1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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: HEXAFLUOROPROPYLENE
SYMBOL: $\text{C}_3\text{F}_6$

TRADE NAMES/SYNONYMS:
1,1,2,3,3,3-Hexafluoro-1-propene; Hexafluoropropylene; Hexfluoropropylene; Perfluoropropene; Perfluoro-1-propene; Perfluoropropylene; UN 1858; MAT10880; RTECS UD0350000

CHEMICAL FAMILY: halogens

CREATION DATE: Jan 24 1989
REVISION DATE: Mar 16 1999

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: Hexafluoropropylene

CAS NUMBER: 116-15-4

EC NUMBER (EINECS): 204-127-4

EC INDEX NUMBER: 602-061-00-4

PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

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

WHMIS CLASSIFICATION: AD1

EC CLASSIFICATION (ASSIGNED): Xn Harmful Xi Irritant

R 20-37

EC Classification may be inconsistent with independently-researched data.

EMERGENCY OVERVIEW:

Physical Form: gas
Major Health Hazards: difficulty breathing

Physical Hazards: Containers may rupture or explode if exposed to heat. May react on contact with water.

POTENTIAL HEALTH EFFECTS:

INHALATION:
- **Short Term Exposure**: irritation, irregular heartbeat, symptoms of drunkenness, suffocation, lung congestion
- **Long Term Exposure**: kidney damage, liver damage

SKIN CONTACT:
- **Short Term Exposure**: irritation
- **Long Term Exposure**: no information on significant adverse effects

EYE CONTACT:
- **Short Term Exposure**: no information on significant adverse effects
- **Long Term Exposure**: no information is available

INGESTION:
- **Short Term Exposure**: no information on significant adverse effects
- **Long Term Exposure**: no information is available

CARCINOGEN STATUS:
OSHA: N
NTP: N
IARC: N

4. FIRST AID MEASURES

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:
It is unlikely that emergency treatment will be required. Wash with large amounts of water or normal saline until no evidence of chemical remains (at least 15-20 minutes). 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

FIRE AND EXPLOSION HAZARDS:
Negligible fire hazard.

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

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

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

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

HEXAFLUOROPROPENE:
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: Wear appropriate chemical resistant clothing. 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: gas

ODOR: Not available

MOLECULAR WEIGHT: 150.03

MOLECULAR FORMULA: C3-F6

BOILING POINT: -20 F (-29 C)

FREEZING POINT: -249 F (-156 C)

VAPOR PRESSURE: 6.78 atm @ 21.1 C

VAPOR DENSITY: Not available

SPECIFIC GRAVITY (water=1): 1.583 @ -40/4 C

WATER SOLUBILITY: hydrolyzes

PH: Not applicable

VOLATILITY: Not applicable

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not applicable

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable

10. STABILITY AND REACTIVITY

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: acid halides

POLYMERIZATION:
Will not polymerize.
11. TOXICOLOGICAL INFORMATION

HEXAFLUOROPROPYLENE:

TOXICITY DATA:
11200 mg/m3/4 hour(s) inhalation-rat LC50

ACUTE TOXICITY LEVEL:
Moderately Toxic: inhalation

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS;
PACKING GROUP; LABEL:
Hexafluoropropylene, compressed.-UN1858; 2.2; Nonflammable gas

15. REGULATORY INFORMATION

U.S. REGULATIONS:
TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Y
Hexafluoropropylene
CAS NUMBER: 116-15-4
SECTION 4

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: Y
SUDDEN RELEASE: Y

STATE REGULATIONS:
California Proposition 65: N

EUROPEAN REGULATIONS:

EC NUMBER (EINECS): 204-127-4

EC RISK AND SAFETY PHRASES:

<table>
<thead>
<tr>
<th>Code</th>
<th>Phrase</th>
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<tbody>
<tr>
<td>R 20</td>
<td>Harmful by inhalation.</td>
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<tr>
<td>R 37</td>
<td>Irritating to respiratory system.</td>
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<tr>
<td>S 2</td>
<td>Keep out of reach of children.</td>
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<tr>
<td>S 41</td>
<td>In case of fire and/or explosion do not breathe fumes.</td>
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16. OTHER INFORMATION

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