1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.  
Emergency Contact:  
150 Allen Road Suite 302  
CHEMTREC 1-800-424-9300  
Basking Ridge, New Jersey 07920  
Calls Originating Outside the US:  
Information: 1-800-416-2505  
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: METHYL CHLOROFORM

TRADE NAMES/SYNONYMS:  
MTG MSDS 219; 1,1,1-TRICHLOROETHANE; ALPHA-TRICHLOROETHANE; AEROTHENE TT;  
METHYLTRICHLOROMETHANE; METHYLCHLOROFORM; TRICHLOROMETHYLMETHANE;  
TRICHLOROETHANE; ETHANE, 1,1,1-TRICHLOROETHANE; CHLORTEN; 1,1,1-  
TRICHLORETHANE; RCRA U226; UN 2831; STCC 4941176; C2H3CL3; MAT14370; RTECS  
KJ2975000

CHEMICAL FAMILY: halogenated, aliphatic

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

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: METHYL CHLOROFORM  
CAS NUMBER: 71-55-6  
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=1 REACTIVITY=0

EMERGENCY OVERVIEW:  
COLOR: colorless  
PHYSICAL FORM: liquid  
ODOR: sweet odor  
MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, central nervous system depression

POTENTIAL HEALTH EFFECTS:
INHALATION:
SHORT TERM EXPOSURE: irritation, nausea, vomiting, diarrhea, irregular heartbeat, headache, drowsiness, symptoms of drunkenness, kidney damage, liver damage, convulsions, coma
LONG TERM EXPOSURE: same as effects reported in short term exposure

SKIN CONTACT:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: burns

EYE CONTACT:
SHORT TERM EXPOSURE: irritation, eye damage
LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:
SHORT TERM EXPOSURE: same as effects reported in short term inhalation, vomiting, digestive disorders, headache, symptoms of drunkenness, lung congestion
LONG TERM EXPOSURE: no information on significant adverse effects

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 skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

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

INGESTION: 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. For ingestion, consider gastric lavage. Consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Slight fire hazard.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical

Large fires: Use regular foam or flood with fine water spray.

FIRE FIGHTING: Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For tank, rail car or tank truck, evacuation radius: 800 meters (1/2 mile).
FLASH POINT: No data available.
LOWER FLAMMABLE LIMIT: 7.5%
UPPER FLAMMABLE LIMIT: 12.5%
AUTOIGNITION: 999 F (537 C)

6. ACCIDENTAL RELEASE MEASURES

SOIL RELEASE:
Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.

WATER RELEASE:
Cover with absorbent sheets, spill-control pads or pillows. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Remove trapped material with suction hoses.

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Small liquid spills: Absorb with sand or other non-combustible material. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry. 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. Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

METHYL CHLOROFORM:
350 ppm (1900 mg/m3) OSHA TWA
450 ppm (2460 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)

METHYL CHLOROFORM (1,1,1-TRICHLOROETHANE):
350 ppm ACGIH TWA
450 ppm ACGIH STEL
350 ppm (1900 mg/m3) NIOSH recommended ceiling 15 minute(s) (handle with caution in workplace)

VENTILATION: Based on available information, additional ventilation is not required. 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 appropriate chemical resistant gloves.

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

700 ppm
Any supplied-air respirator.
Any self-contained breathing apparatus with a full facepiece.
Emergency or planned entry into unknown concentrations or IDLH conditions -
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 air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
APPEARANCE: clear
COLOR: colorless
ODOR: sweet odor
MOLECULAR WEIGHT: 133.40
MOLECULAR FORMULA: C-H3-C-CL3
BOILING POINT: 165 F (74 C)
FREEZING POINT: -26 F (-32 C)
VAPOR PRESSURE: 100 mmHg @ 20 C
VAPOR DENSITY (air=1): 4.55
SPECIFIC GRAVITY (water=1): 1.3390
WATER SOLUBILITY: 0.078% @ 25 C
PH: Not available
VOLATILITY: Not available
ODOR THRESHOLD: 44-100 ppm
EVAPORATION RATE: 5.0 (butyl acetate=1)
VISCOSITY: 0.858 cP @ 20 C
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: acetone, benzene, chloroform, methanol, ethanol, carbon disulfide, ether, carbon tetrachloride, heptane
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: combustible materials, bases, metals, oxidizing materials

HAZARDOUS DECOMPOSITION:
Thermal decomposition products: halogenated compounds, phosgene, oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

METHYL CHLOROFORM:
IRRITATION DATA: 450 ppm/8 hour(s) eyes-man; 5 gm/12 day(s)-intermittent skin-rabbit mild; 20 mg/24 hour(s) skin-rabbit moderate; 100 mg eyes-rabbit mild; 2 mg/24 hour(s) eyes-rabbit severe
TOXICITY DATA: 20000 ppm/2 hour(s) inhalation-rat LC50; 15800 mg/kg skin-rabbit LD50 (EPA-600/8-82-003f, 1084); 9600 mg/kg oral-rat LD50
CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen
LOCAL EFFECTS:
Irritant: inhalation, skin, eye
ACUTE TOXICITY LEVEL:
Slightly Toxic: inhalation, dermal absorption, ingestion
TARGET ORGANS: central nervous system
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: heart or cardiovascular disorders, kidney disorders, liver disorders, skin disorders and allergies
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: 40000 ug/L 96 hour(s) LC50 (Mortality) Bluegill (Lepomis macrochirus)
INVERTEBRATE TOXICITY: 31200 ug/L 96 hour(s) LC50 (Mortality) Opossum shrimp (Mysidopsis bahia)
ALGAL TOXICITY: >669000 ug/L 96 hour(s) EC50 (Photosynthesis) Diatom (Skeletonema costatum)

FATE AND TRANSPORT:
BIOCONCENTRATION: 9 ug/L 1-28 hour(s) BCF (Residue) Bluegill (Lepomis macrochirus) 73.4 ug/L

ENVIRONMENTAL SUMMARY: Moderately toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U226.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: 1,1,1-Trichloroethane
ID NUMBER: UN2831
HAZARD CLASS OR DIVISION: 6.1
PACKING GROUP: III
LABELING REQUIREMENTS: 6.1

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: 1,1,1-Trichloroethane
UN NUMBER: UN2831
CLASS: 6.1
PACKING GROUP/CATEGORY: III

15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
METHYL CHLOROFORM (1,1,1-TRICHLOROETHANE): 1000 LBS RQ


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

SARA TITLE III SECTION 313 (40 CFR 372.65):
METHYL CHLOROFORM (1,1,1-TRICHLOROETHANE)


STATE REGULATIONS:
California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: BD2

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

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