



**MATHESON**

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## Safety Data Sheet

**Material Name:** Methane

**SDS ID:** 00244226

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### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

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**Material Name**

Methane

**Synonyms**

FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; R50

**Chemical Family**

Hydrocarbons, Gas

**Product Use**

Industrial and Specialty Gas Applications.

**Restrictions on Use**

None known.

**Details of the supplier of the safety data sheet**

MATHESON TRI-GAS, INC.

150 Allen Road, Suite 302

Basking Ridge, NJ 07920

General Information: 1-800-416-2505

Emergency #: 1-800-424-9300 (CHEMTREC)

Outside the US: 703-527-3887 (Call collect)

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### Section 2 - HAZARDS IDENTIFICATION

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**Classification in accordance with paragraph (d) of 29 CFR 1910.1200.**

Flammable Gases - Category 1

Gases Under Pressure - Compressed gas

Simple Asphyxiant -

**GHS Label Elements**

**Symbol(s)**



**Signal Word**

Danger

**Hazard Statement(s)**



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Extremely flammable gas.  
Contains gas under pressure; may explode if heated.  
May displace oxygen and cause rapid suffocation.

**Precautionary Statement(s)****Prevention**

Keep away from heat, sparks, open flame, and hot surfaces - No smoking.

**Response**

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.

**Storage**

Store in a well-ventilated place.  
Protect from sunlight.

**Disposal**

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Other Hazards**

Rapid release of compressed gas may cause frostbite.

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### Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
74-82-8	METHANE	100

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### Section 4 - FIRST AID MEASURES

**Inhalation**

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.

**Skin**

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.

**Eyes**

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**Ingestion**

If swallowed, get medical attention.



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**Material Name: Methane****SDS ID: 00244226****Most Important Symptoms/Effects****Acute**

frostbite, suffocation

**Delayed**

no information on significant adverse effects.

**Note to Physicians**

For inhalation, consider oxygen.

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### Section 5 - FIRE FIGHTING MEASURES

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**Extinguishing Media****Suitable Extinguishing Media**

carbon dioxide, regular dry chemical, Large fires: Use regular foam or flood with fine water spray.

**Unsuitable Extinguishing Media**

None known.

**Special Hazards Arising from the Chemical**

Severe fire hazard. Severe explosion hazard. Pressurized containers may rupture or explode if exposed to sufficient heat. Vapor/air mixtures are explosive above flash point. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

**Fire Fighting Measures**

Move container from fire area if it can be done without risk. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Stop flow of gas.

**Special Protective Equipment and Precautions for Firefighters**

Wear full protective fire fighting gear including self contained breathing apparatus (SCBA) for protection against possible exposure.

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### Section 6 - ACCIDENTAL RELEASE MEASURES

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**Personal Precautions, Protective Equipment and Emergency Procedures**

Wear personal protective clothing and equipment, see Section 8.

**Methods and Materials for Containment and Cleaning Up**

Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering. Leaking gas fire: Do not extinguish, unless leak can be stopped



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safely. Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray.

**Environmental Precautions**

Avoid release to the environment.

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### Section 7 - HANDLING AND STORAGE

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**Precautions for Safe Handling**

Wash hands thoroughly after handling.

**Conditions for Safe Storage, Including any Incompatibilities**

Store in a well-ventilated place.

Protect from sunlight.

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.

**Incompatible Materials**

combustible materials, halogens, oxidizing materials

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### Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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**Component Exposure Limits**

METHANE	74-82-8
ACGIH:	(See Appendix F: Minimal Oxygen Content)

**EU - Occupational Exposure (98/24/EC) - Binding Biological Limit Values and Health Surveillance Measures**

There are no biological limit values for any of this product's components.

**ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)**

There are no biological limit values for any of this product's components.

**Engineering Controls**

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

**Individual Protection Measures, such as Personal Protective Equipment****Eye/face protection**

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.



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**Material Name: Methane****SDS ID: 00244226****Skin Protection**

For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

**Respiratory Protection**

Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use. For Unknown Concentrations or Immediately Dangerous to Life or Health -. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

**Glove Recommendations**

For the gas: Wear appropriate chemical resistant gloves. For the liquid: Wear insulated gloves.

### Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	colorless gas	Physical State	gas
Odor	odorless	Color	colorless
Odor Threshold	Not available	pH	Not available
Melting Point	-183 °C (-297 °F)	Boiling Point	-162 °C (-260 °F)
Freezing point	Not available	Evaporation Rate	Not available
Boiling Point Range	Not available	Flammability (solid, gas)	Not available
Autoignition	537 °C (999 °F)	Flash Point	-223 °C (-369 °F)
Lower Explosive Limit	5 %	Decomposition	Not available
Upper Explosive Limit	15 %	Vapor Pressure	760 mmHg at -161 °C
Vapor Density (air=1)	0.555	Specific Gravity (water=1)	Not available
Water Solubility	3.5 % (@ 17 °C)	Partition coefficient: n-octanol/water	724.44
Viscosity	0.01118 cp	Solubility (Other)	Not available
Bioconcentration Factor (BCF)	1.68	Density	0.717 g/L at 0 °C
Henry's Law Constant	0.0004583 atm-m <sup>3</sup> /mole	KOC	2192.8 (estimated from water solubility)



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Physical Form	gas	Taste	tasteless
Molecular Formula	C-H4	Molecular Weight	16.04

**Solvent Solubility****Soluble**

alcohol, ether, Benzene, organic solvents

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**Section 10 - STABILITY AND REACTIVITY**

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**Reactivity**

No reactivity hazard is expected.

**Chemical Stability**

Stable at normal temperatures and pressure.

**Possibility of Hazardous Reactions**

Will not polymerize.

**Conditions to Avoid**

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

**Incompatible Materials**

combustible materials, halogens, oxidizing materials

**Hazardous decomposition products**

Oxides of carbon

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**Section 11 - TOXICOLOGICAL INFORMATION**

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**Information on Likely Routes of Exposure****Inhalation**

nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, Disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, Unconsciousness, coma

**Skin Contact**

Frostbite.

**Eye Contact**

no information on significant adverse effects

**Ingestion**

ingestion of a gas is unlikely

**Acute and Chronic Toxicity**



## Safety Data Sheet

**Material Name: Methane****SDS ID: 00244226****Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and no selected endpoints have been identified

**Immediate Effects**

frostbite, suffocation

**Delayed Effects**

no information on significant adverse effects.

**Irritation/Corrosivity Data**

No animal testing data available for skin or eyes.

**Respiratory Sensitization**

No data available.

**Dermal Sensitization**

No data available.

**Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA

**Germ Cell Mutagenicity**

No data available.

**Tumorigenic Data**

No data available

**Reproductive Toxicity**

No data available.

**Specific Target Organ Toxicity - Single Exposure**

No data available.

**Specific Target Organ Toxicity - Repeated Exposure**

No data available.

**Aspiration hazard**

Not applicable.

**Medical Conditions Aggravated by Exposure**

None known.

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### Section 12 - ECOLOGICAL INFORMATION

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**Component Analysis - Aquatic Toxicity**

No LOLEcotoxicity data are available for this product's components

**Persistence and Degradability**

No data available.



## Safety Data Sheet

**Material Name: Methane****SDS ID: 00244226****Bioaccumulative Potential**

No data available.

**Mobility**

No data available.

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### Section 13 - DISPOSAL CONSIDERATIONS

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**Disposal Methods**

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

**Component Waste Numbers**

The U.S. EPA has not published waste numbers for this product's components

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### Section 14 - TRANSPORT INFORMATION

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**US DOT Information:**

Shipping Name: Methane, compressed

Hazard Class: 2.1

UN/NA #: UN1971

Required Label(s): 2.1

**IMDG Information:**

Shipping Name: Methane, compressed

Hazard Class: 2.1

UN#: UN1971

Required Label(s): 2.1

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### Section 15 - REGULATORY INFORMATION

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**U.S. Federal Regulations**

None of this products components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**SARA Section 311/312 (40 CFR 370 Subparts B and C)**

Acute Health: Yes Chronic Health: No Fire: Yes Pressure: Yes Reactivity: No

**U.S. State Regulations**

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
METHANE	74-82-8	No	Yes	Yes	Yes	Yes





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**Material Name: Methane****SDS ID: 00244226****Not listed under California Proposition 65****Canadian WHMIS Ingredient Disclosure List (IDL)**

The components of this product are either not listed on the IDL or are present below the threshold limit listed on the IDL.

**WHMIS Classification**

A., B1.

**Component Analysis - Inventory**

METHANE (74-82-8)

US	CA	EU	AU	PH	JP - ENCS	JP - ISHL	KR - KECI/KECL	KR - TCCA	CN	NZ	MX	TW
Yes	DSL	EIN	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes

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**Section 16 - OTHER INFORMATION**

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**NFPA Ratings**

Health: 2 Fire: 4 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Summary of Changes**

Updated: 05/01/2015

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH - Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of



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Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

### **Other Information**

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