



## SAFETY DATA SHEET

### FRC GENERAL PURPOSE FLUX REMOVER - FLUX REMOVER C

#### 1. IDENTIFICATION

<b>Product Name</b>	FRC GENERAL PURPOSE FLUX REMOVER - FLUX REMOVER C
<b>Product No.</b>	MCC-FRC, MCC-FRC101, MCC-FRC105
<b>Synonyms, Trade Names</b>	"FRC-Flux Remover C, Electronics Defluxer/Cleaner"
<b>Identification No.</b>	UN1950
<b>Identified uses</b>	Cleaning agent.
<b>Supplier</b>	MicroCare Corporation 595 John Downey Drive New Britain, CT 06019 United States of America Toll Free: 1-800-638-0125 Tel: 1-860-827-0626 Web: <a href="http://www.MicroCare.com">www.MicroCare.com</a> email: <a href="mailto:techsupport@microcare.com">techsupport@microcare.com</a>

[www.MicroCare.com](http://www.MicroCare.com)

**Emergency Telephone** CHEMTREC (800) 424-9300

#### 2. HAZARD(S) IDENTIFICATION

#### EMERGENCY OVERVIEW

Colourless liquid. Slight odor. Ether This product is not flammable. Liquid may irritate the skin. Spray and vapor in the eyes may cause irritation and smarting. No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation. Keep out of the reach of children.

<b>Appearance</b>	Clear liquid. Aerosol.
<b>Color</b>	Colourless.
<b>Odor</b>	Slight odor. Ether
<b>GHS Pictogram</b>	



**Signal Word** Warning

#### Hazard Statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H371	May cause damage to organs .
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary Statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P501	Dispose of contents/container in accordance with local regulations.

#### Contains

METHANOL  
trans-DICHLOROETHYLENE

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### GHS Classification

Physical and Chemical Hazards	Not classified.
Human health	Acute Tox. 4 - H302;Acute Tox. 4 - H312;Acute Tox. 4 - H332;STOT SE 2 - H371
Environment	Aquatic Chronic 3 - H412

### WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

#### WHMIS Label



Compressed Gas.



Materials Causing Other  
Toxic Effects.

#### Controlled Product Classification

Canadian WHMIS Classification A D2 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

#### OSHA Regulatory Status

This Product is Hazardous under the OSHA Hazard Communication Standard.

#### Human Health

Prolonged skin contact may cause redness, irritation and dry skin. Mild dermatitis, allergic skin rash.

#### Inhalation

Vapors may irritate the respiratory system and cause coughing, asthmatic breathing and breathlessness.

#### Ingestion

May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

#### Skin Contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

#### Eye Contact

May cause temporary eye irritation.

#### Medical Symptoms

High concentrations of vapors may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

#### Other Health Effects

This substance has no evidence of carcinogenic properties.

#### Environment

The product contains a substance which is harmful to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

#### Physical And Chemical Hazards

Vapors are heavier than air and may travel along the floor and in the bottom of containers. Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered small. Gas or vapor displaces oxygen available for breathing (asphyxiant).

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

A MIXTURE OF: (R,R)-1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE, (S,S)  
-1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE

10-30%

CAS No.: -

EC No.: 420-640-8

GHS Classification

Aquatic Chronic 3 - H412

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<b>METHANOL</b>		<b>1-5%</b>
<b>CAS No.: 67-56-1</b>	<b>EC No.: 200-659-6</b>	
GHS Classification Flam. Liq. 2 - H225; Acute Tox. 3 - H301; Acute Tox. 3 - H311; Acute Tox. 3 - H331; STOT SE 1 - H370		
<b>trans-DICHLOROETHYLENE</b>		<b>10-30%</b>
<b>CAS No.: 156-60-5</b>	<b>EC No.: 205-860-2</b>	
GHS Classification Flam. Liq. 2 - H225; Acute Tox. 4 - H332; Aquatic Chronic 3 - H412		

### Composition Comments

The Data Shown is in accordance with the latest EC Directives.

## 4. FIRST-AID MEASURES

### Description of first aid measures

#### General Information

NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Place unconscious person on the side in the recovery position and ensure breathing can take place. Perform artificial respiration if breathing has stopped. Consult a physician for specific advice.

#### Inhalation

Remove victim immediately from source of exposure. Move into fresh air and keep at rest. If respiratory problems, artificial respiration/oxygen. Get medical attention.

#### Ingestion

Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Do not give victim anything to drink if he is unconscious. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention.

#### Skin Contact

Remove contaminated clothes and rinse skin thoroughly with water.

#### Eye Contact

Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Consult a physician for specific advice.

### Most important symptoms and effects, both acute and delayed

#### General Information

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

#### Inhalation

Vapors may cause headache, fatigue, dizziness and nausea.

#### Ingestion

May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting.

#### Skin Contact

Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

#### Eye Contact

Irritation and redness followed by blurred vision.

### Indication of any immediate medical attention and special treatment needed

#### Notes To The Physician

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

## 5. FIRE-FIGHTING MEASURES

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### Flammability Class

This product is not flammable.

**Flammability Limit - Lower(%)** 7.5

**Flammability Limit - Upper(%)** 9.0

### Extinguishing Media

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

### Unusual Fire & Explosion Hazards

Aerosol containers can explode when heated, due to excessive pressure build-up.

### Specific Hazards

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

### Special Fire Fighting Procedures

Move container from fire area if it can be done without risk.

### Protective Equipment For Fire-Fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Warn everybody of potential hazards and evacuate if necessary. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level.

### Environmental Precautions

Contain spillages with sand, earth or any suitable adsorbent material. Avoid release to the environment.

### Spill Clean Up Methods

Provide ventilation and confine spill. Do not allow runoff to sewer. Wear necessary protective equipment. Extinguish all ignition sources.

Avoid sparks, flames, heat and smoking. Ventilate. Collect with absorbent, non-combustible material into suitable containers.

### Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## 7. HANDLING AND STORAGE

### Handling

Provide good ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed. Keep out of the reach of children.

### Storage

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

### Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT	STD	TWA (8-hrs)		STEL (15 min)		Notes
METHANOL	ACGIH	200 ppm		250 ppm		Skin
METHANOL	PEL	200 ppm	260 mg/m <sup>3</sup>			
trans-DICHLOROETHYLENE	ACGIH	200 ppm				
COMPONENT						IDLH
METHANOL						6000 ppm

ACGIH=American Conference of Governmental Industrial Hygienists.

Skin: Danger of cutaneous absorption. (ACGIH)

### Protective Equipment



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### Engineering Measures

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

### Respiratory Equipment

Considering the size of the packaging, the risk is regarded as minimal. Vapors are heavier than air and may travel along the floor and in the bottom of containers. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Self-contained breathing apparatus with full facepiece.

### Hand Protection

For prolonged or repeated skin contact use suitable protective gloves. Gloves of nitrile rubber, PVA or Viton are recommended.

### Eye Protection

Wear approved, tight fitting safety glasses where splashing is probable.

### Other Protection

Wear suitable protective clothing as protection against splashing or contamination.

### Hygiene Measures

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. When using do not eat, drink or smoke.

### Skin Protection

Wear apron or protective clothing in case of splashes.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear liquid. Aerosol.
Color	Colourless.
Odor	Slight odor. Ether
Solubility	Slightly soluble in water.
Initial boiling point and boiling range	37 C / 99 F
Vapor density (air=1)	4.0
Vapor pressure	65 kPa 20 C / 77 F
Flammability Limit - Lower(%)	7.5
Flammability Limit - Upper(%)	9.0
Physical Data Comments	Aerosol.
Volatility Description	Volatile
Volatile By Vol. (%)	100
Saturation Concentration (ppm)	600
Flammability	This product is not flammable.

## 10. STABILITY AND REACTIVITY

### Reactivity

No specific reactivity hazards associated with this product.

### Stability

Stable under normal temperature conditions and recommended use.

### Hazardous Polymerisation

Will not polymerise.

### Conditions To Avoid

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

### Materials To Avoid

Alkali metals. Alkali earth metals. Powdered metal.

### Hazardous Decomposition Products

When heated, toxic and corrosive vapors/gases may be formed. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO<sub>2</sub>). Carbon monoxide (CO).

## 11. TOXICOLOGICAL INFORMATION

### Other Health Effects

This substance has no evidence of carcinogenic properties.

#### Toxicological Information on Ingredients:

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### METHANOL (CAS: 67-56-1)

#### Toxic Dose 1 - LD 50

13000 mg/kg (oral rat)

### trans-DICHLOROETHYLENE (CAS: 156-60-5)

#### Toxic Dose 1 - LD 50

1235 mg/kg (oral rat)

#### Toxic Dose 2 - LD 50

>5000 mg/kg (oral-rbt)

#### Toxic Conc. - LC 50

24100 ppm/4h (inh-rat)

#### Other Health Effects

This substance has no evidence of carcinogenic properties.

### A MIXTURE OF: (R,R)-1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE, (S,S)-1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS: -)

### HFC-134a Tetrafluoroethane (CAS: 811-97-2)

#### Toxic Dose 1 - LD 50

>2085 mg/kg (oral rat)

#### Other Health Effects

This substance has no evidence of carcinogenic properties.

### PENTAFLUOROBUTANE (CAS: 406-58-6)

#### Toxic Dose 1 - LD 50

>2000 mg/kg (oral rat)

#### Toxic Conc. - LC 50

25000 ppm/4h (inh-rat)

#### Other Health Effects

IARC Not Listed. OSHA Not Regulated.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

There are no data on the ecotoxicity of this product.

### Acute Fish Toxicity

No data available.

### Degradability

There are no data on the degradability of this product.

### Bioaccumulative potential

No data available on bioaccumulation.

### Mobility:

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

### Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB Substances.

### Other adverse effects

The product contains a substance which has a photochemical ozone creation potential.

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### Ecological Information on Ingredients:

#### trans-DICHLOROETHYLENE (CAS: 156-60-5)

##### **Ecotoxicity**

Low acute toxicity to aquatic organisms.

**LC 50, 96 Hrs, Fish mg/l**

1350

**EC 50, 48 Hrs, Daphnia, mg/l**

220

##### **Degradability**

No data available.

##### **Bioaccumulative potential**

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

##### **Mobility:**

The product has poor water-solubility.

#### HFC-134a Tetrafluoroethane (CAS: 811-97-2)

**LC 50, 96 Hrs, Fish mg/l**

450

**EC 50, 48 Hrs, Daphnia, mg/l**

980

#### PENTAFLUOROBUTANE (CAS: 406-58-6)

**LC 50, 96 Hrs, Fish mg/l**

>200

**EC 50, 48 Hrs, Daphnia, mg/l**

>200

##### **Degradability**

There are no data on the degradability of this product.

##### **Bioaccumulative potential**

Bioaccumulation is unlikely to be significant because of the low water solubility of this product.

##### **Mobility:**

The product has poor water-solubility.

**IC 50, 72 Hrs, Algae, mg/l**

113

### 13. DISPOSAL CONSIDERATIONS

#### **Waste Management**

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

#### **Disposal Methods**

Dispose of waste and residues in accordance with local authority requirements. Empty containers must not be burned because of explosion hazard. Aerosol containers can explode when heated, due to excessive pressure build-up. Recover and reclaim or recycle, if practical.

### 14. TRANSPORT INFORMATION

UN No. (DOT/TDG)	UN1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950
DOT Proper Shipping Name	LIMITED QUANTITY
DOT Proper Shipping Name	AEROSOLS
TDG Proper Shipping Name	AEROSOLS

#### **DOT Hazard Class**

2.2

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IMDG Class	2.2
ICAO Class	2.2
ICAO Subsidiary Risk	N/A

### Transport Labels



DOT Pack Group	N/A
IMDG Pack Group	N/A
Air Pack Group	N/A

### Environmentally Hazardous Substance/Marine Pollutant

No.

### Markings

ORM-D

### Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes

Not applicable. No information required.

## 15. REGULATORY INFORMATION

### Regulatory Status (US)

TSCA: The ingredients of this product are on the TSCA Inventory. SECTION 313: This product is a toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and reauthorization Act of 1986 and 40 CFR Part 372. This Product is Hazardous under the OSHA Hazard Communication Standard.

### Regulatory References

NFPA30 Flammable and Combustible Liquids Code. 29 CFR 1910.1010 Federal Regulations (OSHA Standard).

### US Federal Regulations

#### SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed.

#### CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

The following ingredients are listed.

METHANOL; 5, 000 lbs (2270 Kg)

trans-DICHLOROETHYLENE; 1, 000 lbs (454 Kg)

#### SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None of the ingredients are listed.

#### SARA 313 Emission Reporting

The following ingredients are listed.

METHANOL 4%

#### CAA Accidental Release Prevention

None of the ingredients are listed.

#### SARA (311/312) Hazard Categories

Acute Chronic

#### OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

### US State Regulations

#### California Proposition 65 Carcinogens and Reproductive Toxins

The following ingredients are listed.

METHANOL; Known to the State of California to cause developmental and reproductive toxicity.



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### California Air Toxics "Hot Spots" (A-I)

The following ingredients are listed.

METHANOL

### California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed.

### Massachusetts "Right To Know" List

The following ingredients are listed.

METHANOL

trans-DICHLOROETHYLENE

### Rhode Island "Right To Know" List

The following ingredients are listed.

METHANOL

### Minnesota "Right To Know" List

The following ingredients are listed.

HFC-134a Tetrafluoroethane

METHANOL

### New Jersey "Right To Know" List

The following ingredients are listed.

METHANOL

### Pennsylvania "Right To Know" List

The following ingredients are listed.

METHANOL

trans-DICHLOROETHYLENE

### International Inventories

#### Canada – DSL/NDSL

The following ingredients are listed.

HFC-134a Tetrafluoroethane

METHANOL

PENTAFLUOROBUTANE

trans-DICHLOROETHYLENE

#### US - TSCA

The following ingredients are listed.

HFC-134a Tetrafluoroethane

METHANOL

PENTAFLUOROBUTANE

trans-DICHLOROETHYLENE

#### US – TSCA 12(b) Export Notification

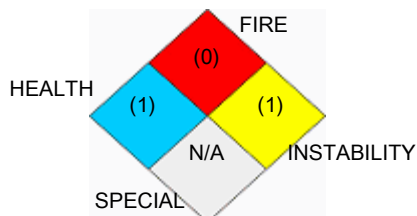
None of the ingredients are listed.

## 16. OTHER INFORMATION

### HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH		1
FLAMMABILITY		0
PHYSICAL		1
PERSONAL PROTECTION		A

### NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



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### Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

<b>Revision Date</b>	08/21/2013
<b>Revision</b>	10
<b>Supersedes Date</b>	08/08/2013
<b>Sds No.</b>	AEROSOL_FRC
<b>Material Safety Data Sheet Status</b>	Approved.
<b>Date</b>	08 August 2013

### Disclaimer

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