

## Flux-Off®

C8900, C1690, C2490

### IDENTIFICATION

<b>Name:</b> Flux-Off	<b>Chemical Family:</b> Halogenated Hydrocarbon
<b>Synonyms:</b> Freon® TMC Solvent	<b>Formula:</b> CCl <sub>2</sub> FCClF <sub>2</sub> /CH <sub>2</sub> Cl <sub>2</sub> /CO <sub>2</sub>
<b>CAS Name:</b> Methylene Chloride	<b>CAS Registry No.:</b> 75-09-2
1,1,2-Trichloro-	
1,2,2-Trifluoroethane	76-13-1
Carbon Dioxide Propellant	124-38-9
<b>Manufacturer:</b> Chemtronics Inc.	<b>Medical/Transportation</b>
681 Old Willets Path	<b>Emergency Phone:</b> 516-582-3322
Hauppauge, NY 11788	

### PHYSICAL DATA (Propellant Free Basis)

<b>Boiling Point (°F):</b> 97.7	<b>Percent Volatile by Volume:</b> 100
<b>Density:</b> 1.42 g/cc @ 77°F	<b>Vapor Pressure:</b> 500mm Hg @ 77°F
<b>Vapor Density (Air=1):</b> 2.7 @ 77°F	<b>Solubility in H<sub>2</sub>O:</b> Negligible
<b>pH Information:</b> Neutral	<b>Evaporation rate</b> (Ether=1): 1
Neutral	<b>Appearance:</b> Clear
<b>Form:</b> Liquid	<b>Odor:</b> Solvent Odor
<b>Color:</b> Colorless	

### HAZARDOUS COMPONENTS

Material(s):	Approximate %:
Methylene Chloride	48
Trichlorotrifluoroethane	48
Carbon Dioxide	4

### HAZARDOUS REACTIVITY

**Stability:** Material is stable. However, avoid spraying near open flames or red hot surfaces. Do not heat aerosol containers above 49°C/120°F.

**Decomposition:** These materials can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, possible carbonyl halides.

**Incompatibility:** Alkali or alkaline earth metals, powdered Al, Zn, Be, etc.

**Polymerization:** Will not occur.

### FIRE AND EXPLOSION DATA

<b>Flash Point:</b> None	<b>Method:</b> TOC
<b>Autoignition Temperature:</b> Not determined	<b>Flammable Limits in Air,</b> <b>% by Vol.:</b> Lower: Nonflammable Upper: Nonflammable

**Autodecomposition Temperature:** Not determined

**Fire and Explosion:** Pressurized aerosol containers at elevated temperatures may vent, rupture or burst and add to flying and falling debris. Decomposition may occur.

**Extinguishing Media:**  
Nonflammable.

**Special Fire Fighting**  
**Instructions:** Self-contained breathing apparatus (SCBA) may be required if aerosols rupture and contents are spilled under fire conditions.

### HEALTH HAZARD INFORMATION

#### Principal Health Hazards:

**Inhalation:** Vapor is heavier than air and can cause suffocation by reducing oxygen available for breathing. Breathing high concentration of vapor may cause light-headedness, giddiness, shortness of breath, and may lead to narcosis, cardiac irregularities, unconsciousness or death. Methylene chloride is metabolized to CO, raising the carboxy hemoglobin concentration in the blood with resulting symptoms of carbon monoxide poisoning. Trichlorotrifluoroethane—LC 50 Rats 52,000 ppm/4 hrs.; Methylene chloride—LC 50 Rats 15,000 ppm/2 hrs.

**Eye:** Liquid contact can cause discomfort, usually no extended effect.

**Skin:** Methylene chloride is classified as an irritant. Skin permeation of methylene chloride can occur in amounts capable of producing the effects of systemic toxicity.

**Oral:** Although oral toxicity is low (Trichlorotrifluoroethane—LD 50 Rats 43,000 mg/kg; Methylene Chloride—LD 50 Rats 5,000 mg/kg), ingestion of Flux-Off is to be avoided.

**Note:** In screening tests with experimental animals, exposure at approximately 5,000 ppm (v/v) and above, followed by a large intravenous epinephrine challenge, has induced serious cardiac irregularities.

#### Exposure Limits:

Material:	TLV (ACGIH):	PEL (OSHA):
Trichlorotrifluoroethane	1000 ppm	1000 ppm
Methylene Chloride	100 ppm	500 ppm
Carbon Dioxide	5000 ppm	5000 ppm
Flux-Off	119 ppm (calc.)	

**Safety Precautions:** Avoid breathing vapors and prolonged skin exposure. Use only in well-ventilated area.

#### First Aid:

**Inhalation:** Remove to fresh air, call a physician. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs.

**Eye:** Immediately flush with plenty of water for at least 15 minutes. Call a physician.

**Skin:** Flush with water. Get medical attention if irritation is present.

**Oral:** Call a physician. Do not induce vomiting as the hazard of aspirating the material into the lungs is a greater hazard than allowing it to progress through the intestinal tract. Give two glasses of water or activated charcoal slurry (50 grams activated charcoal in 400 ml. H<sub>2</sub>O). Never give anything by mouth to an unconscious person.

**Note to Physician:** Because of possible increased risk of eliciting cardiac dysrhythmias, catecholamine drugs such as epinephrine, should be considered only as a last resort in life threatening emergencies.

#### Medical Conditions Possibly Aggravated by Exposure:

**Cardiovascular Disease:** See Principal Health Hazards, Inhalation Section.

**Skin Disease:** Flux-Off is a defatting agent. Persons with pre-existing skin disorders may be more susceptible to the effects of this agent.

#### Other Health Hazards:

Trichlorotrifluoroethane is not listed as a carcinogen by IARC, NTP or OSHA. Methylene chloride is listed as a known carcinogen by NTP. Based on animal studies and human experiences, this mixture poses no hazard to man relative to systemic toxicity, carcinogenicity, mutagenicity or teratogenicity when occupational exposures are below its recommended TLV.

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## PROTECTION INFORMATION

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**Generally Applicable Control Measures:** Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low places.

**Personal Protective Equipment:** Rubber gloves should be used to avoid prolonged or repeated exposure. Chemical splash goggles should be available for use as needed to prevent eye contact. Under normal manufacturing conditions, no respiratory protection is required when using this product. Self-contained breathing apparatus is required if a large spill occurs. Do not spray liquid on skin.

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## DISPOSAL INFORMATION

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**Spill, Leak or Release:** Ventilate area. Remove open flames or red hot surfaces. Allow to evaporate.

**Waste Disposal:** Allow to evaporate. Do not puncture or incinerate aerosol cans. Comply with federal, state and local regulations.

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## SHIPPING INFORMATION

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**Domestic—Other Than Air (DOT):**

*Proper Shipping Name:* Consumer Commodity

*Hazard Class:* ORM-D

*UN No.:*

*DOT Label:*

*DOT Placard:*

**International Water or Air (IMO/ICAO):**

*Proper Shipping Name:* Aerosol, nonflammable, NOS

*Hazard Class:* 2 sub 6.1 contains methylene chloride

*UN No.:* 1950

*IMO/ICAO Label:* Green, Nonflammable Gas

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## OTHER INFORMATION

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**Shipping Containers:** Aerosol Cans

**Storage Conditions:** Do not store near sources of heat, in direct sunlight or where temperatures exceed 120°F. Do not puncture or damage containers. Rotate stock.

**Date Revised:** 6/87

**Person Responsible:** S.H. Stein, Ph.D.



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