

Print MSDS Sheet

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SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MG INDUSTRIES
3 GREAT VALLEY PARKWAY
MALVERN, PENNSYLVANIA 19355
PHONE: 610-695-7400
FAX: 610-695-7596
SUBSTANCE: METHANE, COMPRESSED GAS
TRADE NAMES/SYNONYMS:
FIRE DAMP; MARSH GAS; METHYL HYDRIDE; NATURAL GAS; METHANE; STCC 4905755; UN 1971; R50; CH4; MGI14160; RTECS PA1490000
CHEMICAL FAMILY: hydrocarbons, aliphatic
CREATION DATE: May 04 1990
REVISION DATE: Mar 22 2001

EMERGENCY CONTACT:
CHEMTREC:
1-800-424-9300

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: METHANE, COMPRESSED GAS
CAS NUMBER: 74-82-8
EC NUMBER (EINECS): 200-812-7
EC INDEX NUMBER: 601-001-00-4
PERCENTAGE: >99.9
OTHER CONTAMINANTS:
MERCAPTAN MAY BE ADDED AS AN ODORIZER

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=4 REACTIVITY=0

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Odorless, colorless, tasteless gas.

MAJOR HEALTH HAZARDS: difficulty breathing

PHYSICAL HAZARDS: Flammable gas. May cause flash fire.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: nausea, vomiting, dizziness, tingling sensation, suffocation, convulsions, coma

LONG TERM EXPOSURE: no information on significant adverse effects

SKIN CONTACT:

SHORT TERM EXPOSURE: no information is available

LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: no information is available

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LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: no information is available

LONG TERM EXPOSURE: no information is available

CARCINOGEN STATUS:

OSHA: No

NTP: No

IARC: No

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 CONTACT: Wash exposed skin with soap and water.
EYE CONTACT: Flush eyes with plenty of water.
INGESTION: If a large amount is swallowed, get medical attention.
NOTE TO PHYSICIAN: For inhalation, consider oxygen.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. Severe explosion hazard.
Containers may rupture or explode if exposed to 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: 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.
FLASH POINT: -369 F (-223 C)
LOWER FLAMMABLE LIMIT: 5.0%
UPPER FLAMMABLE LIMIT: 15%
AUTOIGNITION: 999 F (537 C)

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SECTION 6 ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

SECTION 7 HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106.
Grounding and bonding required. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
METHANE, COMPRESSED GAS:
No occupational exposure limits established.
VENTILATION: Based on available information, additional ventilation is not required. Ensure compliance with applicable exposure limits.
EYE PROTECTION: Eye protection not required, but recommended.
CLOTHING: Protective clothing is not required.
GLOVES: Wear appropriate chemical resistant gloves.
RESPIRATOR: 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 full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Odorless, colorless, tasteless gas.

MOLECULAR WEIGHT: 16.04

MOLECULAR FORMULA: C-H4

BOILING POINT: -260 F (-162 C)

FREEZING POINT: -297 F (-183 C)

VAPOR PRESSURE: 760 mmHg @ -161 C

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VAPOR DENSITY (air=1): 0.555

SPECIFIC GRAVITY: Not applicable

DENSITY: 0.717 g/L @ 0 C

WATER SOLUBILITY: 3.5% @ 17 C

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

VISCOSITY: 0.01118 cP @ 27 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

SOLVENT SOLUBILITY:

Soluble: alcohol, ether, benzene, organic solvents

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: 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.

INCOMPATIBILITIES: halogens, oxidizing materials, combustible materials

METHANE:

BROMINE: Explosive reaction.

CHLORINE: Explosive reaction, particularly in the presence of light or catalysts.

CHLORINE DIOXIDE: Spontaneous explosion.

DIOXYGEN DIFLUORIDE: Explosive interaction.

DIOXYGENYL TETRAFLUOROBORATE: Explosive interaction.

FLUORINE: Ignition.

INTERHALOGENS: Contact will result in fire or explosion.

NITROGEN TRIFLUORIDE: Explosive reaction on ignition.

OXIDIZERS (STRONG): Fire and explosion hazard.

OXYGEN: Mixtures of the liquids are explosive.

OXYGEN DIFLUORIDE: Explodes when sparked.

TRIOXYGEN DIFLUORIDE: Explodes violently with the liquid.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of carbon

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

HEALTH EFFECTS:

INHALATION:

METHANE: Pregnant mice were exposed for one hour to fuel gas, containing 85% methane. Resultant abnormalities of the fetal brain produced brain hernias and hydrocephalus. See information on simple asphyxiants.

ACUTE EXPOSURE:

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SIMPLE ASPHYXIANTS: The symptoms of asphyxia depend on the rapidity with which the oxygen deficiency develops and how long it continues. In sudden acute asphyxia, unconsciousness may be immediate. With slow development there may be rapid respiration and pulse, air hunger, dizziness, reduced

awareness, tightness in the head, tingling sensations, incoordination, faulty judgement, emotional instability, and rapid fatigue. As the asphyxia progresses, nausea, vomiting, collapse, unconsciousness, convulsions, deep coma and death are possible.

CHRONIC EXPOSURE:

SIMPLE ASPHYXIANTS: No data available.

SKIN CONTACT:

ACUTE EXPOSURE:

METHANE: No adverse effects have been reported from the gas.

CHRONIC EXPOSURE:

METHANE: No data available.

EYE CONTACT:

ACUTE EXPOSURE:

METHANE: No adverse effects have been reported from the gas.

CHRONIC EXPOSURE:

METHANE: No data available.

INGESTION:

ACUTE EXPOSURE:

METHANE: Ingestion of a gas is unlikely.

CHRONIC EXPOSURE:

METHANE: No data available.

SECTION 12 ECOLOGICAL INFORMATION

Not available

SECTION 13 DISPOSAL CONSIDERATIONS

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

SECTION 14 TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Methane, compressed or Natural gas, compressed (with high methane content)

ID NUMBER: UN1971

HAZARD CLASS OR DIVISION: 2.1

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LABELING REQUIREMENTS: Flammable gas

PACKAGING AUTHORIZATIONS:

EXCEPTIONS: 49 CFR 173.306

NON-BULK PACKAGING: 49 CFR 173.302

BULK PACKAGING: 49 CFR 173.302

QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: Forbidden

CARGO AIRCRAFT ONLY: 150 kg

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: No classification assigned.

LAND TRANSPORT ADR/RID:

SUBSTANCE NAME: Natural gas, compressed/Methane, compressed or Natural gas, compressed

UN NUMBER: UN1971

ADR/RID CLASS: 2

ITEM NUMBER: 2(b)/1F

WARNING SIGN/LABEL: 3/3; 13

HAZARD ID NUMBER: 23

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30):
Not regulated.

SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40):
Not regulated.

SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):

ACUTE: Yes

CHRONIC: No

FIRE: Yes

REACTIVE: No

SUDDEN RELEASE: Yes

SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.

STATE REGULATIONS:

California Proposition 65: Not regulated.

CANADIAN REGULATIONS:

WHMIS CLASSIFICATION: Not determined.

EUROPEAN REGULATIONS:

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EC CLASSIFICATION (ASSIGNED):

F+ Extremely Flammable

EC Classification may be inconsistent with independently-researched data.

DANGER/HAZARD SYMBOL:

F+ Extremely Flammable

EC RISK AND SAFETY PHRASES:

R 12 Extremely flammable.

S 2 Keep out of reach of children.

S 9 Keep container in a well-ventilated place.

S 16 Keep away from sources of ignition - No smoking.

S 33 Take precautionary measures against static discharges.

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK):

STATE OF CLASSIFICATION: VwVwS

CLASSIFICATION UNDER HAZARD TO WATER: 0

NATIONAL INVENTORY STATUS:

U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

SECTION 16 OTHER INFORMATION

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