



# No Clean Flux Remover G3®

Defluxer  
1634

## Introduction

The patented formula of No Clean Flux Remover G3® was developed to be the direct replacement for defluxers containing HCFC-141b. It is designed specifically for removing R, RA, RMA and SA type flux residues after high temperature reflow. This flux remover can be used as an all-purpose cleaner to remove light oils, silicones, waxes, greases and similar contaminants often found in electronics manufacturing.

### Features / Benefits

- Non-Ozone Depleting
- Non-Flammable
- Safe on Most Plastics
- Rapidly Evaporating
- Zero Residue

## Chemical Components

1,2-transdichloroethylene.....	(156-60-5)	30-90%
1,1,1,3,3-Pentafluoropropane.....	(460-73-1)	10-50%
Methanol.....	(67-56-1)	1-5%
Ethyl Hydroxy Propionate.....	(97-64-1)	<1%
1,1,1,2-Tetraflouroethane (Propellant).....	(811-97-2)	10-20%
Carbon Dioxide (Propellant).....	(124-38-9)	1-10%

## Solvent Specifications

Snap Approved	Non-Flammable	Toxicity Exposure (ppm)	Relative Evaporation Rate TCE=1	Surface Tension (dyne/cm)	Cleaning Efficiency 1=Relative efficiency of 141b*	VOC Content (grams/liter)	ODP
Yes	Yes	500	0.48	24	1.34	1000	0

\*Cleaning Efficiency in compliance with MIL-PRF-29608(AS)

## Plastic Compatibility

Material	Compatibility	Material	Compatibility
ABS	Not Compatible	PMMA	Not Compatible
Nylon	Excellent	POM	Excellent
Lexan	Not Compatible	PP	Excellent
HDPE	Excellent	PS	Not Compatible
CDPE	Excellent	PTFE	Excellent
C. E. Phenolic	Excellent	PVC	Excellent

## Environmental Policy

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Techspray® is committed to developing products to ensure a safer and cleaner environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

## Licensing Restriction

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The use of this product for cleaning is subject to U.S. Patent No. 5,902,412 and use is restricted by Tech Spray, L. P.

## Packaging and Availability

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No Clean Flux Remover G3® is available in the following size:

1634-12S          12 Ounce Aerosol

# MATERIAL SAFETY DATA SHEET

**Finished Product**

MSDS Ref. No: 1634-12S

## No Clean Flux Remover G3

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** No Clean Flux Remover G3**PRODUCT DESCRIPTION:** No Clean Flux Remover G3**PRODUCT CODE:** 1634-12S

### MANUFACTURER

Techspray, L.P.

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Wt.%</u>	<u>CAS#</u>	<u>EINECS#</u>
1,2-transdichloroethylene (Trans)	30 - 90	156-60-5	205-860-2
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	10 - 50	460-73-1	4191706
Methanol	1 - 5	67-56-1	200-659-6
Ethyl Hydroxy Propionate	<1	97-64-3	202-598-0
1,1,1,2-Tetrafluoroethane (HFC-134a)	10 - 20	811-97-2	223770
Carbon dioxide	1 - 10	124-38-9	

### EEC LABEL SYMBOL AND CLASSIFICATION

**INGESTION:** If swallowed, gently wipe or rinse the inside of the mouth with water. DO NOT induce vomiting. Sips of water may be given if person is fully conscious. Never give anything by mouth to an unconscious or convulsing person. Immediately contact a poison control center, emergency room or physician as further treatment may be necessary.

**INHALATION:** Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

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## 5. FIRE FIGHTING MEASURES

**FLASHPOINT AND METHOD:** Not Flammable

**EXTINGUISHING MEDIA:** Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.

**FIRE FIGHTING PROCEDURES:** Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

**FIRE FIGHTING EQUIPMENT:** As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Toxic oxides of carbon and corrosive vapors of hydrogen chloride.

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## 6. ACCIDENTAL RELEASE MEASURES

**SMALL SPILL:** Contain spill with dike to prevent entry into sewers.

**LARGE SPILL:** If this material is released into a work area, evacuate the area immediately.

**GENERAL PROCEDURES:** Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on adsorbent, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including vapors, have been removed thoroughly wet vacuum the area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

**SPECIAL PROTECTIVE EQUIPMENT:** Only personnel equipped with proper respiratory and skin/eye protection should be permitted in area. See Section 8 for details.

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## 7. HANDLING AND STORAGE

**HANDLING:** Use with sufficient ventilation to keep employee exposure below recommended limits. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

**STORAGE:** Store away from heat.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**ODOR:** Faint ethereal odor

**APPEARANCE:** Clear, Colorless liquid

**PERCENT VOLATILE:** 100 at 20°C (68°F)

**VAPOR PRESSURE:** 17.75 psi at 20°C (68°F)

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

**SPECIFIC GRAVITY:** 1.236 @ 20°C/20°C

**(VOC):** 855.2 g/L (non-exempt VOC)

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## 10. STABILITY AND REACTIVITY

**STABLE:** YES

**HAZARDOUS POLYMERIZATION:** NO

**CONDITIONS TO AVOID:** Stable. However, may decompose if heated.

**STABILITY:** Stable.

**POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** May form hydrochloric and hydrofluoric acids - possibly carbonyl halides, when exposed to high temperatures.

**INCOMPATIBLE MATERIALS:** Oxidizing agents, alkalies and bases.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE

**EYES:** Moderately to severely irritating

**DERMAL LD<sub>50</sub>:** Mildly to moderately irritating.

**ORAL LD<sub>50</sub>:** Slight to very low toxicity.

**INHALATION LC<sub>50</sub>:** Slight to very low toxicity.

**SKIN EFFECTS:** Based on human exposure reports, prolonged and repeated skin contact with Methanol has produced toxic effects including vision effects and death.

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## 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** There is limited information available on the environmental fate and effects of this material. The primary environmental concern for release is the impact on aquatic and terrestrial species. Due care

**EMERGENCY PLAN:** Methanol (#67-56-1)

**CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)**

**CERCLA REGULATORY:** Releases to air, land, or water which exceed the RQ must be reported to the National Response Center [(800)424-8802] and to your Local Emergency Planning Committee.

**CERCLA RQ:** Trans-1,2-dichloroethylene is listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance. Reportable Quantity = 1,000 lbs. Methanol has an RQ of 5000 lbs.

**EPA**

**EPA RQ INGREDIENT:** trans-1,2-dichloroethylene (# 156-60-5)

**TSCA (TOXIC SUBSTANCE CONTROL ACT)**

**TSCA REGULATORY:** This product is listed on the TSCA Inventory.

**OSHA HAZARD COMM. RULE:** Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)**

**29 CFR 1910.119---PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS**

**CHEMICALS:** None of the chemicals in this product are considered highly hazardous by OSHA.

**CANADA**

**WHMIS (WORKER HAZARDOUS MATERIALS INFORMATION SYSTEM):** This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

**WHMIS CLASS:** Class D2B - Toxic Materials

**EUROPEAN COMMUNITY**

**EEC LABEL SYMBOL AND CLASSIFICATION**



EEC Harmful - "Xn"

**CALIFORNIA PROPOSITION 65:** This product does not contain any chemicals known to the State of California to cause cancer.

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**16. OTHER INFORMATION**

**APPROVED BY:** Pierce A. Pillon    **TITLE:** Chemist

**REVISION SUMMARY** New MSDS