

## Section 1: Product and Company Identification

**Absolute Accuracy**  
4591 S Wayside Dr  
Houston, TX 77087  
(832) 571-2387

Product Code: 2885

**Synonyms:** n/a  
**Recommended Use:** calibration gas  
**Usage Restrictions:** industrial calibration gas only

## Section 2: Hazards Identification



**Danger**

### Hazard Classification:

Flammable (Category 1)  
Gases Under Pressure  
Reproductive Toxicity (Category 1.A)  
Specific target organ toxicity (Repeated Exposure) (Category 1)

### Hazard Statements:

Causes damage to organs through prolonged or repeated exposure  
Contains gas under pressure; may explode if heated  
Extremely flammable gas  
May damage fertility or the unborn child

### Precautionary Statements

#### Prevention:

Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust/fume/gas/mist/ vapors/spray..  
Wear protective gloves, protective clothing, eye protection and face protection.  
Obtain special instructions before use.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

#### Response:

Call a poison center or doctor if you feel unwell.  
Eliminate all ignition sources if safe to do so.  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
If exposed or concerned: Get medical advice/attention.

#### Storage:

Protect from sunlight.  
Store in well-ventilated place.  
Store locked up.

**Disposal:**  
Dispose of contents and/or container in accordance with applicable regulations.

## Section 3: Composition/Information on Ingredients

	CAS #	Concentration	
<b>Nitrogen</b>	7727-37-9	% 3	
<b>Argon</b>	7440-37-1	% 7	
<b>Carbon Monoxide</b>	630-08-0	% 14	
<b>Methane</b>	74-82-8	% 15	
<b>Carbon Dioxide</b>	124-38-9	% 16	
Chemical Substance	Chemical Family	Trade Names	
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS	Inorganic gases	BALANCE DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2
<b>Argon</b>	ARGON, COMPRESSED	Inorganic gases	ARGON; UN 1006; AR
<b>Carbon Monoxide</b>	CARBON MONOXIDE	Inorganic gases	CARBON OXIDE; CARBON OXIDE (CO); UN 1016; CO
<b>Methane</b>	METHANE, COMPRESSED GAS	Hydrocarbons, Aliphatic, Saturated	FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; UN 1971; R50; CH4
<b>Carbon Dioxide</b>	CARBON DIOXIDE, GAS	Inorganic gases	CARBONIC ACID GAS; CARBONIC ANHYDRIDE; CARBON DIOXIDE; CARBON OXIDE; UN 1013; CO2
<b>Hydrogen</b>	HYDROGEN	Inorganic gases	HYDROGEN GAS; HYDROGEN COMPRESSED; HYDROGEN (H2); DIHYDROGEN; UN 1049; H2

## Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
<b>Nitrogen</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	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.
<b>Argon</b>	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.

	<b>Skin Contact</b>	<b>Eye Contact</b>	<b>Ingestion</b>	<b>Inhalation</b>	<b>Note to Physicians</b>
<b>Carbon Monoxide</b>	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.	Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	If a large amount is swallowed, get medical attention.	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.
<b>Methane</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	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.
<b>Carbon Dioxide</b>	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.
<b>Hydrogen</b>	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	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

	<b>Suitable Extinguishing Media</b>	<b>Products of Combustion</b>	<b>Protection of Firefighters</b>
<b>Nitrogen</b>	Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.	Non-flammable	<ul style="list-style-type: none"> <li>▪ Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>
<b>Argon</b>	Non-flammable gas	Not applicable	<ul style="list-style-type: none"> <li>▪ N/A</li> <li>▪ N/A</li> </ul>
<b>Carbon Monoxide</b>	Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Carbon dioxide	<ul style="list-style-type: none"> <li>▪ Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</li> <li>▪ Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.</li> </ul>

	<b>Suitable Extinguishing Media</b>	<b>Products of Combustion</b>	<b>Protection of Firefighters</b>
<b>Methane</b>	Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Carbon monoxide, carbon dioxide, water	<ul style="list-style-type: none"> <li>▪ Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece.</li> <li>▪ Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece.</li> </ul>
<b>Carbon Dioxide</b>	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>
<b>Hydrogen</b>	Carbon dioxide, regular dry chemical Large fires: Flood with fine water spray.	None known	<ul style="list-style-type: none"> <li>▪ Any self-contained breathing apparatus with a full facepiece.</li> <li>▪ Any self-contained breathing apparatus with a full facepiece.</li> </ul>

## Section 6: Accidental Release Measures

	<b>Personal Precautions</b>	<b>Environmental Precautions</b>	<b>Methods for Containment</b>
<b>Nitrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	No significant effects from contamination expected.	Stop leak if possible without personal risk.
<b>Argon</b>	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.
<b>Carbon Monoxide</b>	Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition. Keep out of water supplies and sewers.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.
<b>Methane</b>	Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.
<b>Carbon Dioxide</b>	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.
<b>Hydrogen</b>	Keep unnecessary people away, isolate hazard area and deny entry. Do not touch spilled material. Ventilate closed spaces before entering.	Avoid heat, flames, sparks and other sources of ignition.	Reduce vapors with water spray. Remove sources of ignition.

	<b>Methods for Cleanup</b>	<b>Other Information</b>
<b>Nitrogen</b>	N/A	N/A
<b>Argon</b>	Leaks may be detected by a soapy-water solution.	
<b>Carbon Monoxide</b>	Stop leak, evacuate area. Wear protective equipment.	Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
<b>Methane</b>	Not available	Not available
<b>Carbon Dioxide</b>	Stop leak, evacuate, remove source of ignition.	None
<b>Hydrogen</b>	Stop leak if possible without personal risk.	None

## Section 7: Handling and Storage

	<b>Handling</b>	<b>Storage</b>
<b>Nitrogen</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.
<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>Handling</b>	<b>Storage</b>
<b>Carbon Monoxide</b>	Keep separated from incompatible substances.	Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.
<b>Methane</b>	Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.
<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
<b>Hydrogen</b>	Store and handle in accordance with all current regulations and standards. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

## Section 8: Exposure Controls/Personal Protection

	<b>Exposure Guidelines</b>
<b>Nitrogen</b>	NITROGEN, COMPRESSED GAS: NITROGEN: ACGIH (simple asphyxiant)
<b>Argon</b>	ARGON, COMPRESSED: ARGON: ACGIH (simple asphyxiant)
<b>Carbon Monoxide</b>	CARBON MONOXIDE: 50 ppm (55 mg/m <sup>3</sup> ) OSHA TWA 35 ppm (40 mg/m <sup>3</sup> ) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 200 ppm (229 mg/m <sup>3</sup> ) OSHA ceiling (vacated by 58 FR 35338, June 30, 1993) 25 ppm ACGIH TWA 35 ppm (40 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(s) 200 ppm (229 mg/m <sup>3</sup> ) NIOSH recommended ceiling
<b>Methane</b>	METHANE, COMPRESSED GAS: ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA METHANE: No occupational exposure limits established. ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA
<b>Carbon Dioxide</b>	CARBON DIOXIDE, GAS: CARBON DIOXIDE: 5000 ppm (9000 mg/m <sup>3</sup> ) OSHA TWA 10000 ppm (18000 mg/m <sup>3</sup> ) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 30000 ppm (54000 mg/m <sup>3</sup> ) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 5000 ppm ACGIH TWA 30000 ppm ACGIH STEL 5000 ppm (9000 mg/m <sup>3</sup> ) NIOSH recommended TWA 10 hour(s) 30000 ppm (54000 mg/m <sup>3</sup> ) NIOSH recommended STEL
<b>Hydrogen</b>	HYDROGEN: ACGIH (simple asphyxiant)

### Engineering Controls

Handle only in fully enclosed systems.

	<b>Eye Protection</b>	<b>Skin Protection</b>	<b>Respiratory Protection</b>
<b>Nitrogen</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.
<b>Argon</b>	Eye protection not required, but recommended.	Protective clothing is not required.	N/A
<b>Carbon Monoxide</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

	<b>Eye Protection</b>	<b>Skin Protection</b>	<b>Respiratory Protection</b>
<b>Methane</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure. Any self-contained breathing apparatus with a full facepiece.
<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.
<b>Hydrogen</b>	Eye protection not required, but recommended.	Protective clothing is not required.	Any self-contained breathing apparatus with a full facepiece.

### 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

	<b>Physical State</b>	<b>Appearance</b>	<b>Color</b>	<b>Change in Appearance</b>	<b>Physical Form</b>	<b>Odor</b>	<b>Taste</b>
<b>Nitrogen</b>	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless
<b>Argon</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless
<b>Carbon Monoxide</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless
<b>Methane</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless
<b>Carbon Dioxide</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Acid taste
<b>Hydrogen</b>	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless

	<b>Flash Point</b>	<b>Flammability</b>	<b>Partition Coefficient</b>	<b>Autoignition Temperature</b>	<b>Upper Explosive Limits</b>	<b>Lower Explosive Limits</b>
<b>Nitrogen</b>	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable
<b>Argon</b>	Not flammable			Nonflammable	Nonflammable	Nonflammable
<b>Carbon Monoxide</b>	Flammable	Not available	1479.11 (log = 3.17) (estimated from water solubility)	1128-1202 F (609-650 C)	0.74	12.0-12.5%
<b>Methane</b>	-369 F (-223 C)	Not available	724.44 (log = 2.87) (estimated from water solubility)	999 F (537 C)	15%	5%
<b>Carbon Dioxide</b>	Not flammable	Not available	N/A	Nonflammable	Nonflammable	Nonflammable
<b>Hydrogen</b>	Flammable gas (burns at all ambient temperatures)	Not available	Not available	752 F (400 C)	0.75	0.04

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
<b>Nitrogen</b>	-321 F (-196 C)	-346 F (-210 C)	760 mmHg @ -196 C	0.967 (Air=1)	Not applicable	1.6% @ 20 C	Not applicable	Not available	Not applicable	0.01787 cP @ 27 C
<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 Monoxide</b>	-312.7 F (-191.5 C)	-326 F (-199 C)	760 mmHg @ -191 C gas; cannot be liquefied at room temperature	0.968 (Air=1)	Not applicable	2.3% @ 20 C	Not applicable	Not available	Not applicable	0.01657 cP @ 0 C
<b>Methane</b>	-260 F (-162 C)	-297 F (-183 C)	760 mmHg @ -161 C	0.555 (Air=1)	Not applicable	3.5% @ 17 C	Not applicable	Not available	Not applicable	0.01118 cP @ 27 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
<b>Hydrogen</b>	-423 F (-253 C)	-434 F (-259 C)	760 mmHg @ -253 C	0.07 (Air=1)	Not applicable	1.82% @ 20 C	Not applicable	Not available	Not applicable	0.008957 cP @ 26.8 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
<b>Nitrogen</b>	28.0134	N <sub>2</sub>	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia
<b>Argon</b>	39.948	AR	1.784 g/L @ 0 C	Not available	100%	Not applicable	Soluble: Organic solvents
<b>Carbon Monoxide</b>	28.01	C-O	1.250 g/L @ 0 C	Not available	100%	Not applicable	Soluble: Alcohol, benzene, acetic acid, ethyl acetate, chloroform, cuprous chloride solutions
<b>Methane</b>	16.04	C-H <sub>4</sub>	0.717 g/L @ 0 C	Not available	Not applicable	Not applicable	Soluble: Alcohol, ether, benzene, organic solvents
<b>Carbon Dioxide</b>	44.01	C-O <sub>2</sub>	0.114	Not available	Not applicable	Not applicable	Soluble: Alcohol, acetone, hydrocarbons, organic solvents
<b>Hydrogen</b>	2	H <sub>2</sub>	0.08987 g/L @ 0 C	Not available	Not available	Not applicable	Soluble: Not available

## Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
<b>Nitrogen</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials
<b>Argon</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	No data available.
<b>Carbon Monoxide</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Oxidizing materials, halogens, metal oxides, metals, combustible materials, lithium
<b>Methane</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Halogens, oxidizing materials, combustible materials

	<b>Stability</b>	<b>Conditions to Avoid</b>	<b>Incompatible Materials</b>
<b>Carbon Dioxide</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Combustible materials, oxidizing materials, metal salts, reducing agents, metal carbide, metals, bases
<b>Hydrogen</b>	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials, metal oxides, combustible materials, halogens, metal salts, halo carbons, nitrogen trifluoride, oxygen difluoride, magnesium and calcium carbonate, sodium, potassium

	<b>Hazardous Decomposition Products</b>	<b>Possibility of Hazardous Reactions</b>
<b>Nitrogen</b>	Oxides of nitrogen	Will not polymerize.
<b>Argon</b>	No data available.	Will not polymerize.
<b>Carbon Monoxide</b>	Oxides of carbon	Will not polymerize.
<b>Methane</b>	Oxides of carbon	Will not polymerize.
<b>Carbon Dioxide</b>	Carbon monoxide	Will not polymerize.
<b>Hydrogen</b>	Miscellaneous decomposition products	Will not polymerize.

## Section 11: Toxicology Information

### Acute Effects

	<b>Oral LD50</b>	<b>Dermal LD50</b>	<b>Inhalation</b>
<b>Nitrogen</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, tingling sensation, loss of coordination, convulsions, coma
<b>Argon</b>	Not established	Not established	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma
<b>Carbon Monoxide</b>	LC50 Inhalation Gas. Rat 1807 ppm 4 hours	Not available	Changes in body temperature, changes in blood pressure, nausea, vomiting, chest pain, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hallucinations, pain in extremities, tremors, loss of coordination, hearing loss, visual disturbances, eye damage, suffocation, blood disorders, convulsions, coma
<b>Methane</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma
<b>Carbon Dioxide</b>	Not established	Not established	Ringling in the ears, nausea, irregular heartbeat, headache, drowsiness, dizziness, tingling sensation, visual disturbances, suffocation, convulsions, coma
<b>Hydrogen</b>	Not available	Not available	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, convulsions, unconsciousness, coma

	<b>Eye Irritation</b>	<b>Skin Irritation</b>	<b>Sensitization</b>
<b>Nitrogen</b>	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing
<b>Argon</b>	No information on significant adverse effects	No information on significant adverse effects	
<b>Carbon Monoxide</b>	No information on significant adverse effects	No information on significant adverse effects	Acute toxicity, Category 3, inhalation; H331: Toxic if inhaled. Reproductive toxicity, Category 1A; H360D: May damage the unborn child. Specific Target Organ Toxicity (repeated exposure), Category 1; H372: Causes damage to organs through prolonged or repeated exposure.
<b>Methane</b>	No information on significant adverse effects	No information on significant adverse effects	Difficulty breathing
<b>Carbon Dioxide</b>	Irritation, frostbite, blurred vision	Liquid: blisters, frostbite	Difficulty breathing
<b>Hydrogen</b>	Not irritating	Not irritating	Difficulty breathing



## Chronic Effects

	<b>Carcinogenicity</b>	<b>Mutagenicity</b>	<b>Reproductive Effects</b>	<b>Developmental Effects</b>
<b>Nitrogen</b>	Not hazardous	Not available	Not available	No data
<b>Argon</b>	Not established	Not established	Not established	No data
<b>Carbon Monoxide</b>	Not available	Available.	Available.	No data
<b>Methane</b>	Not available	Not available	Not available	No data
<b>Carbon Dioxide</b>	Not available	Not established	Available.	No data
<b>Hydrogen</b>	Not available	Not available	Not available	No data

## Section 12: Ecological Information

### Fate and Transport

	<b>Eco toxicity</b>	<b>Persistence / Degradability</b>	<b>Bioaccumulation / Accumulation</b>	<b>Mobility in Environment</b>
<b>Nitrogen</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
<b>Argon</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available
<b>Carbon Monoxide</b>	Fish toxicity: 75000 ug/L 1 day(s) LC100 (Mortality) Orangespotted sunfish ( <i>Lepomis humilis</i> ) Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Relatively non-persistent in the environment. Highly volatile from water.	Not available	Not expected to leach through the soil or the sediment.
<b>Methane</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Relatively non-persistent in the environment. Moderately volatile from water.	Accumulates very little in the bodies of living organisms.	Not expected to leach through the soil or the sediment.
<b>Carbon</b>	Fish toxicity: 150000 ug/L 48 day(s)	Relatively non-persistent in the environment. Moderately volatile	Accumulates very little in the bodies of living organisms.	Leaches through the soil

<b>Dioxide</b>	(Mortality) Brown trout ( <i>Salmo trutta</i> ) Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	from water.		
<b>Hydrogen</b>	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

## Section 13: Disposal Considerations

<b>Nitrogen</b>	Dispose in accordance with all applicable regulations.
<b>Argon</b>	Dispose in accordance with all applicable regulations.
<b>Carbon Monoxide</b>	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
<b>Methane</b>	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
<b>Carbon Dioxide</b>	Dispose in accordance with all applicable regulations.
<b>Hydrogen</b>	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

## Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

<b>Shipping Name</b>	Compressed gas, flammable, n.o.s. (Hydrogen, Carbon Dioxide)
<b>UN Number</b>	UN1954
<b>Hazard Class</b>	2.1
<b>Hazard Information</b>	FLAMMABLE GAS

Individual Component Information

	<b>Proper Shipping Name</b>	<b>ID Number</b>	<b>Hazard Class or Division</b>	<b>Packing Group</b>	<b>Labeling Requirements</b>	<b>Passenger Aircraft or Railcar Quantity Limitations</b>	<b>Cargo Aircraft Only Quantity Limitations</b>	<b>Additional Shipping Description</b>
<b>Nitrogen</b>	Nitrogen, compressed	UN1066	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

	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>A r g o n</b>	Argon, compressed	UN1006	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A
<b>C a r b o n M o n o x i d e</b>	Carbon monoxide, compressed	UN1016	2.3	Not applicable	2.3; 2.1	Forbidden	25 kg	Toxic-Inhalation Hazard Zone D
<b>M e t h a n e</b>	Methane, compressed	UN1971	2.1	Not applicable	2.1	Forbidden	150 kg	N/A
<b>C a r b o n D i o x i d e</b>	Carbon dioxide	UN1013	2.2	Not applicable	2.2	75 kg or L	150kg	None
<b>H y d r o g e n</b>	Hydrogen, compressed	UN1049	2.1	Not applicable	2.1	Forbidden	150 kg	None

### Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
<b>N i t r o g e n</b>	Nitrogen, compressed	UN1066	2.2	Not applicable
<b>A r g o n</b>	Argon, compressed	UN1006	2.2	Not applicable
<b>C a r b o n M o n o x i d e</b>	Carbon monoxide, compressed	UN1016	2.3; 2.1	Not applicable
<b>M e t h a n e</b>	Methane, compressed	UN1971	2.1	Not applicable
<b>C a r b o n D i o x i d e</b>	Carbon dioxide	UN1013	2.2	Not applicable

<b>Hydrogen</b>	Hydrogen, compressed	UN1049	2.1	Not applicable
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## Section 15: Regulatory Information

### U.S. Regulations

	<b>CERCLA Sections</b>	<b>SARA 355.30</b>	<b>SARA 355.40</b>
<b>Nitrogen</b>	Not regulated.	Not regulated.	Not regulated.
<b>Argon</b>	Not regulated.	Not regulated.	Not regulated.
<b>Carbon Monoxide</b>	Not regulated.	Not regulated.	Not regulated.
<b>Methane</b>	Not regulated.	Not regulated.	Not regulated.
<b>Carbon Dioxide</b>	Not regulated.	Not regulated.	Not regulated.
<b>Hydrogen</b>	Not regulated.	Not regulated.	Not regulated.

### SARA 370.21

	<b>Acute</b>	<b>Chronic</b>	<b>Fire</b>	<b>Reactive</b>	<b>Sudden Release</b>
<b>Nitrogen</b>	Yes	No	No	No	Yes
<b>Argon</b>	Yes	No	No	No	Yes
<b>Carbon Monoxide</b>	Yes	No	Yes	No	Yes
<b>Methane</b>	Yes	No	Yes	No	Yes
<b>Carbon Dioxide</b>	Yes	No	No	No	Yes
<b>Hydrogen</b>	Yes	No	Yes	No	Yes

### SARA 372.65

<b>Nitrogen</b>	Not regulated.
<b>Argon</b>	Not regulated.
<b>Carbon Monoxide</b>	Not regulated.
<b>Methane</b>	Not regulated.
<b>Carbon Dioxide</b>	Not regulated.
<b>Hydrogen</b>	Not regulated.

### OSHA Process Safety

<b>Nitrogen</b>	Not regulated.
<b>Argon</b>	Not regulated.
<b>Carbon Monoxide</b>	Not regulated.
<b>Methane</b>	Not regulated.
<b>Carbon Dioxide</b>	Not regulated.
<b>Hydrogen</b>	Not regulated.

### State Regulations

	<b>CA Proposition 65</b>
<b>Nitrogen</b>	Not regulated.
<b>Argon</b>	Not regulated.
<b>Carbon Monoxide</b>	WARNING: This product can expose you to chemicals including Carbon Monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> .

<b>Methane</b>	Not regulated.
<b>Carbon Dioxide</b>	Not regulated.
<b>Hydrogen</b>	Not regulated.

### Canadian Regulations

	<b>WHMIS Classification</b>
<b>Nitrogen</b>	A
<b>Argon</b>	A
<b>Carbon Monoxide</b>	A, B1, D1A, D2A.
<b>Methane</b>	A, B1
<b>Carbon Dioxide</b>	A
<b>Hydrogen</b>	A, B1.

### National Inventory Status

	<b>US Inventory (TSCA)</b>	<b>TSCA 12b Export Notification</b>	<b>Canada Inventory (DSL/NDSL)</b>
<b>Nitrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Argon</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Carbon Monoxide</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Methane</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Carbon Dioxide</b>	Listed on inventory.	Not listed.	Listed on inventory.
<b>Hydrogen</b>	Listed on inventory.	Not listed.	Listed on inventory.

## Section 16: Other Information

	<b>NFPA Rating</b>
<b>Nitrogen</b>	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA
<b>Argon</b>	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA
<b>Carbon Monoxide</b>	HEALTH=2 FIRE=4 REACTIVITY=0
<b>Methane</b>	HEALTH=0 FIRE=4 REACTIVITY=0
<b>Carbon Dioxide</b>	HEALTH=3 FIRE=0 REACTIVITY=0 SPECIAL=SA
<b>Hydrogen</b>	HEALTH=0 FIRE=4 REACTIVITY=0

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