

MATERIAL SAFETY DATA SHEET

Finished Product

Date-Issued: 07/01/2002
MSDS Ref. No: ms1631A
Date-Revised: 06/24/2005
Revision No: 8

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.
 1001 N.W. 1st Street
 P.O. Box 949
 Amarillo, TX 79107
Contact: Chemtrec
Product Stewardship: 1-800-858-4043

24 HR. EMERGENCY TELEPHONE NUMBERS

CHEMTREC (US Transportation) : (800) 424 - 9300
CANUTEC (Canadian Transportation) : (613) 996 - 6666
Emergency Phone : (800) 858 - 4043

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



R11 - Highly flammable.

EEC Highly flammable - "F"



R23/25 - Toxic by inhalation and if swallowed.

EEC Toxic - "T"

R63 - Possible risk of harm to the unborn child.



R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EEC Environment - "N"

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Transparent, colorless liquid.

IMMEDIATE CONCERNS: Warning! High concentrations of vapor can reduce oxygen available for breathing. Harmful if inhaled. May decompose on contact with flames or extremely hot metal surfaces to produce toxic and corrosive products.

POTENTIAL HEALTH EFFECTS

EYES: Substance causes substantial eye irritation.

SKIN: Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

INGESTION: Substance may be harmful if swallowed.

INHALATION: High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and possibly death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Liquid splashed in the eye may cause redness, irritation and conjunctivitis.

SKIN: Prolonged exposure causes redness, pain, drying and cracking of the skin.

INGESTION: For large amounts; abdominal pain, nausea and vomiting.

INHALATION: High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness).

ACUTE TOXICITY: Overexposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result.

REPRODUCTIVE TOXICITY

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

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.

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.

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.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES:

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200)

<u>Chemical Name</u>	<u>EXPOSURE LIMITS</u>					
	<u>OSHA PEL</u>		<u>ACGIH TLV</u>		<u>Supplier OEL</u>	
	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>	<u>ppm</u>	<u>mg/m³</u>
1,2-transdichloroethylene (Trans)	TWA	NE ^[1]		200 ppm		NE
	STEL	NE		200 ppm		
1,1,1,3,3-Pentafluoropropane (HFC-245fa)	TWA	NONE		NONE		300 ppm
	STEL	NONE		NONE		
Methanol	TWA	S 200 ppm ^[2]	260 mg/ m ³	S 200 ppm	262 mg/ m ³	NL ppm NL mg/ m ³
	STEL	250 ppm	310 mg/ m ³	250 ppm	328 mg/ m ³	NL ppm NL
Ethyl Hydroxy Propionate	TWA	[3]				
	STEL	[4]				
1,1,1,2-Tetrafluoroethane (HFC-134a)	TWA	NE		NE		1,000 ppm ^[5]

OSHA TABLE COMMENTS:

1. NOT ESTABLISHED
2. S = Skin
3. NA=NOT APPLICABLE
4. NOT APPLICABLE
5. * (AEL)=Acceptable Exposure Limit as established by the manufacture

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to

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.

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)

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.

11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: Moderately to severely irritating

DERMAL LD₅₀: Mildly to moderately irritating.

ORAL LD₅₀: Slight to very low toxicity.

INHALATION LC₅₀: 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.

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 should be taken to avoid the accidental release of this material into the environment.

ECOTOXICOLOGICAL INFORMATION: Invertebrate toxicity: LC50 (30 min) Photobacterium phosphoreum = 1540 ppm Microtoxicity test.

13. DISPOSAL CONSIDERATIONS

FOR LARGE SPILLS: Contaminated sawdust, vermiculite, or porous surfaces must be disposed of in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility.

GENERAL COMMENTS: Dispose of in a manner consistent with federal, state, and local regulations.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: CONSUMER COMMODITY ORM-D

PRIMARY HAZARD CLASS/DIVISION: No classification

UN/NA NUMBER: N/A

PACKING GROUP: N/A

AIR (ICAO/IATA)

PROPER SHIPPING NAME: CONSUMER COMMODITY ID8000

PRIMARY HAZARD CLASS/DIVISION: 9

UN/NA NUMBER: ID8000

PACKING GROUP: N/A

VESSEL (IMO/IMDG)

PROPER SHIPPING NAME: AEROSOLS IN LIMITED QUANTITIES OF CLASS 2

PRIMARY HAZARD CLASS/DIVISION: 2.2

UN/NA NUMBER: UN1950

PACKING GROUP: N/A

IMDG NOTE: Page 2102

EUROPEAN TRANSPORTATION:

ADR/RID HAZARD CLASSIFICATION: 2.3

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



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EEC Highly flammable - "F"



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EEC Toxic - "T"

R63 - Possible risk of harm to the unborn child.



R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EEC Environment - "N"

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

16. OTHER INFORMATION

APPROVED BY: Dana M. Morelos **TITLE:** Chemist

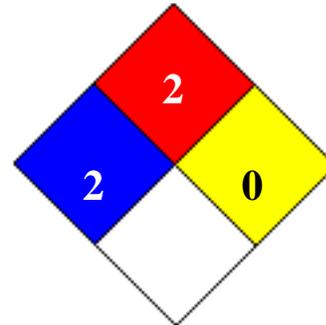
PREPARED BY: D.M. Morelos

REVISION SUMMARY Revision #: 8 This MSDS replaces the June 13, 2005 MSDS. Any changes in information are as follows: In Section 1 Product Code

HMIS RATING

HEALTH:		2
FLAMMABILITY:		3
PHYSICAL HAZARD:		0
PERSONAL PROTECTION:		

NFPA CODES



MANUFACTURER SUPPLEMENTAL NOTES: 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.

DATA SOURCES: Code of Federal Regulations (CFR) The Sigma-Aldrich Library of Regulatory and Safety Data OSHA Hazard Communication Standard (29CFR1910.1200) Various Federal, State and Local Regulations

MANUFACTURER DISCLAIMER: To the best of our knowledge, the information contained herein is accurate. However, neither Tech Spray, L.P., or any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.