Safety Data Sheet

Material Name: METHANE, COMPRESSED GAS

**Section 1 - PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** METHANE, COMPRESSED GAS

**Manufacturer Information**
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)

**Chemical Family**
hydrocarbons, gas

**Synonyms**
MTG MSDS 58; FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; UN 1971; R50; CH4; RTECS: PA1490000

**Section 2 - HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**
- **Color:** colorless
- **Physical Form:** gas
- **Odor:** odorless
- **Health Hazards:** difficulty breathing
- **Physical Hazards:** Flammable gas. May cause flash fire. Electrostatic charges may be generated by flow, agitation, etc.

**POTENTIAL HEALTH EFFECTS**

**Inhalation**
- **Short Term:** nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, fatigue, dizziness, disorientation, mood swings, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma
- **Long Term:** no information is available

**Skin**
- **Short Term:** no information on significant adverse effects
- **Long Term:** no information is available

**Eye**
- **Short Term:** no information on significant adverse effects
- **Long Term:** no information is available

**Ingestion**
- **Short Term:** ingestion of a gas is unlikely
- **Long Term:** no information is available

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>CAS</th>
<th>Component</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>74-82-8</td>
<td>METHANE</td>
<td>100.0</td>
</tr>
</tbody>
</table>

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Issue Date: 12/10/2012
Revision: 1.0700
Print Date: 12/10/2012
Component Related Regulatory Information
This product may be regulated, have exposure limits or other information identified as the following: Aliphatic hydrocarbon gases (Alkane [C1-C4]).

*** 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
Wash exposed skin with soap and water.

Eyes
Flush eyes with plenty of water.

Ingestion
If a large amount is swallowed, get medical attention.

Note to Physicians
For inhalation, consider oxygen.

*** Section 5 - FIRE FIGHTING MEASURES ***

See Section 9 for Flammability Properties

NFPA Ratings: Health: 1 Fire: 4 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Flammable Properties
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.

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

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.

*** Section 6 - ACCIDENTAL RELEASE MEASURES ***

Occupational spill/release
**Safety Data Sheet**

Material Name: METHANE, COMPRESSED GAS

**Section 7 - HANDLING AND STORAGE**

Storage Procedures

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

Component Analysis
METHANE (74-82-8)
ACGIH: 1000 ppm TWA

Component Biological Limit Values
There are no biological limit values for any of this product's components.

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

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face
Eye protection not required, but recommended.

Protective Clothing
Protective clothing is not required.

Glove Recommendations
Wear appropriate chemical resistant gloves.

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.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**
Safety Data Sheet

Material Name: METHANE, COMPRESSED GAS

Physical State: Gas
Color: colorless
Odor: odorless
Taste: tasteless
Melting/Freezing Point: -183 °C
Flash Point: -223 °C
Evaporation Rate: Not available
UEL: 15 %
Henry’s Law Constant: 0.00045830 atm-m3/mol
Density: 0.717 g/L @ 0 °C
KOW: 724.44 estimated from water solubility, estimated from water solubility
KOC: 2192.80 estimated from water solubility, estimated from water solubility
Viscosity: 0.01118 cP @27 °C
Molecular Formula: C-H4

Appearance: Not available
Physical Form: gas
Odor Threshold: Not available
pH: Not available
Boiling Point: -162 °C
Decomposition: Not available
LEL: 5.0 %
Vapor Pressure: 760 mmHg @ -161 °C
Vapor Density (air = 1): 0.555
Water Solubility: 3.5 % @ 17 °C
Log KOW: Not available
Auto Ignition: 537 °C
Molecular Weight: 16.04

Solvent Solubility
Soluble: alcohol, ether, benzene, organic solvents

*** Section 10 - STABILITY AND REACTIVITY***

Chemical Stability
Stable at normal temperatures and pressure.

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

Materials to Avoid
halogens, oxidizing materials, combustible materials

Decomposition Products
oxides of carbon

Possibility of Hazardous Reactions
Will not polymerize.

*** Section 11 - TOXICOLOGICAL INFORMATION***

Component Analysis - LD50/LC50
The components of this material have been reviewed in various sources and the following selected endpoints are published:
METHANE (74-82-8)
Inhalation LC50 Mouse 326 g/m3 2 h

Acute Toxicity Level
METHANE (74-82-8)
Slightly Toxic: inhalation

Component Carcinogenicity
None of this product’s components are listed by ACGIH, IARC, NTP, OSHA or DFG.
*** Section 12 - ECOLOGICAL INFORMATION ***

Component Analysis - Aquatic Toxicity
No LOI ecotoxicity data are available for this product's components.

*** Section 13 - DISPOSAL CONSIDERATIONS ***

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.

*** Section 14 - TRANSPORT INFORMATION ***

US DOT Information
Shipping Name: Methane, compressed
UN/NA #: UN1971 Hazard Class: 2.1
Required Label(s): 2.1

TDG Information
Shipping Name: Methane, compressed
UN #: UN1971 Hazard Class: 2.1
Required Label(s): 2.1

*** Section 15 - REGULATORY INFORMATION ***

U.S. Federal Regulations
None of this product's 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 311/312
Acute Health: Yes Chronic Health: No Fire: Yes Pressure: Yes Reactive: No

U.S. State Regulations
The following components appear on one or more of the following state hazardous substances lists:

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<th>MA</th>
<th>MN</th>
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<td>METHANE</td>
<td>74-82-8</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>

Not regulated under California Proposition 65

Component Analysis - Inventory

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<tr>
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<th>CAS</th>
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<th>CA</th>
<th>EU</th>
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<th>PH</th>
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<tr>
<td>METHANE</td>
<td>74-82-8</td>
<td>Yes</td>
<td>DSL</td>
<td>EIN</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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** Section 16 - OTHER INFORMATION **

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; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; 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; 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; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

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End of Sheet MAT14160