



# Flux Remover G3®

Defluxer  
1631

## Introduction

The patented formula of 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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Flux Remover G3® is available in the following size:

|          |  |
|----------|--|
| 1631-5S  | 5 Ounce Aerosol (with Brush Attachment 1995) |
| 1631-16S | 16 Ounce Aerosol                             |

# MATERIAL SAFETY DATA SHEET

**Finished Product**

MSDS Ref. No: ms1631A

## Flux Remover G3®

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Flux Remover G3®**GENERAL USE:** General Purpose Flux Remover**PRODUCT DESCRIPTION:** Flux Remover G3**PRODUCT CODE:** 1631/CAN/EUR-5S, 6S, 10S, 16S (Aerosols)

### 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

## REPRODUCTIVE TOXICITY

**TERATOGENIC EFFECTS:** Contains Methanol which has been established as a teratogen by inhalation. See Sec.11 for details.

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## 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.

**SKIN:** Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

**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.

control airborne levels below recommended exposure limits.

## PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

**SKIN:** The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Viton, Solvex, Butyl, Buna, Neoprene.

**RESPIRATORY:** A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**OTHER USE PRECAUTIONS:** Emergency shower and eyewash facility should be in close proximity.

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## 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 (water=1)

**(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:** When exposed to high temperatures or flames this product may form hydrochloric and hydrofluoric acids - possibly carbonyl halides.

**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.

ADR/RID ITEM NUMBER: UN1950

## 15. REGULATORY INFORMATION

### UNITED STATES

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**311/312 HAZARD CATEGORIES:** IMMEDIATE / DELAYED

**FIRE:** NO **PRESSURE GENERATING:** YES **REACTIVITY:** NO **ACUTE:** YES  
**CHRONIC:** YES

**313 REPORTABLE INGREDIENTS:** Methanol (3.55%)

**TITLE III NOTES:** Not listed as an Extremely Hazardous Substance.

#### 302/304 EMERGENCY PLANNING

**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.

### 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.

### CANADA

**WHMIS (WORKPLACE 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 A, Class D2B.

### EUROPEAN COMMUNITY

#### EEC LABEL SYMBOL AND CLASSIFICATION



R11 - Highly flammable.

EEC Highly flammable - "F"



R23/25 - Toxic by inhalation and if swallowed.

EEC Toxic - "T"