1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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:** HALOTHANE
SYMBOL: C₂HBrClF₃

TRADE NAMES/SYNONYMS:
FLUOTHANE (R); 1,1,1-TRIFLUORO-2-CHLORO-2-BROMOETHANE; 2,2,2-TRIFLUORO-1-CHLORO-1-BROMOETHANE; BROMOCHLOROTRIFLUOROETHANE; HALOTAN; FLUOROTANE; OCHALOTHANE; NARCOTANE; 1,1,1-TRIFLUORO-2-BROMO-2-CHLOROETHANE; FLUOTHANE; C₂HBrClF₃; MAT10625; RTECS KH6550000

CHEMICAL FAMILY: halogenated, aliphatic

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

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: HALOTHANE

CAS NUMBER: 151-67-7

EC NUMBER (EINECS): 205-796-5

PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2  FIRE=0  REACTIVITY=0

WHMIS CLASSIFICATION: D2

EC CLASSIFICATION (ASSIGNED):
Xi Irritant

R 36-37-38

EMERGENCY OVERVIEW:

Physical Form: liquid

Odor: sweet odor, pleasant odor

Major Health Hazards: respiratory tract irritation, skin irritation, eye irritation

POTENTIAL HEALTH EFFECTS:
INHALATION:
  Short Term Exposure: irritation, nausea, vomiting, liver damage
  Long Term Exposure: kidney damage, liver damage

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

EYE CONTACT:
  Short Term Exposure: irritation, tearing
  Long Term Exposure: same as effects reported in short term exposure

INGESTION:
  Short Term Exposure: same as effects reported in short term inhalation, symptoms of drunkenness
  Long Term Exposure: no information on significant adverse effects

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:
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.

NOTE TO PHYSICIAN:
For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS:
Negligible 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.

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**6. ACCIDENTAL RELEASE MEASURES**

**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**
Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances.

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**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

**HALOTHANE:**
50 ppm (404 mg/m3) ACGIH TWA
2 ppm (16 mg/m3) NIOSH recommended ceiling 1 hour(s) (halogenated anesthetic gas)

**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:** 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.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.

**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: liquid

ODOR: sweet odor, pleasant odor

MOLECULAR WEIGHT: 197.39

MOLECULAR FORMULA: C2-H-BR-CL-F3

BOILING POINT: 122 F (50 C)

FREEZING POINT: Not available

VAPOR PRESSURE: Not available

VAPOR DENSITY: Not available

SPECIFIC GRAVITY (water=1): 1.87

WATER SOLUBILITY: 0.345%

PH: Not available

VOLATILITY: Not available

ODOR THRESHOLD: Not available

EVAPORATION RATE: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:
Soluble: petroleum ether, acetone, ether, benzene, fat solvents

10. STABILITY AND REACTIVITY

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: chlorine, halides, halogens, oxides of carbon

POLYMERIZATION:
Will not polymerize.
11. TOXICOLOGICAL INFORMATION

HALOTHANE:

IRRITATION DATA:
100 mg eyes-rabbit severe

TOXICITY DATA:
29000 ppm inhalation-rat LC50; 5680 mg/kg oral-rat LD50

CARCINOGEN STATUS:
IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen

LOCAL EFFECTS:
Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:
Slightly Toxic: inhalation, ingestion

MUTAGENIC DATA:
Available.

REPRODUCTIVE EFFECTS DATA:
Available.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

No classification assigned.

15. REGULATORY INFORMATION

U.S. REGULATIONS:
TSCA INVENTORY STATUS: N

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


STATE REGULATIONS:
California Proposition 65: Y
Known to the state of California to cause the following:
Halothane
Developmental toxicity (Sep 01, 1996)

EUROPEAN REGULATIONS:
EC NUMBER (EINECS): 205-796-5

EC RISK AND SAFETY PHRASES:

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<tr>
<th>R</th>
<th>Phrases</th>
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<tbody>
<tr>
<td>36</td>
<td>Irritating to eyes.</td>
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<tr>
<td>37</td>
<td>Irritating to respiratory system.</td>
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<tr>
<td>38</td>
<td>Irritating to skin.</td>
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<tr>
<th>S</th>
<th>Phrases</th>
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<tbody>
<tr>
<td>2</td>
<td>Keep out of reach of children.</td>
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<tr>
<td>24</td>
<td>Avoid contact with skin.</td>
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<tr>
<td>25</td>
<td>Avoid contact with eyes.</td>
</tr>
<tr>
<td>26</td>
<td>In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.</td>
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<tr>
<td>46</td>
<td>If swallowed, seek medical advice immediately and show this container or label.</td>
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16. OTHER INFORMATION

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