

MATERIAL SAFETY DATA SHEET
Cortec, Spray Technologies Division
1300 South River Street
Spooner, WI 54801

PHONE: 715-635-8711 TOLL FREE 1-800-826-6791
FAX: 715-635-2200

EMERGENCY PHONE NO.: (FOR SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT): 1-800-535-5053

*****FLUX REMOVER 11109, 11110*****
 **

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NAME: Flux Remover (aerosol)
 PRODUCT DESCRIPTION: Fast drying, non-flammable, extra strength - removes heavy, encrusted type R, RMA, RA and synthetic flux deposits and other contaminants from printed circuit boards, connectors, and other precision equipment. *Not recommended for use on acrylic, polystyrene or polycarbonates!*
 RESTRICTIONS: Commercial / industrial use only.

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT NAME(S)	CAS#	OCCUPATIONAL EXPOSURE LIMITS	
		TLV OR PEL	ORAL LD-50
1,1- Dichloro-1-fluoroethane	1717-00-6	500 ppm (See below*)	5 gm/kg (rat)
Isopropyl Alcohol	67-63-0	400 ppm	N.E.
Carbon Dioxide	124-38-9	5000 ppm	N.E.

*Recommended Workplace Environmental Exposure Level (WEEL) as established by American Industrial Hygiene Association
 Carcinogenic: **OSHA** = no **NTP** = no **IARC** = no

SECTION III - PHYSICAL DATA

APPEARANCE: Transparent liquid, no color
 ODOR: Slight ethereal odor
 BOILING POINT: 90 degrees F. (32.22 degrees C.)
 VAPOR DENSITY (Air = 1): >1
 VAPOR PRESSURE: 4380 mmHg
 SOLUBILITY IN WATER: Approximately 18% by weight
 SPECIFIC GRAVITY: 1.136
 EVAPORATION RATE (Ether = 1): >1

SECTION IV - FIRE AND EXPLOSION DATA

HMIS RATING: Health - 1, Fire - 1, Reactivity - 1
 FLASH POINT : None to boiling
 FLAMMABLE LIMITS: LEL: 7.60% UEL: 17.7%
 EXTINGUISHING MEDIA: Dry chemical, CO2.
 UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapor concentrations when present within the flammable range (LEL, UEL) can be ignited with high-intensity heat sources or open flames, especially in poorly ventilated spaces. Contents decompose to produce irritating, toxic and corrosive gases. Heated containers may become over-pressurized and fail explosively.
 SPECIAL FIRE FIGHTING PROCEDURES: Fire fighters should wear self-contained breathing apparatus and protective clothing. Cool fire-exposed containers with water fog.

SECTION V - HEALTH HAZARD DATA

EMERGENCY AND FIRST AID PROCEDURES:

Eye Contact: Flush eyes with water for at least 15 minutes. Consult a physician. Skin Contact: Wash affected area with soap and water. If irritation develops or persists, consult a physician. Inhalation: Remove victim to fresh air, administer oxygen if necessary. If victim has stopped breath begin CPR, Get immediate medical attention. Ingestion: If liquid is swallowed, get immediate medical attention. DO NOT induce vomiting unless physician directed. If spontaneous vomiting occurs, keep victim's head below hips to prevent aspiration of vomitus into lungs.
 MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Cardiovascular disease, pre-existing skin conditions.
 PRIMARY ROUTES OF ENTRY: Inhalation, skin and eye contact.
 HEALTH HAZARDS (acute and chronic) / EFFECTS OF OVEREXPOSURE: Excessive inhalation of high vapor concentrations may cause dizziness, weakness, fatigue, nausea, headache, unconsciousness. Extreme inhalation overexposures may cause asphyxiation.

SECTION VI - REACTIVITY DATA

STABILITY: Stable under normal use and storage conditions.
 HAZARDOUS POLYMERIZATION: Will not occur.
 HAZARDOUS DECOMPOSITION PRODUCTS (under fire conditions): Hydrochloric and hydrofluoric acids, possible carbonyl halides such as phosgene and oxides of carbon.
 INCOMPATIBILITY: Avoid contact with strong acids, alkalis, reactive metals, sodium, calcium, magnesium, zinc, lithium shavings, etc. Avoid also strong oxidizing agents.
 CONDITIONS TO AVOID: Avoid contact with heat, flame, other high-intensity heat sources.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Extinguish potential ignition sources, ventilate area. Take up spilled material on an inert, absorbent material and place into a closed-top, DOT approved waste container for disposal. Prevent liquid from entering sewers or drains.
 WASTE DISPOSAL: Comply with all existing Federal, State and Local environmental regulations. Waste or unwanted material may be reclaimed or incinerated by permitted facilities.

SECTION VIII - SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION: Not normally required; mechanical (general) ventilation is generally adequate. Wear a NIOSH approved organic respirator in nuisance level concentrations, a positive pressure, air-supplied respirator in high vapor concentrations or oxygen-deficient atmospheres.
 PROTECTIVE GLOVES: PVA or neoprene gloves
 EYE PROTECTION: Safety glasses, splash goggles, face shield
 OTHER PROTECTIVE EQUIPMENT: Eye wash station.

SECTION IX - SPECIAL PRECAUTIONS AND STORAGE DATA

PRECAUTIONS TO BE TAKEN IN HANDLING: Avoid eye and skin contact with liquid. Avoid excessive inhalation of vapors. Use in a well-ventilated environment. Intentional inhalation of contents is harmful and may be fatal.
 PRECAUTIONS TO BE TAKEN IN STORING: Store containers below 120°F (48°C), away from heat or ignition sources, open flame, out of direct sunlight.

SECTION X- SHIPPING DATA

DOT SHIPPING NAME: Aerosols, non-flammable, (each not exceeding 1L capacity)
 U.N./N.A. NUMBER: UN1950
 DOT HAZARD CLASS: 2.2

(continued on page 2)

Page 2

Flux Remover 11109, 11110

DOT REQUIRED LABEL: 2, Non-flammable gas (air shipment only)

DOT EXCEPTION: See code 49 section 172.101, column (8A). Section 173.306(h) permits "limited quantity" materials (inner packagings which do not exceed 1L capacity / 61 cubic inches and for which internal pressures do not exceed 180 psig at 130 degrees F.) meeting section 171.8 definition of "consumer commodity" to be renamed "Consumer commodity" and reclassified as ORM-D when shipped via ground mode, domestically.

IMDG SHIPPING NAME: Aerosols, non-flammable, (each less than 1L capacity)

FREIGHT CLASS: NMFC 48580, Sub 3

LTL: 55

TL: 35

MW: 36

T.S.C.A. STATUS: All components listed

PREPARED BY: Roger Hanson

DATE PREPARED: 01-26-00 SUPERSEDES: 01-13-00

DISCLAIMER: This information is furnished without warranty, expressed, or implied, except that it is accurate to the best knowledge of Cortec, Spray Technologies Division. The data on this sheet relates only to the specific material designated herein. Cortec, Spray Technologies Division assumes no legal responsibility for use or reliance upon this data.

N.E. = NOT ESTABLISHED

N.A. = NOT APPLICABLE