

# MATERIAL SAFETY DATA SHEET

## 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: CHLOROTRIFLUOROMETHANE**

#### **TRADE NAMES/SYNONYMS:**

MTG MSDS 38; METHANE, CHLOROTRIFLUORO-; MONOCHLOROTRIFLUOROMETHANE;  
METHANE, MONOCHLOROTRIFLUORO-; TRIFLUOROCHLOROMETHANE; METHANE,  
TRIFLUOROCHLORO-; TRIFLUOROMETHYL CHLORIDE; TRIFLUOROMONOCHLOROCARBON;  
ARCTON 3; FREON 13; FRIGEN 13; GENETRON 13; REFRIGERANT 13; R-13; UN 1022; STCC  
4904560; CCLF3; MAT04900; RTECS PA6410000

**CHEMICAL FAMILY:** halogenated, aliphatic

**CREATION DATE:** Jan 24 1989

**REVISION DATE:** Jan 01 2007

## 2. COMPOSITION, INFORMATION ON INGREDIENTS

**COMPONENT:** CHLOROTRIFLUOROMETHANE

**CAS NUMBER:** 75-72-9

**PERCENTAGE:** 100.0

## 3. HAZARDS IDENTIFICATION

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

#### **EMERGENCY OVERVIEW:**

**COLOR:** colorless

**PHYSICAL FORM:** gas

**ODOR:** sweet odor

**MAJOR HEALTH HAZARDS:** difficulty breathing

**PHYSICAL HAZARDS:** Containers may rupture or explode if exposed to heat.

**POTENTIAL HEALTH EFFECTS:**



**INHALATION:**

**SHORT TERM EXPOSURE:** nausea, vomiting, irregular heartbeat, symptoms of drunkenness, tingling sensation, suffocation, convulsions, coma

**LONG TERM EXPOSURE:** no information on significant adverse effects

**SKIN CONTACT:**

**SHORT TERM EXPOSURE:** frostbite

**LONG TERM EXPOSURE:** no information is available

**EYE CONTACT:**

**SHORT TERM EXPOSURE:** frostbite, blurred vision

**LONG TERM EXPOSURE:** no information is available

**INGESTION:**

**SHORT TERM EXPOSURE:** frostbite

**LONG TERM EXPOSURE:** no information is available

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## 4. FIRST AID MEASURES

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**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. 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:** Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**INGESTION:** If a large amount is swallowed, get medical attention.

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## 5. FIRE FIGHTING MEASURES

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**FIRE AND EXPLOSION HAZARDS:** Negligible fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Containers may rupture or explode if exposed to heat.

**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. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. 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).

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## 6. ACCIDENTAL RELEASE MEASURES

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### **OCCUPATIONAL RELEASE:**

Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

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## 7. HANDLING AND STORAGE

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**STORAGE:** Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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### **EXPOSURE LIMITS:**

#### **CHLOROTRIFLUOROMETHANE:**

No occupational exposure limits established.

**VENTILATION:** Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

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

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

**GLOVES:** Wear insulated 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** gas

**COLOR:** colorless

**ODOR:** sweet odor

**MOLECULAR WEIGHT:** 104.46  
**MOLECULAR FORMULA:** C-CL-F3  
**BOILING POINT:** -114 F (-81 C)  
**FREEZING POINT:** -294 F (-181 C)  
**VAPOR PRESSURE:** 24480 mmHg @ 21 C  
**VAPOR DENSITY (air=1):** 3.61 @ 20 C  
**SPECIFIC GRAVITY (water=1):** 1.49 @ 100 C  
**WATER SOLUBILITY:** 0.009% @ 25 C  
**PH:** Not applicable  
**VOLATILITY:** Not applicable  
**ODOR THRESHOLD:** Not available  
**EVAPORATION RATE:** Not applicable  
**VISCOSITY:** 0.01440 cP @ 25 C  
**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable  
**SOLVENT SOLUBILITY:**  
**Insoluble:** oils

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:** Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:** Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.

**INCOMPATIBILITIES:** metals

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: halogenated compounds, oxides of carbon

**POLYMERIZATION:** Will not polymerize.

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## 11. TOXICOLOGICAL INFORMATION

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**CHLOROTRIFLUOROMETHANE:**

**ADDITIONAL DATA:** Stimulants such as epinephrine may induce ventricular fibrillation.

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## 12. ECOLOGICAL INFORMATION

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Not available

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## 13. DISPOSAL CONSIDERATIONS

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Dispose in accordance with all applicable regulations.

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## 14. TRANSPORT INFORMATION

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**U.S. DOT 49 CFR 172.101:**

**PROPER SHIPPING NAME:** Chlorotrifluoromethane

**ID NUMBER:** UN1022

**HAZARD CLASS OR DIVISION:** 2.2

**LABELING REQUIREMENTS:** 2.2



**CANADIAN TRANSPORTATION OF DANGEROUS GOODS:**

**SHIPPING NAME:** Chlorotrifluoromethane

**UN NUMBER:** UN1022

**CLASS:** 2.2

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## 15. REGULATORY INFORMATION

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**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: No

REACTIVE: No

SUDDEN RELEASE: Yes

**SARA TITLE III SECTION 313 (40 CFR 372.65):**

**CHLOROTRIFLUOROMETHANE**

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

**STATE REGULATIONS:**

**California Proposition 65:** Not regulated.

**CANADIAN REGULATIONS:**

**WHMIS CLASSIFICATION:** A.

**NATIONAL INVENTORY STATUS:**

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

**TSCA 12(b) EXPORT NOTIFICATION:** Not listed.

**CANADA INVENTORY (DSL/NDL):** Not determined.

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**16. OTHER INFORMATION**

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