

CHEMTRONICS[®]

Technical Data Sheet

TDS # 6200

Flux-Off[®] VZ Flux Remover

PRODUCT DESCRIPTION

Flux-Off[®] VZ Flux Remover is a highly effective cleaner for removing rosin-based fluxes from electronic components and assemblies. The non-ozone depleting Verizane[™] solvent system utilizes Vertrel[®] Specialty Fluid from Dupont[™] to quickly remove flux without harming sensitive materials.


- Quickly removes all rosin-based flux residues
- Excellent material compatibility
- Evaporates quickly
- Leaves no residues
- Has low odor
- Penetrates tight tolerance areas
- Also removes oil, grease, and ionic residues
- Contains no CFCs, HCFCs or 1,1,1 Trichloroethane

TYPICAL APPLICATIONS

Flux-Off[®] VZ Flux Remover eliminates flux residues and cleans:

- Through-hole Circuit Boards
- Surface Mount Pads
- Chip Carriers
- Ball Grid Arrays
- Switches
- SMT Components
- Metal or Plastic Housings

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Boiling Point	95°F
Specific Gravity (water = 1 @ 77°F)	1.24
Flash Point (TCC)	None
Evaporation Rate (Butyl acetate=1)	>1
Kauri-Butanol (KB) Number	32
Appearance	Clear, colorless liquid
Odor	Ethereal Odor
Surface Tension (dynes/cm @ 25°C)	14.0
Solubility in Water	Negligible
Shelflife	5 years
RoHS/WEEE Status	

COMPATIBILITY

Flux-Off[®] VZ Flux Remover is generally compatible with most materials used in the electronics industry. With any cleaning agent compatibility solvent/component must be determined on a non-critical area prior to use.

<u>Material</u>	<u>Compatibility</u>
ABS	Good
Buna-N	Good
EPDM	Good
Graphite	Good
HDPE	Good
Kynar™	Good
LDPE	Good
Lexan™	Poor
Neoprene	Good
Noryl	Good
Nylon™ 66	Good
Cross-Linked PE	Good
Polypropylene	Good
Polystyrene	Poor
PVC	Good
Silicone Rubber	Good
Teflon™	Good
Viton™	Good

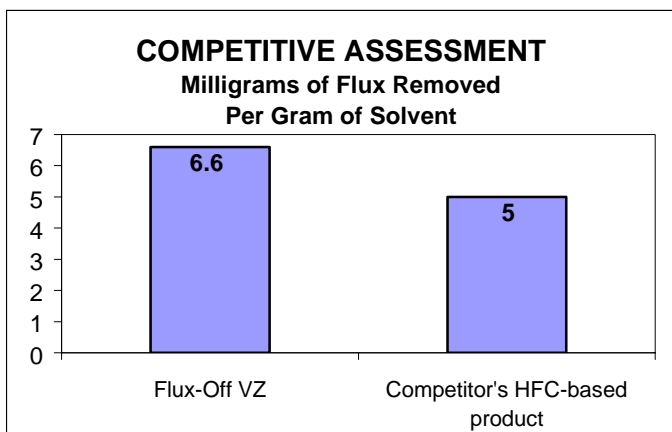
AVAILABILITY

ES6200 12 oz. Aerosol

NOTE:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly.

ITW CHEMTRONICS® does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.



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USAGE INSTRUCTIONS

For industrial use only.

Read MSDS carefully prior to use.

Spray 4-6 inches from surface to clean.

Wash parts from top to bottom, allowing the liquid to flush away flux residues, dirt and dissolved oil. For precision application use attached extension tube.

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Information: 800-TECH-401

Product Identification

FLUX-OFF ® VZ

Product Code: ES6200

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt. % Range
1,1,1,2,2,3,4,5,5,5-decafluoropentane	138495-42-8	1.0-25.0
1,1,1,3,3-pentafluorobutane	406-58-6	0.0-35.0
trans-1,2-dichloroethylene	156-60-5	20.0-45.0
1,1,1,2-tetrafluoroethane	811-97-2	25.0-60.0
methanol	67-56-1	0.1-1.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Clear, colorless liquid with faint ethereal odor. This product is nonflammable. Liquid may irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product vapor may produce dizziness and nausea.

Potential Health Effects:

Eyes: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Prolonged contact can cause skin irritation.

Ingestion: May be harmful if swallowed. Swallowing this material may result in nausea, vomiting and weakness followed by central nervous system depression.

Inhalation: Can be harmful if inhaled. High concentrations of vapors in immediate area can cause dizziness, nausea and vomiting.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting. If conscious, give 2 glasses of water. Never give anything by mouth to an unconscious person. Keep head below knees to minimize chance of aspirating material into the lungs. Get medical attention immediately.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: None to boiling (TCC)

Extinguishing Media: Use water spray or fog, CO₂, dry chemical or water stream when fighting fires involving this material.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Shut off leak if possible and safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with eyes, skin, and clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor or mist. Do not reuse this container. Store in a cool dry place away from heat, sparks and flame. Keep container closed when not in use. Do not store in direct sunlight. **KEEP OUT OF REACH OF CHILDREN.**

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TLV	OSHA PEL	OTHER
1,1,1,2,2,3,4,5,5,5-decafluoropentane	NE	NE	200 ppm*
trans-1,2-dichloroethylene	200 ppm	200 ppm	
1,1,1,3,3-pentafluorobutane	NE	NE	
1,1,1,2-tetrafluoroethane	NE	NE	1000 ppm*
methanol	200 ppm	200 ppm	

NE = None Established * = Supplier's Occupational Exposure Limit

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields or goggles and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:

	NFPA	HMIS
Health	1	1
Flammability	0	0
Reactivity	1	1
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIESPhysical State: Clear, colorless liquidOdor: Ethereal OdorpH: NAVapor Pressure: 220 mmHg@ 70 F (Liquid)Boiling Point: 95°F (35C) (initial)Viscosity: NASolubility in Water: NegligibleSpecific Gravity: 1.24
(Water =1)Evaporation Rate: >1
(Butyl acetate=1)Percent Volatile: 100%**SECTION 10: STABILITY AND REACTIVITY**Stability: This product is stable.Conditions to Avoid: Steam, oxidizers, elevated temperatures. Keep away from elevated temperatures. Do not spray near open flames, red hot surfaces or other sources of ignition.Incompatibility: Do not mix with chemically active metals such as potassium, magnesium, zinc and powdered aluminum, strong base, caustic soda, caustic potash or oxidizing.Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide, hydrogen chloride and hydrogen fluoride.Hazardous Polymerization: Will not occurConditions to Avoid: Finely divided active metals, alkali and alkaline earth metals**SECTION 11: TOXICOLOGICAL INFORMATION**Inhalation:

Tetrafluoroethane	Rat ALC	67,000 ppm/4hrs
trans-1,2-dichloroethylene	LC50 rat	24,100 ppm/4hrs
decafluoropentane	Rat LC50	11,100 ppm/4hrs
pentafluorobutane	LC50 rat	>10%/ 4hrs
methanol	LC50 rats	64,000 ppm/4hrs

Ingestion:

trans-1,2-dichloroethylene	LD50 rats	>5,000 mg/kg
decafluoropentane	DL50 rats	>5,000 mg/kg
pentafluorobutane	LD50 rats	>2,000 mg/kg
methanol	LD50 rats	5,628 mg/kg

Skin

methanol	20mg/24H	MLD
trans-1,2-dichloroethylene	LD50 rabbit	>5,000 mg/kg
decafluoropentane	Rabbits ALD	>5,000 mg/kg

Eye:

methanol	40 mg	MOD
trans-1,2-dichloroethylene		MOD-SEV

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC

Reproductive effects: none

Teratogenic effects: none

Mutagenic effects: none

SECTION 12: ECOLOGICAL INFORMATION

Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

REPORTINGUS regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is: **1-800-424-8802****SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all federal, state and local regulations. Water runoff can cause environmental damage.

SECTION 14: TRANSPORTATION INFORMATION

Proper Shipping Name	UN Number	Class	Sub. Risk	Pkg. Group	Hazard Label	Pkg. Instr.	Max. Quantity
<u>Air:</u> Aerosols non-flammable n.o.s.	UN 1950	2.2	NA	NA	Non-flammable Gas	203	75 k.g.; 150k.g. Y203 30 kg
<u>Ground:</u> Consumer Commodity ORM-D	NA	ORM-D	NA	NA	ORM-D		Pkg. 173.306 Auth.

SECTION 15: REGULATORY INFORMATION**SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

Methanol CAS # 67-56-1 0.1-1.0%

This information should be included on all MSDSs copied and distributed for this material.

TOXIC SUBSTANCES CONTROL ACT (TSCA).

All ingredients of this product are listed on the TSCA Inventory.

WHMIS: Class A; Class D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

This product is a Level 1 aerosol. Do not puncture or incinerate containers. Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.