



Material Safety Data Sheet

Methane 50% LEL in Air
(2.5% by vol.) Cylinder

(REVISED 9/25/02)

EMERGENCY PHONE: (800) 424-9300

Section 1 - Identification

Product Code: 631-050P-85
Product Name: Cylinder, Methane 50% LEL (2.5% by volume),
Balance Air
Synonyms: CH₄ 2.5% by volume, CH₄ 50% LEL
Chemical Family: Gas Mixtures
CAS #: 74-82-8
Molecular Formula: CH₄ (2.5% by volume)

NFPA Rating

Health	1
Flammability	0
Reactivity	0
Special	None

Section 2 - Ingredients

Chemical	CAS #	%	OSHA/PEL	ACGIH TLV
Methane	74-82-8	2.0 < x < 3.0	None	None
Air	N/A	97.0 < x < 98.0	None	None

Section 3 - Physical Data

Boiling Point: -161.5°C. (-258.7° F.)
% Volatiles: N/A
Solubility in Water: Slightly Soluble
Specific Gravity (H₂O = 1): N/A
Freezing Point: -183°C. (-297° F.)
Evaporation Rate
(butyl acetate = 1): N/A
Vapor Density (air = 1): 0.555
Vapor Pressure: N/A
Appearance and Odor: Odorless, colorless gas
Other:

Section 4 - Fire and Explosion Hazard Data

Flash Point (°F):	N/A
Flammable Limits in Air, % by volume:	Lower: 5.0% CH ₄ Upper: 15.0% CH ₄
Autoignition Temperature:	537°C. (999° F.)
Extinguishing Media:	Carbon dioxide, regular dry chemical. For large fires use regular foam or flood with fin water spray.
Special Fire Fighting Procedures:	Wear positive pressure SCBA's for all fire fighting involving hazardous materials. Full structural fire fighting gear is the minimum acceptable attire. Stop flow of gas supply if possible. Use water spray to cool surrounding containers until well after flames are extinguished. Cylinders may rupture violently when involved in a fire situation.
NFPA Ratings (Scale 0-4):	Health = 1, Fire = 0, Reactivity = 0

Section 5 - Health Data

OSHA (PEL):	CH ₄	None
	Air	None

ACGIH (TLV):	CH ₄	None
	Air	None

ANIMAL TOXICITY

LDLO unr-man:	N/A
LD50: Oral - rat	N/A
Skin - rabbit	N/A
Carcinogenicity:	No

EFFECTS OF EXPOSURE

Acute Effects

Ingestion:	N/A
Skin Contact:	None.
Eye Contact:	None.
Inhalation:	Depending on exposure, inhalation can cause nausea, vomiting, dizziness, tingling sensation, convulsions, suffocation, unconsciousness, coma, and death.
Medical Conditions, if any, aggravated by the chemical:	None identified.
Other health hazards:	None.
Most likely routes of entry:	Inhalation. Methane is not toxic by any route, but asphyxiation may occur if the oxygen concentration drops below 18% by displacement.



Section 5 - Health Data (continued)

Chronic Effects

Ingestion: N/A
Skin Contact: None.
Eye Contact: None.
Inhalation: None.
Other: N/A

EMERGENCY AND FIRST AID PROCEDURES

Ingestion: None Required.
Skin Contact: None Required.
Eye Contact: None Required.
Inhalation: Asphyxiation is the primary health risk. Rescue personnel should be equipped with self-contained breathing apparatus. Victims should be removed to fresh air and be treated with supplemental oxygen. Monitor breathing and pulse. Keep victim warm and comfortable while awaiting professional medical care.

Section 6 - Reactivity

Incompatibility: Combustible materials, halogens, some halogen compounds, oxidizing materials.
Hazardous Decomposition Products: Thermal decomposition products: oxides of carbon.
Stability: Stable.
Hazardous Polymerization: Will not occur.
Other: Avoid heat, flames, sparks and other sources of ignition.

Section 7 - Environmental Information

RCRA Code: N/A
TSCA Registered: Listed on the Inventory of Chemical Substances.
Spill and Leak Procedures: Remove all personnel from affected areas. Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Attempt to stop release. Ventilate area thoroughly and do not enter without breath equipment unless areas has been pronounced safe.
Waste Disposal: Dispose in accordance with all applicable federal, state, and local environmental regulations. Treat process and other exhaust streams appropriately before release into the atmosphere. US EPA waste number and description: D001 (ignitability).



Section 8 - Protection Information

Ventilation Requirement: Ensure adequate ventilation to comply with applicable exposure limits.
Respiratory Protection: Positive pressure air line with mask and escape bottle or self-contained breathing apparatus should be available for emergency use or when exposure to gas is possible.
Protective Gloves: Gloves made of suitable material.
Eye/Face Protection: Safety goggles.
Skin Protection: When changing cylinder or exposure to the gas is possible, wear appropriate skin protection to both exposure to the gas as well as any fire that might result from its release into the air

Section 9 - Special Precautions

Handling and Storage: Handle this material only in sealed, purged systems. Use only in well ventilated areas. Local exhaust system is required and a secondary containment with exhaust treatment is strongly recommended (required in some areas). Do not drag, slide or roll cylinders. Always use a suitable hand truck for moving cylinders. Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910-106. Keep separated from incompatible substances. When removing the plug to connect the cylinder to your system, face the outlet away from you and wear appropriate protective equipment.
Other Precautions: Do not heat cylinder by any means. Cylinder temperature should never exceed 50°C. (122° F.). Store cylinders upright and firmly secured to prevent falling or being knocked over. Protect cylinders from physical damage.

Section 10 - Transportation Information - U.S. Department of Transportation

Proper Shipping Name: Methane (in air) compressed; Non-Flammable gas.
Hazardous Class: 2.2.
UN#: 1956.
Shipping label: Non-Flammable Gas
Reportable Quantity: 5,000 lbs.
Other: Transportation by air is permitted in cargo aircraft only.

Section 11 - Comments

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.