1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: METHYL CHLORIDE

TRADE NAMES/SYNONYMS:
MTG MSDS 60; CHLOROMETHANE; MONOCHLOROMETHANE; RCRA U045; UN 1063; CH3Cl;
MAT14360; RTECS PA6300000

CHEMICAL FAMILY: halogenated, aliphatic

CREATION DATE: Jan 24 1989
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: METHYL CHLORIDE
CAS NUMBER: 74-87-3
PERCENTAGE: >99.5

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2  FIRE=4  REACTIVITY=0

EMERGENCY OVERVIEW:
COLOR: colorless
PHYSICAL FORM: gas
ODOR: sweet odor
MAJOR HEALTH HAZARDS: central nervous system depression
PHYSICAL HAZARDS: Flammable gas. May cause flash fire.

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: nausea, vomiting, diarrhea, headache, drowsiness, symptoms of drunkenness,
visual disturbances, bluish skin color, lung congestion, nerve damage, paralysis, convulsions, coma
LONG TERM EXPOSURE: fainting, blurred vision
SKIN CONTACT:
SHORT TERM EXPOSURE: irritation, blisters, symptoms of drunkenness, nerve damage
LONG TERM EXPOSURE: same as effects reported in long term inhalation
EYE CONTACT:
SHORT TERM EXPOSURE: frostbite
LONG TERM EXPOSURE: no information is available
INGESTION:
SHORT TERM EXPOSURE: frostbite
LONG TERM EXPOSURE: no information is available

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: 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.

EYE CONTACT: Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION: Never make an unconscious person vomit or drink fluids. Give large amounts of water. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Gas/air mixtures are explosive.

EXTINGUISHING MEDIA: Let burn unless leak can be stopped immediately. 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. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. 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: Evacuation radius: 800 meters (1/2 mile).
Stop flow of gas.

**FLASH POINT:** <32 F (<0 C) (CC)
**LOWER FLAMMABLE LIMIT:** 8.1%
**UPPER FLAMMABLE LIMIT:** 17.4%
**AUTOIGNITION:** 1170 F (632 C)

---

**6. ACCIDENTAL RELEASE MEASURES**

**WATER RELEASE:**
Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

**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. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).

---

**7. HANDLING AND STORAGE**

**STORAGE:** Store and handle in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Store outside or in a detached building. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

---

**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

**EXPOSURE LIMITS:**
**METHYL CHLORIDE:**
100 ppm OSHA TWA
200 ppm OSHA ceiling
300 ppm OSHA peak (5 minutes in any 3 hours)
50 ppm (103 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993)
100 ppm (207 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
50 ppm ACGIH TWA (skin)
100 ppm ACGIH STEL (skin)
NIOSH TWA (lowest feasible concentration)

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

**EYE PROTECTION:** Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear appropriate chemical resistant clothing.

**GLOVES:** Wear insulated gloves.

**RESPIRATOR:** The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

At any detectable concentration -
- Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
- 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.

**Escape -**
- Any appropriate escape-type, self-contained breathing apparatus.

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.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL STATE:** gas
**COLOR:** colorless
**ODOR:** sweet odor
**TASTE:** sweet taste
**MOLECULAR WEIGHT:** 50.49
**MOLECULAR FORMULA:** C-H3-CL
**BOILING POINT:** -11 F (-24 C)
**FREEZING POINT:** -144 F (-98 C)
**VAPOR PRESSURE:** 3600 mmHg @ 20 C
**VAPOR DENSITY (air=1):** 1.8
**SPECIFIC GRAVITY (water=1):** 0.915 @ 20 C
**WATER SOLUBILITY:** slightly soluble
**PH:** Not applicable
**VOLATILITY:** Not applicable
**ODOR THRESHOLD:** 10 ppm
**EVAPORATION RATE:** Not applicable
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable
SOLVENT SOLUBILITY:
Soluble: alcohol, ether, benzene, acetone, chloroform, acetic acid

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.

INCOMPATIBILITIES: metals, halogens

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: phosgene, acid halides, oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

METHYL CHLORIDE:
TOXICITY DATA: 4900 mg/m3 inhalation-rat LC50; 1800 mg/kg oral-rat LD50
CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen
ACUTE TOXICITY LEVEL:
Toxic: inhalation
Moderately Toxic: ingestion
TARGET ORGANS: nervous system
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: history of alcoholism, liver and/or kidney disorders, central nervous system disorders, blood system disorders
TUMORIGENIC DATA: Available.
MUTAGENIC DATA: Available.
REPRODUCTIVE EFFECTS DATA: Available.
ADDITIONAL DATA: Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce ventricular fibrillation.

12. ECOLOGICAL INFORMATION

ECOTOXICITY DATA:
FISH TOXICITY: 270000 ug/L 96 hour(s) LC50 (Mortality) Inland silverside (Menidia beryllina)

ALGAL TOXICITY: >8000000 ug/L 72 month(s) (Population Growth) Flagellate euglenoid (Entosiphon sulcatum)
13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U045.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Methyl chloride
ID NUMBER: UN1063
HAZARD CLASS OR DIVISION: 2.1
LABELING REQUIREMENTS: 2.1

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Methyl chloride
UN NUMBER: UN1063
CLASS: 2.1

15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
METHYL CHLORIDE: 100 LBS RQ


SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):
ACUTE: Yes
CHRONIC: Yes
FIRE: Yes
REACTIVE: No
SUDDEN RELEASE: Yes

SARA TITLE III SECTION 313 (40 CFR 372.65):
METHYL CHLORIDE

OSHA PROCESS SAFETY (29 CFR 1910.119):
METHYL CHLORIDE: 15000 LBS TQ
STATE REGULATIONS:
California Proposition 65:
Known to the state of California to cause the following:
**METHYL CHLORIDE**
Developmental toxicity (Mar 10, 2000)

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: AB

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

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Not determined.

16. OTHER INFORMATION

“RTECS®” is a United States trademark owned and licensed under authority of the U.S. Government, by and through Symyx Software, Inc. Portions ©Copyright 2001, U.S. Government. All rights reserved.

©Copyright 1984-2009 ChemADVISOR, Inc. All rights reserved.

MATHESON TRI-GAS, INC. MAKES NO EXPRESS OR IMPLIED WARRANTIES, GUARANTEES OR REPRESENTATIONS REGARDING THE PRODUCT OR THE INFORMATION HEREIN, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR USE. MATHESON TRI-GAS, INC. SHALL NOT BE LIABLE FOR ANY PERSONAL INJURY, PROPERTY OR OTHER DAMAGES OF ANY NATURE, WHETHER COMPENSATORY, CONSEQUENTIAL, EXEMPLARY, OR OTHERWISE, RESULTING FROM ANY PUBLICATION, USE OR RELIANCE UPON THE INFORMATION HEREIN.