

# Safety Data Sheet

### **Section 1: Product and Company Identification**

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

Product Code: 2981

Synonyms: N/A

Recommended Use: CALIBRATION GAS

Usage Restrictions: INDUSTRIAL CALIBRATION GAS ONLY

### **Section 2: Hazards Identification**



Hazard Classification: Gases Under Pressure

**Hazard Statements:** 

Contains gas under pressure; may explode if heated Toxic to aquatic life

**Precautionary Statements** 

Storage:

Protect from sunlight. Store in well-ventilated place.

### Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Carbon Monoxide	630-08-0	60PPM
Hydrogen Sulfide	7783-06-4	15PPM
Methane	74-82-8	2.5%
Oxygen	7782-44-7	15%
Nitrogen	7727-37-9	BALANCE

	Chemical Substance	Chemical Family	Trade Names
Carbon Monoxide	CARBON MONOXIDE	Inorganic gases	CARBON OXIDE; CARBON OXIDE (CO); UN 1016; CO
Hydrogen Sulfide	HYDROGEN SULFIDE	Inorganic gases	HYDROGEN SULFIDE (H2S); DIHYDROGEN MONOSULFIDE; DIHYDROGEN SULFIDE; HYDROSULFURIC ACID; SULFUR DIHYDRIDE; SULFURETED HYDROGEN; SULFUR HYDRIDE; STINK DAMP; SEWER GAS; RCRA U135; UN 1053; H2S
Methane	METHANE, COMPRESSED GAS	Hydrocarbons, Aliphatic, Saturated	FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; UN 1971; R50; CH4
Oxygen	OXYGEN, COMPRESSED GAS	Inorganic gases	OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; O2
Nitrogen	NITROGEN, COMPRESSED GAS	Inorganic gases	DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2

### **Section 4: First Aid Measures**

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Carbon Monoxi de	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.
Hydrog en Sulfide	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.
Methan e	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.
Oxygen	None expected	None expected	Not likely route of exposure	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.	None

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Nitroge n	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**

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
Carbon Monoxi de	Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Carbon dioxide	<ul> <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>
Hydrog en Sulfide	Let burn unless leak can be stopped immediately. Large fires: Use regular foam or flood with fine water spray.	Sulfur oxides	<ul> <li>Any self-contained breathing apparatus with a full facepiece.</li> <li>Protective material types: butyl rubber, polyvinyl chloride (PVC), neoprene</li> </ul>
Methan e	Carbon dioxide, regular dry chemical Large fires: Use regular foam or flood with fine water spray.	Carbon monoxide, carbon dioxide, water	<ul> <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>
Oxygen	Non-flammable. Use extinguishing agent appropriate for the material which is burning. Use water in large quantities for fires involving oxygen.	Oxides of burning material	<ul> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> <li>None</li> </ul>
Nitroge n	Non-flammable. Use suitable extinguishing media for surrounding fire. Cylinders may rupture or explode if exposed to heat.	Non-flammable	<ul> <li>Respiratory protection may be needed for frequent or heavy exposure.</li> </ul>

## Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
Carbon Monoxi de	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.
Hydrog en Sulfide	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. For tank, rail car or tank truck: 800 meters (1/2 mile). Do not touch spilled material.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Remove sources of ignition. Reduce vapors with water spray. Do not get water directly on material.

	Personal Precautions	Environmental Precautions	Methods for Containment
Methan e	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.
Oxygen	Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering.	Avoid contact with combustible materials.	Stop leak if possible without personal risk.
Nitroge n	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.

	Methods for Cleanup	Other Information
Carbon Monoxide	Stop leak, evacuate area. Wear protective equipment.	Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
Hydrogen Sulfide	Collect runoff for disposal as potential hazardous waste. Dike for later disposal. Absorb with sand or other non-combustible material. Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).  Notify Local Emergency Plar Committee and State Emerg Response Commission for regreater than or equal to RQ (Section 304). If release occu U.S. and is reportable under Section 103, notify the Nation Response Center at (800)42 (USA) or (202)426-2675 (USA)	
Methane	Not available	Not available
Oxygen	Stop leak and ventilate	None
Nitrogen	N/A	N/A

# **Section 7: Handling and Storage**

	Handling	Storage
Carbon Monoxide	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.
Hydrogen Sulfide	Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store outside or in a detached building. Store in a cool, dry place. Store in a well-ventilated area. Avoid contact with light. Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355.30). Keep separated from incompatible substances.	Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.
Methane	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.
Oxygen	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.
Nitrogen	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.

### **Section 8: Exposure Controls/Personal Protection**

	Exposure Guidelines
Carbon Monoxide	CARBON MONOXIDE: 50 ppm (55 mg/m3) OSHA TWA 35 ppm (40 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 200 ppm (229 mg/m3) OSHA ceiling (vacated by 58 FR 35338, June 30, 1993) 25 ppm ACGIH TWA 35 ppm (40 mg/m3) NIOSH recommended TWA 10 hour(s) 200 ppm (229 mg/m3) NIOSH recommended ceiling
Hydrogen Sulfide	HYDROGEN SULFIDE: 20 ppm OSHA ceiling 50 ppm OSHA peak 10 minute(s) (once if no other measurable exposure occurs) 10 ppm (14 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 15 ppm (21 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993) 10 ppm ACGIH TWA 15 ppm ACGIH STEL 10 ppm (15 mg/m3) NIOSH recommended ceiling 10 minute(s) TLV-TWA: 1ppm Upper respiratory irritation (ACGIH)
Methane	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
Oxygen	OXYGEN, COMPRESSED GAS: No occupational exposure limits established.
Nitrogen	NITROGEN: ACGIH (simple asphyxiant)

#### **Engineering Controls**

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection	
Carbon Monoxide	Eye protection not required, but recommended.	Protective clothing is not required.	Any supplied-air respirator with full facepiece and operated in a pressuredemand or other positive-pressure mode in combination with a separate escape supply	
Hydrogen Sulfide	Wear splash resistant safety goggles with a face shield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	Wear appropriate chemical resistant clothing.	Any self-contained breathing apparatus with a full facepiece.	
Methane	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.	
Oxygen	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.	
Nitrogen	Eye protection not required, but recommended.	Protective clothing is not required.	Respiratory protection may be needed for frequent or heavy exposure.	

#### **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
Carbo n Mono xide	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless

	Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
Hydro gen Sulfid e	Gas	Colorless	Colorless	N/A	Gas	Rotten egg odor	N/A
Meth ane	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless
Oxyg en	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless
Nitro gen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignitio n Temperatur e	Upper Explosive Limits	Lower Explosive Limits
Carb on Mono xide	Flammable	Not available	1479.11 (log = 3.17) (estimated from water solubility)	1128-1202 F (609-650 C)	0.74	12.0-12.5%
Hydr ogen Sulfid e	Flammable	Not available	Not available	500 F (260 C)	45.5%	3.9%
Meth ane	-369 F (-223 C)	Not available	724.44 (log = 2.87) (estimated from water solubility)	999 F (537 C)	15%	5%
Oxyg en	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable
Nitro gen	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	рН	Odor Threshol d	Evaporati on Rate	Viscosi ty
Car bon Mo nox ide	-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 applic able	Not available	Not applicable	0.01657 cP @ 0 C
Hy dro gen Sul fide	-78 to -77 F (-61 to - 60.3 C)	-123 F (-86 C)	15200 mmHg @ 25 C	1.2 (Air=1)	1.192	2.58-2.9% @ 20 C	4.5-<7 (satur ated solutio n)	0.13 ppm	Not applicable	0.0128 cP @ 25 C
Me tha ne	-260 F (- 162 C)	-297 F (- 183 C)	760 mmHg @ -161 C	0.555 (Air=1)	Not applicable	3.5% @ 17 C	Not applic able	Not available	Not applicable	0.01118 cP @ 27 C
Ox yge n	-297 F (- 183 C)	-360 F (- 218 C)	760 mmHg @ -183 C	1.1 (Air=1)	Not applicable	3.2% @ 25 C	Not applic able	Not available	Not applicable	0.02075 cP @ 25 C
Nit rog en	-321 F (- 196 C)	-346 F (- 210 C)	760 mmHg @ -196 C	0.967 (Air=1)	Not applicable	1.6% @ 20 C	Not applic able	Not available	Not applicable	0.01787 cP @ 27 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Carb on Mon oxid e	28.01	C-0	1.250 g/L @ 0 C	Not available	100%	Not applicable	Soluble: Alcohol, benzene, acetic acid, ethyl acetate, chloroform, cuprous chloride solutions

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Hydr ogen Sulfi de	34.08	H2-S	1.539 g/L @ 0 C	Not available	Not available	Not applicable	Soluble: Carbon disulfide, alcohol, ether, glycerol, gasolines, kerosene, crude oil, alkali solutions
Meth ane	16.04	C-H4	0.717 g/L @ 0 C	Not available	Not applicable	Not applicable	Soluble: Alcohol, ether, benzene, organic solvents
Oxyg en	31.9988	O2	1.309 g/L @ 25 C	Not available	Not applicable	Not applicable	Soluble: Alcohol
Nitro gen	28.0134	N2	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia

### **Section 10: Stability and Reactivity**

	Stability	Conditions to Avoid	Incompatible Materials
Carbon Monoxide	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Oxidizing materials, halogens, metal oxides, metals, combustible materials, lithium
Hydrogen Sulfide	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Combustible materials, metals, oxidizing materials, halogens, metal oxides, metal salts, bases, rust, oxidants, oxygen, copper powder, acetaldehyde, silver fulminate
Methane	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Halogens, oxidizing materials, combustible materials
Oxygen	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Combustible materials, halo carbons, metals, bases, reducing agents, amines, metal salts, oxidizing materials, alkaline earth and alkali metals
Nitrogen	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Metals, oxidizing materials

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Carbon Monoxide	Oxides of carbon	Will not polymerize.
Hydrogen Sulfide	Oxides of sulfur	Will not polymerize.
Methane	Oxides of carbon	Will not polymerize.
Oxygen	Miscellaneous decomposition products	Will not polymerize.
Nitrogen	Oxides of nitrogen	Will not polymerize.

# **Section 11: Toxicology Information**

#### **Acute Effects**

	Oral LD50	Dermal LD50	Inhalation
Carbon Monoxid e	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
Hydroge n Sulfide	444 ppm inhalation-rat LC50	Irritation 0.000125 ppm/5 hour(s) eyes-human	Irritation, lack of sense of smell, sensitivity to light, nausea, vomiting, difficulty breathing, headache, drowsiness, dizziness, disorientation, tremors, visual disturbances, suffocation, lung congestion, internal bleeding, heart damage, nerve damage, brain damage, coma, death
Methan e	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
Oxygen	Not established	Not established	Irritation, changes in body temperature, nausea, difficulty breathing, irregular heartbeat, dizziness, disorientation, hallucinations, mood swings, pain in extremities, tremors, lung congestion, convulsions

	Oral LD50	Dermal LD50	Inhalation
Nitroge	Not available	Not available Nausea, vomiting, difficulty breathing, headache,	
n			drowsiness, dizziness, tingling sensation, loss of
			coordination, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
Carbon Monox ide	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.
Hydro gen Sulfide	Irritation, sensitivity to light, visual disturbances	Irritation liquid: frostbite	Acute toxicity, Category 2, inhalation; H330: Fatal if inhaled. Specific Target Organ Toxicity (single exposure), Category 3; H335: May cause respiratory irritation. Hazardous to the aquatic environment, Acute Category 1; H400: Very toxic to aquatic life
Metha ne	No information on significant adverse effects	No information on significant adverse effects	Difficulty breathing
Oxyge n	No information on significant adverse effects	No information on significant adverse effects	No significant target effects reported.
Nitrog en	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing

#### **Chronic Effects**

	Carcinogenicity	Mutagenicity	Reproductive Effects	Develo pmenta I Effects
Carbon Monoxi de	Not available	Available.	Available.	No data
Hydrog en Sulfide	Not available	Not available	Available.	No data
Methan e	Not available	Not available	Not available	No data
Oxygen	Not known.	Available.	Available.	No data
Nitroge n	Not hazardous	Not available	Not available	No data

# **Section 12: Ecological Information**

**Fate and Transport** 

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Carbo n Mono xide	Fish toxicity: 75000 ug/L 1 day(s) LC100 (Mortality) Orangespotted sunfish (Lepomis humilis) Invertibrate 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.
Hydro gen Sulfid e	Fish toxicity: Acute LC50 7 ug/L Fresh water Fish - Fathead minnow - Pimephales	Highly toxic to aquatic life.	Not available	Not available

	promelas - FRY 96 hours; 14.9 ug/L 96 hour(s) LC50 (Mortality) Fathead minnow (Pimeph Invertibrate toxicity: 9730 ug/L 1.5 hour(s) (Mortality) Mediterranean mussel (Mytilus galloprovincialis) Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available			
Meth ane	Fish toxicity: Not available Invertibrate 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.
Oxyg en	Fish toxicity: Not available Invertibrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Low bioaccumulation	Not available
Nitro gen	Fish toxicity: Not available Invertibrate 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**

Carbon Monoxide	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Hydrogen Sulfide	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U135.
Methane	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Oxygen	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Nitrogen	Dispose in accordance with all applicable regulations.

### **Section 14: Transportation Information**

#### U.S. DOT 49 CFR 172.101

#### **DOT Information For This Mixture**

Shipping Name	Compressed gas, n.o.s. (Nitrogen, Oxygen)
UN Number	UN1956
Hazard Class	2.2
Hazard Information	Non-Flammable Gas

#### **Individual Component Information**

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requiremen ts	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Descriptio n
C a r b o n M o n o xi d e	Carbon monoxide, compressed	UN1016	2.3	Not applicable	2.3; 2.1	Forbidden	25 kg	Toxic- Inhalation Hazard Zone D
H ydrogenSulfide	Hydrogen sulfide	UN1053	2.3	Not applicable	2.3; 2.1	Forbidden	Forbidden	Toxic- Inhalation Hazard Zone B
M et h a n	Methane, compressed	UN1971	2.1	Not applicable	2.1	Forbidden	150 kg	N/A
O x y g e n	Oxygen, compressed	UN1072	2.2	Not available	2.2; 5.1	75 kg or L	150 kg	N/A
N it r o g e n	Nitrogen, compressed	UN1066	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

#### **Canadian Transportation of Dangerous Goods**

- contraction -					
Shipping Name	UN Number	Class	Packing Group / Risk		
			Group		

Car bon Mo nox ide	Carbon monoxide, compressed	UN1016	2.3; 2.1	Not applicable
Hy dro gen Sul fide	HYDROGEN SULFIDE; or HYDROGEN SULPHIDE	UN1053	2.3; 2.1	Not applicable
Met han e	Methane, compressed	UN1971	2.1	Not applicable
Oxy gen	Oxygen, compressed	UN1072	2.2; 5.1	Not applicable
Nitr oge n	Nitrogen, compressed	UN1066	2.2	Not applicable

# Section 15: Regulatory Information

**U.S.** Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40	
Carbon Monox ide	Not regulated.	Not regulated.	Not regulated.	
Hydro gen Sulfide	100 LBS RQ	500 LBS TPQ	100 LBS RQ	
Metha ne	Not regulated.	Not regulated.	Not regulated.	
Oxyge n	Not regulated.	Not regulated.	Not regulated.	
Nitrog en	Not regulated.	Not regulated.	Not regulated.	

#### **SARA 370.21**

	Acute	Chronic	Fire	Reactive	Sudden Release
Carb on Mon oxid e	Yes	No	Yes	No	Yes
Hydr ogen Sulfi de	Yes	No	Yes	No	Yes
Met hane	Yes	No	Yes	No	Yes
Oxy gen	No	No	Yes	No	Yes
Nitr ogen	Yes	No	No	No	Yes

#### **SARA 372.65**

Carbon Monoxide	Not regulated.	
Hydrogen Sulfide	, , , , , , , , , , , , , , , , , , , ,	
	1994	
Methane	Not regulated.	
Oxygen	Not regulated.	
Nitrogen	Not regulated.	

#### **OSHA Process Safety**

Carbon Monoxide	Not regulated.
Hydrogen Sulfide	1500 LBS TQ
Methane	Not regulated.

Oxygen	Not regulated.
Nitrogen	Not regulated.

State Regulations

	CA Proposition 65
Carbon Monoxide  WARNING: This product can expose you to chemicals including Carbon Monoxis known to the State of California to cause birth defects or other reproductive more information go to www.P65Warnings.ca.gov.	
Hydrogen Sulfide	Not regulated.
Methane	Not regulated.
Oxygen	Not regulated.
Nitrogen	Not regulated.

**Canadian Regulations** 

	WHMIS Classification
Carbon Monoxide	A, B1, D1A, D2A.
Hydrogen Sulfide	A, B1, D1A, D2B.
Methane	A, B1
Oxygen	A,C
Nitrogen	A

**National Inventory Status** 

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Carb on Mono xide	Listed on inventory.	Not listed.	Listed on inventory.
Hydr ogen Sulfi de	Listed on inventory.	Not listed.	Listed on inventory.
Meth ane	Listed on inventory.	Not listed.	Listed on inventory.
Oxyg en	Listed on inventory.	Not listed.	Not determined.
Nitro gen	Listed on inventory.	Not listed.	Listed on inventory.

## **Section 16: Other Information**

	NFPA Rating
Carbon Monoxide	HEALTH=2 FIRE=4 REACTIVITY=0
Hydrogen Sulfide	HEALTH=4 FIRE=4 REACTIVITY=0
Methane HEALTH=0 FIRE=4 REACTIVITY=0	
Oxygen HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=OX	
Nitrogen HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA	

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