

**GC Electronics**  
1801 Morgan Street  
Rockford, IL 61102  
Phone: (815) 968-9661  
Fax: (815) 968-9731  
www.gcelectronics.com

**Product Name: EXTRA STRENGTH FLUX SOLV**

MSDS Number: 169  
Revision Date: 1/17/03  
Supersedes Date: 2/5/01



## MATERIAL SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: **Flux Remover**  
Product Name: **GC EXTRA STRENGTH FLUX SOLV**  
Part Number(s): **19-270 Discontinued**

Emergency Contact: **Chemtrec**  
Phone (24 hours): **(800) 424-9300**

### Section 1 - Identification of Product

COMMON NAME (used on label)(Trade Name & Synonyms): **GC EXTRA STRENGTH FLUX SOLV**  
CAS. NUMBER: See Section 2  
CHEMICAL NAME: 1,1-Dichloro-1-fluoroethane & Perchloroethylene  
CHEMICAL FAMILY: N/A  
FORMULA: N/A

#### HMIS RATINGS

	Minimal Hazard	0
	Slight Hazard	1
Health: 2	Moderate Hazard	2
Flammability: 1	Serious Hazard	3
Reactivity: 0	Severe Hazard	4
Personal Protection: B	Gloves, Safety Glasses	B

### Section 2 - Hazardous Ingredients

Principal Hazardous Component(s)

CHEMICAL AND COMMON NAME(S)	CAS. #	OSHA		ACGIH		VAPOR PRESSURE		FLASH		% BY WT.
		PEL	TLV	TLV	@25 DEG. C.	LEL	UEL	POINT DEG. F		
1,1-Dichloro-1-fluoro- ethane**	1717-00-6	N/A*	N/A*		10 psia	7.4	15.5	None		83
Isopropyl Alcohol**	67-63-0	400ppm	400ppm		31 mmHg	2.2	12.0	53(TCC)		6
Perchloroethylene**	127-18-4	25 ppm	25ppm		13 mmHg	None	None	None		6
Carbon Dioxide	124-38-9	5000ppm			1 atm.	None		None		5

\*Limit established by The AlliedSignal Company is 500ppm

\*\*NOTE: This product contains an ingredient subject to Section 313 of SARA Title III.

**WARNING: This product contains Perchloroethylene which is known to the state of California to cause cancer, birth defects or other reproductive harm.**

N/A is not available or not applicable

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**Section 3 - Physical Data**

**BOILING POINT (Deg. F):** Concentrate Range: 75 - 200

**SPECIFIC GRAVITY (Water = 1):** Concentrate: 1.1

**VAPOR PRESSURE (mmHg):** See Section 2

**PERCENT VOLATILE BY WEIGHT (%):** 95%

**PERCENT VOLATILE ORGANIC COMPOUNDS:** 6%

**VAPOR DENSITY (Air = 1):** >1

**EVAPORATION RATE (BA = 1):** >1

**SOLUBILITY IN WATER:** Negligible

**REACTIVITY IN WATER:** None

**APPEARANCE AND ODOR:** CONCENTRATE: Clear liquid, irritating odor at high concentrations; PROPELLANT: Colorless, odorless gas; FINISHED PACKAGE: Pressurized containers.

**Section 4 - Fire & Explosion Hazard Data**

**FLASH POINT:** See Section 2

**FLAMMABLE LIMITS IN AIR - % BY VOLUME:** See Section 2

**EXTINGUISHER MEDIA:** Water fog, dry chemical, carbon dioxide

**AUTO-IGNITION TEMPERATURE:** Unknown

**SPECIAL FIRE FIGHTING PROCEDURES:** Water may be used to cool closed containers to prevent pressure build-up and possible bursting when exposed to high temperatures. Firemen should wear self-contained, positive pressure, respiratory equipment.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Although aerosols are classified as nonflammable under ASTM D 3065-77 Flame Projection Test, this product should not be used or stored near any open flames or ignition sources. Contents under pressure. Self-pressurized aerosol containers. Keep temperature of containers below 120 deg. F. to prevent bursting. Hazardous decomposition products.

**Section 5 - Health Hazard Data**

**THRESHOLD LIMIT VALUE:** See Section 2

**SIGNS AND SYMPTOMS OF EXPOSURE:****EYE CONTACT:**

Contact with liquid or mist may cause irritation. Vapors may irritate eyes;

**SKIN CONTACT:**

Prolonged contact may cause irritation, defatting of skin;

**INHALATION:**

Overexposure to vapor may cause dizziness, loss of concentration and irritation. With high exposure levels, effects can include central nervous system (CNS), depression (intoxication) and cardiac arrhythmia. Product vapors displace air and can cause suffocation especially in confined space.

**INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS OF THE CAN MAY BE HARMFUL OR FATAL.**

**INGESTION:**

Aspiration may cause rapid absorption through the lungs, which may result in systemic effects.

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*IMPORTANT NOTICE: REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS MAY LEAD TO PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. EYE WATERING, HEADACHES, NAUSEA, DIZZINESS OF COORDINATION AND LOSS ARE SIGNS THAT SOLVENT LEVELS ARE TOO HIGH. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.*

**EMERGENCY AND FIRST AID PROCEDURES****INHALATION:**

Remove to fresh air. If not breathing, give mouth-to-mouth. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs. Call a physician.

**EYES:**

Flush with water for at least 15 minutes. Get medical assistance if irritation persists.

**SKIN:**

Wash off in flowing water or shower. Remove contaminated clothing and wash before reuse.

**INGESTION:**

Do not induce vomiting. Call a physician immediately. Do not administer sympathomimetic drugs unless absolutely necessary. No specific antidote

NOTE TO PHYSICIANS: BECAUSE OF POSSIBLE DISTURBANCES OF CARDIAC RHYTHM, CATECHOLAMINE DRUGS, SUCH AS EPINEPHRINE, SHOULD ONLY BE USED WITH SPECIAL CAUTION IN SITUATIONS OF EMERGENCY LIFE SUPPORT.

*NOTE TO PHYSICIAN: BECAUSE RAPID ABSORPTION MAY OCCUR THROUGH LUNGS IF ASPIRATED AND CAUSE SYSTEMIC EFFECTS, THE DECISION OF WHETHER TO INDUCE VOMITING OR NOT SHOULD BE MADE BY AN ATTENDING PHYSICIAN. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGEAL CONTROL. DANGER FROM LUNG ASPIRATION MUST BE WEIGHED AGAINST TOXICITY WHEN CONSIDERING EMPTYING THE STOMACH. EXPOSURE MAY INCREASE "MYOCARDIAL IRRITABILITY". DO NOT ADMINISTER SYMPATHOMIMETIC DRUGS UNLESS ABSOLUTELY NECESSARY. NO SPECIFIC ANTIDOTE. SUPPORTIVE CASE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.*

<b>Section 6 - Reactivity Data</b>
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**STABILITY:** Stable

**CONDITIONS TO AVOID:** Avoid any excessive heat, ignition sources, open flames, or other high temperatures which induce thermal decomposition.

**INCOMPATIBILITY (Materials to Avoid):** Chemically Active Metals. Oxidizing agents. Sodium, Potassium, Calcium, etc. Alkali or alkaline earth metals. Powdered Aluminum, Zinc, Magnesium, Beryllium, etc.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride, Hydrofluoric acid, small amounts of Phosgene and Chlorine.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Not Applicable

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### Section 7 - Spill or Leak Procedures

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

**SMALL SPILLS:** Remove ignition sources. Mop up, wipe up, or soak up immediately. Use proper protective equipment.

**LARGE SPILLS:** Evacuate area. Remove ignition sources. Contain liquid; transfer to closed containers; keep out of water supplies.

**WASTE DISPOSAL METHODS:** Dispose in accordance with Federal, State, and Local regulations. Do not incinerate closed or empty containers.

### Section 8 - Special Protection Information

**RESPIRATORY PROTECTION:** NIOSH or Bureau of Mines approved organic vapor-type respirator is required in absence of proper environmental control.

**VENTILATION:**

LOCAL EXHAUST: To keep below TLV

MECHANICAL (General): To keep below TLV

SPECIAL: None

OTHER: None

**PROTECTIVE GLOVES:** Solvent resistant gloves - impervious gloves

**EYE PROTECTION:** Safety glasses or goggles

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:** None reasonably foreseeable.

### Section 9 - Special Precautions

**PRECAUTIONS TO BE TAKEN  
IN HANDLING AND STORAGE:**

Do not store above 110 Deg. F. Do not use or store near any open flames or ignition sources.

**OTHER PRECAUTIONS:**

Contents under pressure. Do not puncture or incinerate. Exposure to temperatures above 120 Deg. F may cause can to burst with violence and cause injury. Vapors are heavier than air and will collect in low areas.

### Section 10 - Regulatory Information

SUBJECT TO SECTION 313 OF SARA TITLE III: Yes. Dichlorofluoroethane, Isopropyl Alcohol, Perchloroethylene

ALL CHEMICAL COMPONENTS ARE LISTED IN THE TSCA INVENTORY.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY PROGRAM: Yes - Perchloroethylene

I.A.R.C. MONOGRAPHS: Yes - Perchloroethylene

OSHA: Yes - Perchloroethylene

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**CANCER INFORMATION:** For hazard communication purposes under OSHA Standard 29 CFR Part 1910.1200, this chemical is listed as a potential carcinogen by IARC and NTP. Perchloroethylene has been shown to increase the rate of spontaneously occurring malignant tumors in certain laboratory rats and mice. Other long-term inhalation studies in rats failed to show tumorigenic response. Epidemiology studies are limited and have not established an association between Perchloroethylene exposure and cancer. Perchloroethylene is not believed to pose a measurable carcinogenic risk to man when handled as recommended.

**WARNING: This product contains Perchloroethylene which is known to the state of California to cause cancer, birth defects or other reproductive harm.**

OSHA PERMISSIBLE EXPOSURE LIMIT: See Section 2

ACGIH THRESHOLD LIMIT VALUE: See Section 2

OTHER EXPOSURE LIMITED USED: None

<b>Section 11 - Other Information</b>
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**TRANSPORTATION INFORMATION – DOMESTIC GROUND**

Shipping Name:	Aerosol, Nonflammable
Hazard Class:	2.2
UN Number:	UN1950
Packing Group:	N/A
Hazard Label:	ORM-D
Carton Marking:	ORM-D
Description:	Dichlorofluoroethane/Perchloroethylene

<b>Disclaimer</b>
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