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## **HALOCARBON 113- 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 113**

**SYMBOL:** C<sub>2</sub>Cl<sub>3</sub>F<sub>3</sub>

**TRADE NAMES/SYNONYMS:**

TRICHLOROTRIFLUOROETHANE; 1,1,2-TRIFLUORO-1,2,2-TRICHLOROETHANE; 1,1,2-TRICHLOROTRIFLUOROETHANE; 1,2,2-TRICHLOROTRIFLUOROETHANE; 1,1,2-TRIFLUOROTRICHOROETHANE; ETHANE, 1,1,2-TRICHLORO-1,2,2-TRIFLUORO-; ARCTON 63; FRIGEN 113TR; GENETRON 113; UCON 113; FREON 113; FREON 113TR; FLUOROCARBON 113; REFRIGERANT 113; C2CL3F3; MAT26370; RTECS KJ4000000

**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:** 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE

**CAS NUMBER:** 76-13-1

**EC NUMBER (EINECS):** 200-936-1

**PERCENTAGE:** 100.0

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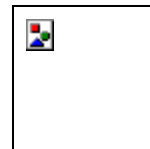
**3. HAZARDS IDENTIFICATION**

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

**EC CLASSIFICATION (ASSIGNED):**

No classification assigned.



**EMERGENCY OVERVIEW:**

**Color:** colorless

**Physical Form:** volatile liquid

**Odor:** sweet odor

**Major Health Hazards:** central nervous system depression, difficulty breathing

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**Short Term Exposure:** mild irritation, vomiting, irregular heartbeat, drowsiness, symptoms of drunkenness, suffocation, lung congestion

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

**SKIN CONTACT:**

**Short Term Exposure:** irritation  
**Long Term Exposure:** same as effects reported in short term exposure

**EYE CONTACT:**

**Short Term Exposure:** irritation  
**Long Term Exposure:** no information is available

**INGESTION:**

**Short Term Exposure:** same as effects reported in short term inhalation, diarrhea, irregular heartbeat, symptoms of drunkenness, bluish skin color  
**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:**

Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

**EYE CONTACT:**

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

**INGESTION:**

If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

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## **5. FIRE FIGHTING MEASURES**

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**FIRE AND EXPLOSION HAZARDS:**

Slight fire hazard.

**EXTINGUISHING MEDIA:**

regular dry chemical, carbon dioxide, water, regular foam

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. Do not scatter spilled material with high-pressure water streams. Dike for later disposal. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

**FLASH POINT:**

No data available.

**AUTOIGNITION:**

1256 F (680 C)

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## 6. ACCIDENTAL RELEASE MEASURES

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**OCCUPATIONAL RELEASE:**

Stop leak if possible without personal risk. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Keep unnecessary people away, isolate hazard area and deny entry.

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## 7. HANDLING AND STORAGE

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Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances. Store in a tightly closed container. Store in a cool, dry place. Store in a well-ventilated area.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**EXPOSURE LIMITS:**

**1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE:**

**1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE (FREON TF):**

1000 ppm (7670 mg/m<sup>3</sup>) OSHA TWA

1250 ppm (9590 mg/m<sup>3</sup>) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)

1000 ppm (7670 mg/m<sup>3</sup>) ACGIH TWA

1250 ppm (9590 mg/m<sup>3</sup>) ACGIH STEL

1000 ppm (7670 mg/m<sup>3</sup>) NIOSH recommended TWA

1250 ppm (9590 mg/m<sup>3</sup>) NIOSH recommended STEL

**VENTILATION:** Based on available information, additional ventilation is not required. 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:** 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.

**2000 ppm**

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

**Escape -**

Any air-purifying respirator with a full facepiece and an organic vapor canister.

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

**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:** liquid

**APPEARANCE:** clear

**COLOR:** colorless

**PHYSICAL FORM:** volatile liquid

**ODOR:** sweet odor

**MOLECULAR WEIGHT:** 187.38

**MOLECULAR FORMULA:** C-F2-CL-C-CL2-F

**BOILING POINT:** 118 F (48 C)

**FREEZING POINT:** -33 F (-36 C)

**VAPOR PRESSURE:** 284 mmHg @ 20 C

**VAPOR DENSITY (air=1):** 6.47

**SPECIFIC GRAVITY (water=1):** 1.5635 @ 25 C

**WATER SOLUBILITY:** 0.017% @ 25 C

**PH:** Not available

**VOLATILITY:** 100%

**ODOR THRESHOLD:** 135 ppm

**EVAPORATION RATE:** 0.45 (acetone=1)

**VISCOSITY:** 0.497 cP @ 49 C

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

**SOLVENT SOLUBILITY:**

**Soluble:** alcohol, ether, benzene

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## 10. STABILITY AND REACTIVITY

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**REACTIVITY:**

Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:**

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials.

**INCOMPATIBILITIES:**

metals, combustible materials

**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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**1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE:****IRRITATION DATA:**

500 mg open skin-rabbit mild; 500 mg/24 hour(s) skin-rabbit mild

**TOXICITY DATA:**

38500 ppm/4 hour(s) inhalation-rat LC50; 43 gm/kg oral-rat LD50

**CARCINOGEN STATUS:**

ACGIH: A4 -Not Classifiable as a Human Carcinogen

**ACUTE TOXICITY LEVEL:**

Slightly Toxic: inhalation

Relatively Non-toxic: ingestion

**TARGET ORGANS:**

central nervous system

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

heart or cardiovascular disorders, heart problems, respiratory disorders, skin disorders and allergies

**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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No classification assigned.

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## 15. REGULATORY INFORMATION

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### 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: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

### STATE REGULATIONS:

California Proposition 65: N

### EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 200-936-1

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## 16. OTHER INFORMATION

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