



Safety Data Sheet

Methane (0.0001-4.4%) in Air

In Case of Emergency: Chemtrec 800-424-9300

Section 1: Product and Company Identification

Gas and Supply

125 Thruway Park
Broussard, LA 70518
877-441-7311
Fax: 337-839-8235
www.gasandsupply.com

Product Code: 060415-1

Recommended Use: Synthetic/Analytical chemistry.

Section 2: Hazards Identification



Warning

Hazard Classification:

Compressed Gas - H280

Hazard Statements:

H280 - Contains gas under pressure; may explode if heated

Precautionary Statements

P202 - Do not handle until all safety precautions have been read and understood
P271 - Use only outdoors or in a well-ventilated area
P304 + P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P313 - Get medical advice/attention
CGA-PG05 - Use a back flow preventive device in the piping
CGA-PG21 - Open valve slowly
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-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F)
P403 - Store in a well-ventilated place

Other Hazards: No additional information

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Methane	74-82-8	0.0001-4.4%
Nitrogen	7727-37-9	74.7-79.1%
Oxygen	7782-44-7	20.9%

	Chemical Substance	Chemical Family	Trade Names
Methane	METHANE, COMPRESSED GAS	hydrocarbons, gas	FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; UN 1971; R50; CH4
Nitrogen	NITROGEN, COMPRESSED GAS	inorganic, gas	DIATOMIC NITROGEN; DINITROGEN; NITROGEN; NITROGEN-14; NITROGEN GAS; UN 1066; N2
Oxygen	OXYGEN, COMPRESSED GAS	inorganic, gas	OXYGEN; DIOXYGEN; MOLECULAR OXYGEN; OXYGEN MOLECULE; PURE OXYGEN; UN 1072; O2

Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
	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

Section 5: Fire Fighting Measures

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
	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">Respiratory protection may be needed for frequent or heavy exposure.

Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
	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
	Stop leak and ventilate	None

Section 7: Handling and Storage

	Handling	Storage
	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
	Ensure adequate exhaust ventilation.

Engineering Controls

Handle only in fully enclosed systems or with adequate ventilation.

Eye Protection	Skin Protection	Respiratory Protection
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
Methane	Gas	Colorless	Colorless	N/A	Gas, liquid	Odorless	Tasteless
Nitrogen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless
Oxygen	Gas	Clear	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Methane	-369 F (-223 C)	Not available	724.44 (log = 2.87) (estimated from water solubility)	999 F (537 C)	15%	5%
Nitrogen	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable
Oxygen	Not flammable	Not available	Not available	Nonflammable	Nonflammable	Nonflammable

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
Methane	-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
Nitrogen	-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
Oxygen	-297 F (-183 C)	-360 F (-218 C)	760 mmHg @ -183 C	1.1 (Air=1)	Not applicable	3.2% @ 25 C	Not applicable	Not available	Not applicable	0.02075 cP @ 25 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Methane	16.04	C-H4	0.717 g/L @ 0 C	Not available	Not applicable	Not applicable	Soluble: Alcohol, ether, benzene, organic solvents
Nitrogen	28.0134	N2	1.2506 g/L	Not available	100%	1	Soluble: Liquid ammonia
Oxygen	31.9988	O2	1.309 g/L @ 25 C	Not available	Not applicable	Not applicable	Soluble: Alcohol

Section 10: Stability and Reactivity

Stability	Conditions to Avoid	Incompatible Materials
Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	None known

Hazardous Decomposition Products	Possibility of Hazardous Reactions
Under normal conditions of storage and use hazardous decomposition should not occur.	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

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

	Eye Irritation	Skin Irritation	Sensitization
	Contact with rapidly expanding gas may cause burns or frostbite	No information on significant adverse effects	Difficulty breathing

Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Methane	Not available	Not available	Not available	No data
Nitrogen	Not hazardous	Not available	Not available	No data
Oxygen	Not known.	Available.	Available.	No data

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Methane	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.
Nitrogen	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
Oxygen	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Low bioaccumulation	Not available

Section 13: Disposal Considerations

Dispose in accordance with all applicable regulations.
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Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

	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
	Compressed gas, n.o.s. (Air, Methane)	UN1956	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
	Compressed gas, n.o.s. (Air, Methane)	UN1956	2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
Methane	Not regulated.	Not regulated.	Not regulated.
Nitrogen	Not regulated.	Not regulated.	Not regulated.
Oxygen	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
Methane	Yes	No	Yes	No	Yes
Nitrogen	Yes	No	No	No	Yes
Oxygen	No	No	Yes	No	Yes

SARA 372.65

Methane	Not regulated.
Nitrogen	Not regulated.
Oxygen	Not regulated.

OSHA Process Safety

Methane	Not regulated.
Nitrogen	Not regulated.
Oxygen	Not regulated.

State Regulations

	CA Proposition 65
Methane	Not regulated.
Nitrogen	Not regulated.
Oxygen	Not regulated.

Canadian Regulations

	WHMIS Classification
Methane	A, B1
Nitrogen	A
Oxygen	A,C

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Methane	Listed on inventory.	Not listed.	Listed on inventory.
Nitrogen	Listed on inventory.	Not listed.	Listed on inventory.
Oxygen	Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

NFPA Rating
HEALTH=1 FIRE=0 REACTIVITY=0

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

Disclaimer: The information contained herein is accurate to the best of our knowledge. Gas and Supply makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.