

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

**Product Name: GC FLUX REMOVER & CLEANER**

MSDS Number: 176  
 Revision Date: 03/27/03  
 Supersedes Date: 02/24/01

**MATERIAL SAFETY DATA SHEET**

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: **Flux Remover**  
 Product Name: **GC FLUX REMOVER & CLEANER**  
 Part Number(s): **22-271**

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

**Section 1 - Identification of Product**

COMMON NAME (used on label)(Trade Name & Synonyms): **GC FLUX REMOVER & CLEANER**  
 CAS. NUMBER: See Section 2  
 CHEMICAL NAME: Trichloroethylene & Isopropanol  
 CHEMICAL FAMILY: N/A  
 FORMULA: N/A

<b>HMIS RATINGS</b>		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 PEL	ACGIH TLV	VAPOR PRESSURE @ 25 DEG. C.	LEL	UEL	FLASH	
							POINT	DEG. F % BY WT.
Isopropyl Alcohol**	67-63-0	400ppm	400ppm	31 mmHg	2.2	12.0	53(TCC)	15 - 20
Trichloroethylene**	79-01-6	50 ppm	50ppm	60 mmHg	8.0	44.8	None	80 - 85
Carbon Dioxide	124-38-9	5000ppm		1 atm.		None	None	5

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

**WARNING: This product contains Trichloroethylene which is known to the state of California to cause cancer.**

N/A is not available or not applicable

### Section 3 - Physical Data

**BOILING POINT (Deg. F):** Concentrate Range: 170 - 200

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

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

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

**PERCENT VOLATILE ORGANIC COMPOUNDS:** 16%

**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), cardiac arrhythmia, and death. 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;

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**INGESTION:**

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

*IMPORTANT NOTICE: REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS MAY LEAD TO PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. EYE WATERING, HEADACHES, NAUSEA, DIZZINESS AND LOSS OF COORDINATION 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.*

**Section 6 - Reactivity Data**

**STABILITY:**

Stable

**CONDITIONS TO AVOID:**

Avoid any excessive heat, ignition sources, open flames, or other high temperatures which induce thermal decomposition. Gross contamination with water may cause hydrolysis which will produce small amounts of hydrochloric acid.

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**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, small amounts of Phosgene and Chlorine.

**HAZARDOUS**

**POLYMERIZATION:** Will not occur.

**CONDITIONS TO AVOID:** Not Applicable

**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. Avoid repeated contact with skin.

**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.

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### Section 10 - Regulatory Information

SUBJECT TO SECTION 313 OF SARA TITLE III: Yes. Trichloroethylene = 80%, Isopropyl Alcohol = 16%

ALL CHEMICAL COMPONENTS ARE LISTED IN THE TSCA INVENTORY.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY PROGRAM: No.

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

OSHA: No.

**WARNING: This product contains Trichloroethylene which is known to the state of California to cause cancer.**

CANCER INFORMATION: A positive carcinogenic response has occurred only in mice given large doses of trichloroethylene. Data suggest a nonmutagenic mechanism for tumor formation implying that nontoxic doses of trichloroethylene should pose little or no carcinogenic hazard for man. Trichloroethylene is listed as a potential carcinogen by IARC.

OSHA PERMISSIBLE EXPOSURE LIMIT: See Section 2

ACGIH THRESHOLD LIMIT VALUE: See Section 2

OTHER EXPOSURE LIMITED USED: None

### Section 11 - Other Information

TRANSPORTATION INFORMATION – DOMESTIC GROUND

Shipping Name:	Consumer Commodity
Hazard Class:	ORM-D
UN Number:	N/A
Packing Group:	N/A
Hazard Label:	None
Carton Marking:	Consumer Commodity, ORM-D

### Disclaimer

GC Electronics believes that the information contained herein is accurate and reliable as of the date of this material safety data sheet, but no representation guarantee or warranty, express or implied, is made as to the accuracy, reliability, or completeness of the information. Persons receiving this information are encouraged to make their own determination as to the information's suitability and completeness for their particular application. NO INFORMATION CONTAINED HEREIN CONSTITUTES A PRODUCT WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANT ABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY GC ELECTRONICS.