



Technical Data Sheet

Flux-Off® Tri-VTM Flux Remover

PRODUCT DESCRIPTION

Flux-Off Tri-V Flux Remover is an extra strength nonflammable solvent that removes heavy and encrusted flux deposits. This high pressure solvent system is engineered to remove all types of flux types while evaporating quickly and leaving no residues. Tri-V replacement chemistry is a novel new chemistry that does not contain any n-propyl bromide, TCE or any ozone depleting compounds.

- Powerful cleaning agent to remove R, RA, RMA, and synthetic fluxes
- Removes encrusted fluxes and white residues
- Nonflammable, can be used on energized equipment
- Penetrates to clean hard to reach areas
- Evaporates quickly and leaves no residues, minimizes down time
- Does not contain n-propyl bromide, trichloroethylene, or perchloroethylene
- Stabilized for metals such as aluminum, magnesium, titanium, and brass
- Noncorrosive, safe for sensitive metals

TYPICAL APPLICATIONS

Flux-Off Tri-V Flux Remover effectively cleans flux from:

- Chip Carriers
- Heat Sinks
- Metal Housings and Chassis
- Printed Circuit Boards
- Plugs
- Relays and Contacts
- Sockets
- Surface Mount Device Pads
- Switches

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

Boiling Point Evaporation Rate (butyl acetate=1) Flash Point (TCC) None Specific Gravity 1.27 Vapor Pressure @68°F 267 mmHg Appearance Clear, colorless liquid Odor Mild Solubility in Water Negligible Kauri-Butanol (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100% SCAQMD 1201 g/L	PHYSICAL P	KOPEK	TIES	
(butyl acetate=1) Flash Point (TCC) None Specific Gravity 1.27 Vapor Pressure @68°F 267 mmHg Appearance Clear, colorless liquid Odor Mild Solubility in Water Negligible Kauri-Butanol 100 (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Boiling Point		118° F (48° C)	
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Appearance Clear, colorless liquid Odor Mild Solubility in Water Negligible Kauri-Butanol 100 (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Specific Gravity		1.27	
Odor Mild Solubility in Water Negligible Kauri-Butanol 100 (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Vapor Pressure	@68°F	267 mmHg	
Solubility in Water Negligible Kauri-Butanol 100 (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Appearance		Clear, colorless liquio	d
Kauri-Butanol (KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Odor		Mild	
(KB) Number Shelflife Liquids - 2 years after opening VOC* Content: CARB 100%	Solubility in Wa	ter	Negligible	
VOC* Content: CARB 100%			100	
CARB 100%	Shelflife	Liquids -	2 years after opening	
	VOC* Content:			
SCAOMD 1201 g/L	CARB	10	0%	
	SCAQMD	12	201 g/L	
Federal 95%	Federal	95	5%	

^{*} Volatile Organic Compound (VOC) information is calculated on a weight basis using the VOC definition of California Air Resources Board (CARB) Consumer Product Regulations, South Coast Air Quality Management District (SCAQMD) Rule 102 and the Federal definition published in 40 CFR 51.100(s).

NOTE: As with all vapor degreaser equipment and processes, observe all safety precautions, guidelines and operating rules associated with these units. Failure to do so may put operations personnel at risk. Avoid excessive vapor losses, loss of refrigeration, excessive boil sump heat, etc. Make sure all equipment is operated in accordance with the manufacturer's guidelines and instructions. If in doubt, contact your manufacturer immediately.

COMPATIBILITY

Flux-Off® Tri-VTM Flux Remover is generally compatible with most materials used in printed circuit board fabrication, except acrylics, ABS resins, polycarbonates and polystyrenes. As with any cleaning agent solvent/component compatibility must be determined on a non-critical area prior to use.

<u>Material</u>	Compatibility
ABS	Non-Compatible
Buna-N	Fair
EPDM	Fair
Graphite	Excellent
HDPE	Excellent
LDPE	Good
Lexan TM	Fair
Neoprene	Fair
Noryl [®]	Poor
Nylon TM 66	Excellent
Cross-Linked PE	Excellent
Polypropylene	Excellent
Polystyrene	Non-Compatible
PVC	Excellent
Silicone Rubber	Poor
$Teflon^{TM}$	Excellent
Viton TM	Fair

Performan	ce
Soil Removal – Ultrasonic Clear	ning
Kester 959 Low Residue	100% Removal
No-Clean Flux	
W/W Gum Rosin	99.8% Removal
Soil Removal - Vapor Degreasin	g
Kester 959 Low Residue	100% Removal
No-Clean Flux	
W/W Gum Rosin	99.8% Removal
Soil Removal – Hand Wiping	
Kester 959 Low Residue	100% Removal
No-Clean Flux	
W/W Gum Rosin	100% Removal

USAGE INSTRUCTIONS

For commercial use only.

Read MSDS carefully prior to use.

For vapor degreasing or ultrasonic cleaning application, charge sump tank with solvent.

For ultrasonic or soak applications, be sure to cover tank when not in use to prevent evaporation. Allow the soiled article to soak for 5 - 10 minutes, then remove and loosen any remaining soils with a Controlwipes TM Wipe.

For wipe applications, wet a Controlwipes Wipe with Flux-Off Tri-V and wipe away soils.

For aerosol applications, spray 4 to 6 inches from surface to clean. Wash parts from top to bottom, allowing the liquid to flush away dirt and dissolved grease. For precise application use attached extension tube.

AVAILABILITY

VVV195	1 gallon Liquid
VVV595	5 gallon Liquid
VVV5595	53 gallon Liquid

TECHNICAL & APPLICATION ASSISTANCE

Chemtronics provides a technical hotline to answer your technical and application related questions. The toll free number is: **1-800-TECH-401.**

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

CHEMTRONICS 8125 COBB CENTER DRIVE KENNESAW, GA 30152 1-770-424-4888 REV. B (05/16)

<u>DISTRIBUTED BY:</u>

None	PHYSICAL PROPERTIES	Flux_Off** \text{Triant} \text{VVV195 - 1 gal} \text{VVV595 - 5 gal} \text{VVV5695 - 53 gal}	n-Propyl Bromide (nPB)	Trichloroethylene (TCE)	Perchloroethylene (Perc)	Methylene Chloride
100 125 129 90 115	Flash Point	None	None	None	None	None
Point (NY) 237 24 390 457 450 457 450 457 450 457 450 457 450 457 450 457 450	KB Valu	100	125	129	06	136
118 F 44°C 158 F 70°C 168	Dielectric Strength (kV)	23.7	24	30	45.7	24
1187 1487	Surface Tension (dynes/cm)	22	24	29	32	27
Point	Evaporation Rate (n-butyl acetate =1)	7	0.28	4.45	1.5	7
1.27 1.35 1.46 1.62	Boiling Point	118°F / 48°C	158°F / 70°C	189°F / 87°C	250°F / 121°C	104°F / 40°C
Pressure (mm Hg) @ 20°C 287 111 58 114 140	Specific Gravity @ 20°C	1.27	1.35	1.46	1.62	1.31
Machine 1989	Vapor Pressure (mm Hg) @ 20°C	267	111	28	14	355
COMENTAL 8. HEALTH REGULATORY 0 0.015-0.019 0	Heat of Vaporization (cal/g)	68	59	57.2	50.1	78.7
Depleting Potential (ODP) 0 0.016-0.019 0	ENVIROMENTAL & HEALTH REGULATORY					
Warming Potential (GWP) Low 0.31 140 Negligible Permital (GWP) Warming Potential (GWP) Yes Yes Exempt Approach Progosed Approach Yes Exempt Approach Approach Approach Approach Approach Approach (out strip Pollutant (HAP) No Progosed Approach Yes Yes Yes 5 Chemical Out Linit Value (ppm) (TLV) No Yes Yes Yes Yes RIAL COMPATIBILITY ++	Ozone Depleting Potential (ODP)	0	0.016-0.019	0	0	0
Approved Approved Approved Approved Approved Approved Approved Approved No Yes Yes Exempt Yes Approved Approved Approved Approved Approved Approved No Yes To Change In It	Global Warming Potential (GWP)	Low	0.31	140	Negligible	8.7
Approved purposed four Arise ious Ari Pollutant (HAP) Yes Yes <th< th=""><th>Volatile Organic Compounds (VOC)</th><th>Yes</th><th>Yes</th><th>Yes</th><th>Exempt</th><th>Exempt</th></th<>	Volatile Organic Compounds (VOC)	Yes	Yes	Yes	Exempt	Exempt
Sobrent (AAP) No Proposed Proposed Proposed Yes Yes Yes Operation of the Proposed Proposed Yes No Yes Supposed Compatible Yes Supposed Compatible Accompatible Accomp	SNAP Approved	Yes	Yes	Yes	Yes	Yes
No Yes Yes Yes Yes Yes Suspected	Hazardous Air Pollutant (HAP)	No	Proposed	Yes	Yes	Yes
Ogen (or suspected) No Yes Suspected Ioid Limit Value (ppm) (TLV) 200 10 25 Suspected RIAL COMPATIBILITY 0 O Ite +++ +++ +++ +++ +++ +++ +++ O ane - 0 - - - - P -	Prop 65 Chemical	No	Yes	Yes	Yes	Yes
RIAL COMPATIBILITY ++ Exellent +=Good O=Fair -=Poor=NotCompatible RIAL COMPATIBILITY ++ Exellent +=Good O=Fair -=Poor=NotCompatible A 0 ++	Carcinogen (or suspected)	No	Yes	Yes	Suspected	Suspected
A	Threshold Limit Value (ppm) (TLV)	200	10	25	25	25
te te the te that the te the th	MATERIAL COMPATIBILITY		+	O = Fair -= Poor -	= Not Compatible	
te te the	ABS		0	•		
te te tte tte tte tte tte tte tte tte t	Buna-N	0	+	ı		
te the tite to the tite that t	EPDM	0	•	;		
## ## ## ## ## ## ## ## ## ## ## ## ##	Graphite	‡	‡	‡		
the Rubber	HDPE	‡	‡	0		
ene - - - - - - - - - - - + + + + + + + + + -	LDPE	‡	0			
66	Lexan	•	ŀ	ı		
66 + + ++ Linked PE + + ++ Opylene ++ yrene In Rubber O + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +	Neoprene	0	0	1		
66 + ++ </th <th>Noryl</th> <th>•</th> <th>+</th> <th>ı</th> <th></th> <th></th>	Noryl	•	+	ı		
-Linked PE	Nylon 66	+	‡	0		
ropylene ++ + + + ne Rubber + + + + ++ <	Cross-Linked PE	+	‡			
iyrene + + + + + + + + + + + + + + + +	Polypropylene	‡	+	0		
ne Rubber + + + + + + + + + + + + + + + + + + +	Polystyrene		1	1		
ne Rubber ++ ++ ++ ++	PVC	+	+	,		
‡ ‡ ‡ +	Silicone Rubber	0	-	I)		
+	Teflon	‡	‡	‡		
	Viton	+	‡	‡		