



Tel: 514-956-7503
Fax: 514-956-7504
Internet: www.megs.ca
Email : support@megs.ca

Montreal	St-Laurent	Tel : 514-956-7503	Fax : 514-956-7504
Ottawa	Nepean	Tel : 613-226-4228	Fax : 613-226-4229
Quebec	Quebec	Tel : 418-834-7447	Fax : 418-834-3774

HALOCARBON 114- MATERIAL SAFETY DATA SHEET

TABLE OF CONTENTS:

1. [Chemical Product and Company Identification](#)
2. [Composition, Information on Ingredients](#)
3. [Hazards Identification](#)
4. [First Aid Measures](#)
5. [Fire Fighting Measures](#)
6. [Accidental Release Measures](#)
7. [Handling and Storage](#)
8. [Exposure Controls, Personal Protection](#)
9. [Physical and Chemical Properties](#)
10. [Stability and Reactivity](#)
11. [Toxicological Information](#)
12. [Ecological Information](#)
13. [Disposal Considerations](#)
14. [Transport Information](#)
15. [Regulatory Information](#)
16. [Other Information](#)

24 Hour EMERGENCY CONTACT

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

CANADA- CANUTEC 613-996-6666

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

[Up to Table of Contents](#)

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 114

SYMBOL: C₂Cl₂F₄

TRADE NAMES/SYNONYMS:

1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE; ETHANE, 1,2-DICHLORO-1,1,2,2-TETRAFLUORO-; ETHANE, 1,2-DICHLOROTETRAFLUORO-; SYM-DICHLOROTETRAFLUOROETHANE; DICHLOROTETRAFLUOROETHANE; CRYOFLUORANE; ARCTON 33; FRIGEN 114; FLUOROCARBON 114; FREON 114; FRIGIDERM; GENETRON 114; GENETRON 316; LEDON 114; PROPELLANT 114; REFRIGERANT 114; CRYOFLURAN; FC 114; C₂CL₂F₄; MAT06980; RTECS K11101000

CHEMICAL FAMILY: halogenated, aliphatic

CREATION DATE: Jan 24 1989

REVISION DATE: Mar 16 1999

2. COMPOSITION, INFORMATION ON INGREDIENTS

[Up to Table of Contents](#)

[Contents](#)

COMPONENT: 1,2-DICHLOROTETRAFLUOROETHANE

CAS NUMBER: 76-14-2

EC NUMBER (EINECS): 200-937-7

PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

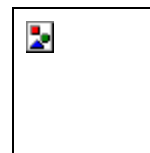
[Up to Table of Contents](#)

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

WHMIS CLASSIFICATION: A

EC CLASSIFICATION (ASSIGNED):

No classification assigned.



EMERGENCY OVERVIEW:

Color: colorless

Physical Form: gas

Odor: faint 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, dizziness, tingling sensation, suffocation, convulsions, coma

Long Term Exposure: no information on significant adverse effects

SKIN CONTACT:

Short Term Exposure: blisters, frostbite

Long Term Exposure: no information on significant adverse effects

EYE CONTACT:

Short Term Exposure: frostbite, blurred vision

Long Term Exposure: no information on significant adverse effects

INGESTION:

Short Term Exposure: frostbiter

Long Term Exposure: no information is available

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: N

4. FIRST AID MEASURES

[Up to Table of Contents](#)

INHALATION:

When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Keep warm and at rest. Get medical attention immediately.

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:

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

NOTE TO PHYSICIAN:

For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

[Up to Table of Contents](#)

FIRE AND EXPLOSION HAZARDS:

Negligible fire hazard. 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). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

6. ACCIDENTAL RELEASE MEASURES

[Up to Table of Contents](#)

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.

7. HANDLING AND STORAGE

[Up to Table of Contents](#)

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.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

[Up to Table of Contents](#)

[Contents](#)

EXPOSURE LIMITS:

1,2-DICHLOROTETRAFLUOROETHANE:

1000 ppm (6990 mg/m³) OSHA TWA

1000 ppm (6990 mg/m³) ACGIH TWA

1000 ppm (6990 mg/m³) NIOSH recommended TWA 10 hour(s)

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

GLOVES: Wear insulated gloves.

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

10,000 ppm

Any supplied-air respirator.

15,000 ppm

Any supplied-air respirator.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

[Up to Table of Contents](#)

PHYSICAL STATE: gas

APPEARANCE: clear

COLOR: colorless

ODOR: faint odor, sweet odor

MOLECULAR WEIGHT: 170.92

MOLECULAR FORMULA: F₂-C-CL-C-CL-F₂

BOILING POINT: 39 F (4 C)

FREEZING POINT: -137 F (-94 C)

VAPOR PRESSURE: 1429 mmHg @ 21.1 C

VAPOR DENSITY (air=1): 5.93 @ 25 C

SPECIFIC GRAVITY (water=1): 1.5312 @ 0 C

WATER SOLUBILITY: 0.013% @ 25 C

PH: Not applicable

VOLATILITY: 100%

ODOR THRESHOLD: Not available

EVAPORATION RATE: <1.0 (ether=1)

VISCOSITY: 0.0118 cP @ 25 C

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

SOLVENT SOLUBILITY:

Soluble: alcohol, ether, butane, benzene, toluene, carbon tetrachloride, ketones, esters, organic acids, hydrocarbons

Insoluble: glycols, phenols

10. STABILITY AND REACTIVITY

[Up to Table of Contents](#)

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, combustible materials

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: halogens, chlorine, acid halides, phosgene

POLYMERIZATION:

Will not polymerize.

11. TOXICOLOGICAL INFORMATION

[Up to Table of Contents](#)

1,2-DICHLOROTETRAFLUOROETHANE:

TOXICITY DATA:

72 pph/30 minute(s) inhalation-rat LC50

CARCINOGEN STATUS:

ACGIH: A4 -Not Classifiable as a Human Carcinogen

ACUTE TOXICITY LEVEL:

Relatively Non-toxic: inhalation

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

heart or cardiovascular disorders, respiratory disorders

ADDITIONAL DATA:

Stimulants such as epinephrine may induce ventricular fibrillation.

12. ECOLOGICAL INFORMATION

[Up to Table of Contents](#)

Not available

13. DISPOSAL CONSIDERATIONS

[Up to Table of Contents](#)

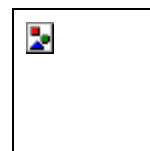
Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

[Up to Table of Contents](#)

U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS; PACKING GROUP; LABEL:

1,2-Dichloro-1,1,2,2-Tetrafluoroethane-UN1958; 2.2; Nonflammable gas



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): Y

1,2-Dichlorotetrafluoroethane

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

ACUTE: Y

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: Y

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: N

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 200-937-7

16. OTHER INFORMATION

[Up to Table of Contents](#)

Matheson Tri-Gas 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 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.

©Copyright 1984-1999 MDL Information Systems. ©Copyright 2000 Matheson Tri-Gas. All rights reserved.