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## **HALOCARBON 1113- MATERIAL SAFETY DATA SHEET**

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### **24 Hour EMERGENCY CONTACT**

**U.S- CHEMTREC 1-800-424-9300**

**CANADA- CANUTEC 613-996-6666**

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## **1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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### **Matheson Tri-Gas, Inc.**

*The telephone numbers listed below are emergency numbers, please contact your local branch for routine inquiries.*

#### **USA**

959 Route 46 East  
Parsippany, New Jersey  
07054-0624 USA  
**Phone: 973-257-1100**

#### **CANADA**

530 Watson Street  
Whitby, Ontario  
L1N 5R9 Canada  
**Phone: 905-668-3570**

**SUBSTANCE: HALOCARBON 1113 (TRIFLUOROCHLOROETHYLENE)**

**SYMBOL:** C<sub>2</sub>ClF

**TRADE NAMES/SYNONYMS:**

CHLOROTRIFLUOROETHYLENE; TRIFLUOROVINYL CHLORIDE; CTFE; GENETRON 1113;  
TRIFLUOROMONOCHLOROETHYLENE; TRIFLUOROCHLOROETHYLENE, INHIBITED;  
PLASKON MONOMER; KEL-F MONOMER; DAIFLON; TRITHENE; 1,1,2-TRIFLUORO-2-  
CHLOROETHYLENE; CFE; STCC 4905785; UN 1082; C<sub>2</sub>ClF<sub>3</sub>; MAT24060; RTECS  
KV0525000

**CHEMICAL FAMILY:** halogenated, aliphatic

**CREATION DATE:** Jan 24 1989

**REVISION DATE:** Mar 16 1999

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**2. COMPOSITION, INFORMATION ON INGREDIENTS**

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**COMPONENT:** TRIFLUOROCHLOROETHYLENE

**CAS NUMBER:** 79-38-9

**EC NUMBER (EINECS):** 201-201-8

**PERCENTAGE:** >99

**COMPONENT:** TRI-N-BUTYLAMINE

**CAS NUMBER:** 102-82-9

**EC NUMBER (EINECS):** 203-058-7

**PERCENTAGE:** <0.1

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**3. HAZARDS IDENTIFICATION**

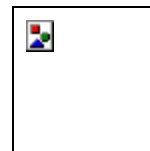
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**NFPA RATINGS (SCALE 0-4):** HEALTH=3 FIRE=4 REACTIVITY=0

**WHMIS CLASSIFICATION:** ABD1

**EC CLASSIFICATION (CALCULATED):** No classification assigned.



**EMERGENCY OVERVIEW:**

**Color:** colorless

**Physical Form:** gas

**Odor:** faint odor, sweet odor

**Major Health Hazards:** eye irritation, difficulty breathing

**Physical Hazards:** Flammable gas. May cause flash fire.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**Short Term Exposure:** nausea, vomiting, dizziness, suffocation, kidney damage, liver damage

**Long Term Exposure:** no information on significant adverse effects

**SKIN CONTACT:**

**Short Term Exposure:** irritation (possibly severe)

**Long Term Exposure:** no information on significant adverse effects

**EYE CONTACT:**

**Short Term Exposure:** irritation, blurred vision

**Long Term Exposure:** no information on significant adverse effects

**INGESTION:**

**Short Term Exposure:** frostbite

**Long Term Exposure:** no information on significant adverse effects

**CARCINOGEN STATUS:**

**OSHA:** N

**NTP:** N

**IARC:** N

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## **4. FIRST AID MEASURES**

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**INHALATION:**

Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

**SKIN CONTACT:**

Wash if needed. If frostbite, freezing, or cryogenic burns occur, warm affected area in warm water. If this is not available, gently wrap affected parts in blankets. Allow circulation to return naturally. Get medical attention immediately.

**EYE CONTACT:**

Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains. Continue irrigating with normal saline until ready to transport to hospital. Cover with sterile bandages. Get medical attention immediately.

**INGESTION:**

It is unlikely that emergency treatment will be required. Get medical attention, if needed.

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## **5. FIRE FIGHTING MEASURES**

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**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. Vapor/air mixtures are explosive.

**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).

**FLASH POINT:**

-18 F (-28 C) (gas)

**LOWER FLAMMABLE LIMIT:**

8.4%

**UPPER FLAMMABLE LIMIT:**

38.7%

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**6. ACCIDENTAL RELEASE MEASURES**

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**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.

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**7. HANDLING AND STORAGE**

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Store and handle in accordance with all current regulations and standards.

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**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

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**EXPOSURE LIMITS:**

**TRIFLUOROCHLOROETHYLENE:**

No occupational exposure limits established.

**VENTILATION:** Provide local exhaust ventilation system. 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:** 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:** faint odor, sweet odor

**MOLECULAR WEIGHT:** 116.47

**MOLECULAR FORMULA:** C<sub>2</sub>-CL-F<sub>3</sub>

**BOILING POINT:** -18 F (-28 C)

**FREEZING POINT:** -252 F (-158 C)

**VAPOR PRESSURE:** Not available

**VAPOR DENSITY (air=1):** 4.0

**DENSITY:** Not available

**WATER SOLUBILITY:** decomposes

**PH:** Not applicable

**VOLATILITY:** Not applicable

**ODOR THRESHOLD:** Not available

**EVAPORATION RATE:** Not applicable

**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not applicable

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:**

Avoid contact with water or moisture. May explode on contact with water.

**INCOMPATIBILITIES:**

halogens, combustible materials

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: acid halides

**POLYMERIZATION:**

Polymerizes with evolution of heat. Avoid contact with incompatible materials.

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**11. TOXICOLOGICAL INFORMATION**[Up to Table of Contents](#)**TRIFLUOROCHLOROETHYLENE:****TOXICITY DATA:**

1000 ppm/4 hour(s) inhalation-rat LC50; 268 mg/kg oral-mouse LD50

**LOCAL EFFECTS:**

Irritant: eye

**ACUTE TOXICITY LEVEL:**

Toxic: inhalation, ingestion

**TARGET ORGANS:**

liver, kidneys

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**12. ECOLOGICAL INFORMATION**[Up to Table of Contents](#)

Not available

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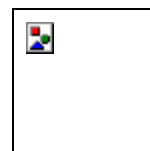
**13. DISPOSAL CONSIDERATIONS**[Up to Table of Contents](#)

Dispose in accordance with all applicable regulations.

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**14. TRANSPORT INFORMATION**[Up to Table of Contents](#)**U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS;  
PACKING GROUP; LABEL:**

Trifluorochloroethylene, inhibited-UN1082; 2.3; Poison gas; Flammable gas



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**15. REGULATORY INFORMATION**[Up to Table of Contents](#)**U.S. REGULATIONS:**

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): N

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): N

**SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):**

**ACUTE:** Y

**CHRONIC:** Y

**FIRE:** Y

**REACTIVE:** Y

**SUDDEN RELEASE:** Y

**OSHA PROCESS SAFETY (29CFR1910.119):** Y

Trifluorochloroethylene: 10000 LBS TQ

**STATE REGULATIONS:**

California Proposition 65: N

**EUROPEAN REGULATIONS:**

**EC NUMBER (EINECS):** 201-201-8

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**16. OTHER INFORMATION**

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