxide</b> | CARBON DIOXIDE, GAS: CARBON DIOXIDE: 5000 ppm (9000 mg/m3) OSHA TWA 10000 ppm (18000 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 30000 ppm (54000 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 5000 ppm ACGIH TWA 30000 ppm ACGIH STEL 5000 ppm (9000 mg/m3) NIOSH recommended TWA 10 hour(s) 30000 ppm (54000 mg/m3) NIOSH recommended STEL |

### Engineering Controls

Handle only in fully enclosed systems.

|                       | Eye Protection                                                                                                                                                                                                                                 | Skin Protection                                                                                                          | Respiratory Protection                                           |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| <b>Argon</b>          | Eye protection not required, but recommended.                                                                                                                                                                                                  | Protective clothing is not required.                                                                                     | N/A                                                              |
| <b>Carbon Dioxide</b> | 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. | For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing. | Any appropriate escape-type, self-contained breathing apparatus. |

### General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

## Section 9: Physical and Chemical Properties

|                       | Physical State | Appearance | Color     | Change in Appearance | Physical Form | Odor     | Taste      |
|-----------------------|----------------|------------|-----------|----------------------|---------------|----------|------------|
| <b>Argon</b>          | Gas            | Colorless  | Colorless | N/A                  | Gas           | Odorless | Tasteless  |
| <b>Carbon Dioxide</b> | Gas            | Colorless  | Colorless | N/A                  | Gas           | Odorless | Acid taste |

|                       | Flash Point   | Flammability  | Partition Coefficient | Autoignition Temperature | Upper Explosive Limits | Lower Explosive Limits |
|-----------------------|---------------|---------------|-----------------------|--------------------------|------------------------|------------------------|
| <b>Argon</b>          | Not flammable |               |                       | Nonflammable             | Nonflammable           | Nonflammable           |
| <b>Carbon Dioxide</b> | Not flammable | Not available | N/A                   | Nonflammable             | Nonflammable           | Nonflammable           |

|                       | Boiling Point   | Freezing Point            | Vapor Pressure    | Vapor Density | Specific Gravity | Water Solubility | pH                                                           | Odor Threshold | Evaporation Rate | Viscosity        |
|-----------------------|-----------------|---------------------------|-------------------|---------------|------------------|------------------|--------------------------------------------------------------|----------------|------------------|------------------|
| <b>Argon</b>          | -303 F (-186 C) | -308 F (-189 C)           | 500 mmHg @ -190 C | 1.38 (Air=1)  | Not applicable   | 3.36% @ 20 C     | Not applicable                                               | Not available  | Not applicable   | 0.0225 cP @ 25 C |
| <b>Carbon Dioxide</b> | Not available   | -71 F (-57 C) @ 4000 mmHg | 43700 mmHg @ 21 C | 1.5 (Air=1)   | 1.522 @ 21 C     | Soluble          | 3.7 (saturated aqueous solution) @ 101.3 kPa (carbonic acid) | Not available  | Not applicable   | 0.01657 cP @ 0 C |

|              | Molecular Weight | Molecular Formula | Density         | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility        |
|--------------|------------------|-------------------|-----------------|-------------------|----------------------|----------------|---------------------------|
| <b>Argon</b> | 39.948           | AR                | 1.784 g/L @ 0 C | Not available     | 100%                 | Not applicable | Soluble: Organic solvents |

|                | Molecular Weight | Molecular Formula | Density | Weight per Gallon | Volatility by Volume | Volatility     | Solvent Solubility                                        |
|----------------|------------------|-------------------|---------|-------------------|----------------------|----------------|-----------------------------------------------------------|
| Carbon Dioxide | 44.01            | C-O2              | 0.114   | Not available     | Not applicable       | Not applicable | Soluble: Alcohol, acetone, hydrocarbons, organic solvents |

## Section 10: Stability and Reactivity

|                | Stability                                   | Conditions to Avoid                         | Incompatible Materials                                                                                 |
|----------------|---------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Argon          | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | No data available.                                                                                     |
| Carbon Dioxide | Stable at normal temperatures and pressure. | Stable at normal temperatures and pressure. | Combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases |

|                | Hazardous Decomposition Products | Possibility of Hazardous Reactions |
|----------------|----------------------------------|------------------------------------|
| Argon          | No data available.               | Will not polymerize.               |
| Carbon Dioxide | Carbon monoxide                  | Will not polymerize.               |

## Section 11: Toxicology Information

### Acute Effects

|                | Oral LD50       | Dermal LD50     | Inhalation                                                                                                                                                                                               |
|----------------|-----------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Argon          | Not established | Not established | Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma |
| Carbon Dioxide | Not established | Not established | Ringling in the ears, nausea, irregular heartbeat, headache, drowsiness, dizziness, tingling sensation, visual disturbances, suffocation, convulsions, coma                                              |

|                | Eye Irritation                                | Skin Irritation                               | Sensitization        |
|----------------|-----------------------------------------------|-----------------------------------------------|----------------------|
| Argon          | No information on significant adverse effects | No information on significant adverse effects |                      |
| Carbon Dioxide | Irritation, frostbite, blurred vision         | Liquid: blisters, frostbite                   | Difficulty breathing |

### Chronic Effects

|                | Carcinogenicity | Mutagenicity    | Reproductive Effects | Developmental Effects |
|----------------|-----------------|-----------------|----------------------|-----------------------|
| Argon          | Not established | Not established | Not established      | No data               |
| Carbon Dioxide | Not available   | Not established | Available.           | No data               |

## Section 12: Ecological Information

### Fate and Transport

|                | Eco toxicity                                                                                                                                                                                                           | Persistence / Degradability                                                   | Bioaccumulation / Accumulation                             | Mobility in Environment  |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------|
| Argon          | Fish toxicity: Not available<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available                                                | Not available                                                                 | Not available                                              | Not available            |
| Carbon Dioxide | Fish toxicity: 150000 ug/L 48 day(s) (Mortality) Brown trout (Salmo trutta)<br>Invertebrate toxicity: Not available<br>Algal toxicity: Not available<br>Phyto toxicity: Not available<br>Other toxicity: Not available | Relatively non-persistent in the environment. Moderately volatile from water. | Accumulates very little in the bodies of living organisms. | Leaches through the soil |

## Section 13: Disposal Considerations

|       |                                                        |
|-------|--------------------------------------------------------|
| Argon | Dispose in accordance with all applicable regulations. |
|-------|--------------------------------------------------------|

|                       |                                                        |
|-----------------------|--------------------------------------------------------|
| <b>Carbon Dioxide</b> | Dispose in accordance with all applicable regulations. |
|-----------------------|--------------------------------------------------------|

## Section 14: Transportation Information

### U.S. DOT 49 CFR 172.101

#### DOT Information For This Mixture

|                           |                                                |
|---------------------------|------------------------------------------------|
| <b>Shipping Name</b>      | Compressed gas, n.o.s. (Argon, Carbon Dioxide) |
| <b>UN Number</b>          | UN1956                                         |
| <b>Hazard Class</b>       | 2.2                                            |
| <b>Hazard Information</b> | Non-Flammable Gas                              |

#### Individual Component Information

|                       | Proper Shipping Name | ID Number | Hazard Class or Division | Packing Group  | Labeling Requirements | Passenger Aircraft or Railcar Quantity Limitations | Cargo Aircraft Only Quantity Limitations | Additional Shipping Description |
|-----------------------|----------------------|-----------|--------------------------|----------------|-----------------------|----------------------------------------------------|------------------------------------------|---------------------------------|
| <b>Argon</b>          | Argon, compressed    | UN1006    | 2.2                      | Not applicable | 2.2                   | 75 kg or L                                         | 150 kg                                   | N/A                             |
| <b>Carbon Dioxide</b> | Carbon dioxide       | UN1013    | 2.2                      | Not applicable | 2.2                   | 75 kg or L                                         | 150kg                                    | None                            |

#### Canadian Transportation of Dangerous Goods

|                       | Shipping Name     | UN Number | Class | Packing Group / Risk Group |
|-----------------------|-------------------|-----------|-------|----------------------------|
| <b>Argon</b>          | Argon, compressed | UN1006    | 2.2   | Not applicable             |
| <b>Carbon Dioxide</b> | Carbon dioxide    | UN1013    | 2.2   | Not applicable             |

## Section 15: Regulatory Information

### U.S. Regulations

|                       | CERCLA Sections | SARA 355.30    | SARA 355.40    |
|-----------------------|-----------------|----------------|----------------|
| <b>Argon</b>          | Not regulated.  | Not regulated. | Not regulated. |
| <b>Carbon Dioxide</b> | Not regulated.  | Not regulated. | Not regulated. |

### SARA 370.21

|                       | Acute | Chronic | Fire | Reactive | Sudden Release |
|-----------------------|-------|---------|------|----------|----------------|
| <b>Argon</b>          | Yes   | No      | No   | No       | Yes            |
| <b>Carbon Dioxide</b> | Yes   | No      | No   | No       | Yes            |

### SARA 372.65

|                       |                |
|-----------------------|----------------|
| <b>Argon</b>          | Not regulated. |
| <b>Carbon Dioxide</b> | Not regulated. |

### OSHA Process Safety

|                       |                |
|-----------------------|----------------|
| <b>Argon</b>          | Not regulated. |
| <b>Carbon Dioxide</b> | Not regulated. |

### State Regulations

|                       | CA Proposition 65 |
|-----------------------|-------------------|
| <b>Argon</b>          | Not regulated.    |
| <b>Carbon Dioxide</b> | Not regulated.    |

### Canadian Regulations

|                       | WHMIS Classification |
|-----------------------|----------------------|
| <b>Argon</b>          | A                    |
| <b>Carbon Dioxide</b> | A                    |

### National Inventory Status

|                | US Inventory (TSCA)  | TSCA 12b Export Notification | Canada Inventory (DSL/NDSL) |
|----------------|----------------------|------------------------------|-----------------------------|
| Argon          | Listed on inventory. | Not listed.                  | Listed on inventory.        |
| Carbon Dioxide | Listed on inventory. | Not listed.                  | Listed on inventory.        |

## Section 16: Other Information

|                | NFPA Rating                             |
|----------------|-----------------------------------------|
| Argon          | HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA |
| Carbon Dioxide | HEALTH=3 FIRE=0 REACTIVITY=0 SPECIAL=SA |

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard