



MATERIAL SAFETY DATA SHEET FRC FLUX REMOVER C AEROSOL

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME FRC FLUX REMOVER C AEROSOL
PRODUCT NO. MCC-FRC, MCC-FRC101, MCC-FRC105
PRODUCT USE Cleaning agent.
SUPPLIER MICROCARE CORPORATION
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IDENTIFICATION No. UN1950

2 HAZARDS 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.

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).

HUMAN HEALTH

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

POTENTIAL HEALTH EFFECTS

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.

CARCINOGENICITY

This substance has no evidence of carcinogenic properties.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content %
1,1,1,2,3,4,4,5,5,5-decafluoropentane	420-640-8	138495-42-8	10-30%
HFC-134a Tetrafluoroethane	212-377-0	811-97-2	10-30%

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METHANOL	200-659-6	67-56-1	1-5%
PENTAFLUOROBUTANE		406-58-6	10-30%
trans-DICHLOROETHYLENE	205-860-2	156-60-5	10-30%

COMPOSITION COMMENTS

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

4 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.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

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

SPECIAL FIRE FIGHTING PROCEDURES

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

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.

PROTECTIVE MEASURES IN FIRE

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

FLAMMABILITY LIMIT - LOWER(%) 7.5

FLAMMABILITY LIMIT - UPPER(%) 9.0

FLAMMABILITY CLASS

This product is not flammable.

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.

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.

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STORAGE

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

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PROTECTIVE EQUIPMENT



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.
COLOR	Colourless.
ODOR	Slight odor. Ether
PHYSICAL DATA COMMENTS	Aerosol.
VOLATILITY DESCRIPTION	Volatile
SOLUBILITY	Slightly soluble in water.
Flammability	This product is not flammable.
BOILING POINT (°C)	37 C / 99 F
VAPOR DENSITY (air=1)	4.0
VAPOR PRESSURE	65 kPa 20 C / 77 F
VOLATILE BY VOL. (%)	100
SATURATION CONCENTRATION (ppm)	600

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use.

CONDITIONS TO AVOID

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

HAZARDOUS POLYMERISATION

Will not polymerise.

MATERIALS TO AVOID

Alkali metals. Alkali earth metals. Powdered metal.

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HAZARDOUS DECOMPOSITION PRODUCTS

When heated, toxic and corrosive vapors/gases may be formed. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO₂). Carbon monoxide (CO).

11 TOXICOLOGICAL INFORMATION

Name	METHANOL
Toxic Dose 1 - LD 50	13000 mg/kg (oral rat)
Name	trans-DICHLOROETHYLENE
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.
Name	HFC-134a Tetrafluoroethane
Toxic Dose 1 - LD 50	>2085 mg/kg (oral rat)
Other Health Effects	This substance has no evidence of carcinogenic properties.
Name	1,1,1,2,3,4,4,5,5,5-decafluoropentane
Toxic Dose 1 - LD 50	>5,000 mg/kg (oral rat)
Toxic Conc. - LC 50	11,100 ppm/4h (inh-rat)
Name	PENTAFLUOROBUTANE
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.

MOBILITY

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

BIOACCUMULATION

No data available on bioaccumulation.

DEGRADABILITY

There are no data on the degradability of this product.

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



DOT PROPER SHIPPING NAME AEROSOLS

DOT PROPER SHIPPING NAME LIMITED QUANTITY: 1 L INNER PACKING, 30 L PACKING UNIT

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TDG SHIPPING NAME AEROSOLS
ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT No.
IDENTIFICATION No. UN1950
DOT HAZARD CLASS 2.2
DOT PACKING GROUP N/A
MARKINGS ORM-D
UN NO. SEA 1950
IMDG CLASS 2.2
IMDG PACK GR. N/A
MFAG See Subsection 4.2 of MFAG.
UN NO. AIR 1950
AIR CLASS 2.2
AIR SUB CLASS N/A
AIR PACK GR. N/A
TDG PACKING GROUP N/A

15 REGULATORY INFORMATION

INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	CHN	PHLP
METHANOL	DSL	Yes.						
trans-DICHLOROETHYLENE	DSL	Yes.						
HFC-134a Tetrafluoroethane	DSL	Yes.						
1,1,1,2,3,4,4,5,5,5-decafluoropentane	DSL	Yes.						
PENTAFLUOROBUTANE	DSL	Yes.						

COMPONENT	TSCA 12(b) Export Notification
trans-DICHLOROETHYLENE	No.
HFC-134a Tetrafluoroethane	No.
1,1,1,2,3,4,4,5,5,5-decafluoropentane	Yes.
PENTAFLUOROBUTANE	No.

SARA (311/312) HAZARD CATEGORIES

Acute Chronic

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).

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM -WHMIS

LABEL(S) FOR SUPPLY

FRC FLUX REMOVER C AEROSOL



Compressed Gas.



Materials Causing Other
Toxic Effects.

CONTROLLED PRODUCT CLASSIFICATION

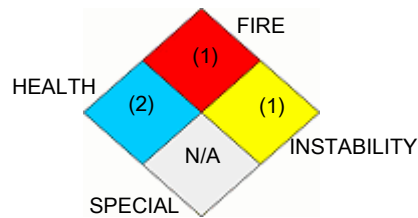
Canadian WHMIS Classification A D2 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

16 OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH	2
FLAMMABILITY	1
PHYSICAL	1
PERSONAL PROTECTION	upervisor

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



REVISION COMMENTS

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

REVISION DATE 13/10/2009

VERSION No. 2

SAFETY DATA SHEET STATUS

Approved.

DATE January 31, 2011

DISCLAIMER

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his o