



MATERIAL SAFETY DATA SHEET FRC FLUX REMOVER C, BULK PACKAGE

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

PRODUCT NAME	FRC FLUX REMOVER C, BULK PACKAGE
PRODUCT NO.	MCC-FRCL, MCC-FRCG, MCC-FRCP, MCC-FRCD
PRODUCT USE	Cleaning agent.
SUPPLIER	MICROCARE CORPORATION 595 John Downey Drive New Britain, CT 06051 United States of America CAGE: OATV9 +1 860-827-0626 +1 860-827-8105 techsupport@microcare.com
CONTACT PERSON	techsupport@microcare.com
EMERGENCY TELEPHONE	CHEMTREC (800) 424-9300

2 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Colourless liquid. Slight odor. Ether. This product is not flammable. The liquid may irritate the skin, the eyes and the respiratory tract. Gas or vapor displaces oxygen available for breathing (asphyxiant). 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. 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.

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

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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.

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!

INHALATION

Move into fresh air and keep at rest. If respiratory problems, artificial respiration/oxygen. Get medical attention.

INGESTION

Never give liquid to an unconscious person. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Place unconscious person on the side in the recovery position and ensure breathing can take place. Get medical attention immediately!

SKIN CONTACT

Promptly flush contaminated skin with soap or mild detergent and water. Promptly remove clothing if penetrated and flush the skin with water. Contact physician if irritation continues.

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. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

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

SPECIAL FIRE FIGHTING PROCEDURES

Containers close to fire should be removed immediately or cooled with water.

UNUSUAL FIRE & EXPLOSION HAZARDS

Closed containers can burst violently when heated, due to excess 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 - 7.5

LOWER(%)

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. Do not smoke, use open fire or other sources of ignition. Follow precautions for safe handling described in this material safety data sheet. For personal protection, see section 8.

ENVIRONMENTAL PRECAUTIONS

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

SPILL CLEAN UP METHODS

Large quantities should not be discharged into the drain but removed with absorbing material. Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities. Neoprene gloves are recommended.

7 HANDLING AND STORAGE

HANDLING

Provide good ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes.

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STORAGE

Store in tightly closed original container in a dry, cool and well-ventilated place.

STORAGE CLASS

Unspecified storage. This product is not flammable.

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

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. If risk of splashing, wear safety goggles or face shield.

OTHER PROTECTION

Wear suitable protective clothing as protection against splashing or contamination.

HYGIENE MEASURES

Avoid inhalation of spray mist and contact with skin and eyes. When using do not eat, drink or smoke. Wash at the end of each work shift and before eating, smoking and using the toilet.

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
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	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

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

MOBILITY

No data available.

BIOACCUMULATION

No data available on bioaccumulation.

DEGRADABILITY

No data available.

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Name METHANOL
LC 50, 96 Hrs, Fish mg/l 1368
Name trans-DICHLOROETHYLENE

Ecotoxicity

Low acute toxicity to aquatic organisms.

LC 50, 96 Hrs, Fish mg/l 1350
EC 50, 48 Hrs, Daphnia, mg/l 220

Mobility

The product has poor water-solubility.

Bio-accumulative potential

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

Degradability

No data available.

Name 1,1,1,2,3,4,4,5,5,5-decafluoropentane

Ecotoxicity

It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.

LC 50, 96 Hrs, Fish mg/l 27.2
IC 50, 72 Hrs, Algae, mg/l 120

Bio-accumulative potential

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

Degradability

The product is not expected to be biodegradable.

Name PENTAFLUOROBUTANE
LC 50, 96 Hrs, Fish mg/l >200
EC 50, 48 Hrs, Daphnia, mg/l >200
IC 50, 72 Hrs, Algae, mg/l 113

Mobility

The product has poor water-solubility.

Bio-accumulative potential

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

Degradability

The product is heavily biodegradable.

13 DISPOSAL CONSIDERATIONS

WASTE MANAGEMENT

Refer to manufacturer/supplier for information on recovery/recycling. 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. Recover and reclaim or recycle, if practical.

14 TRANSPORT INFORMATION

TRANSPORT NOTES

Not regulated. The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, DOT).

No transport warning sign required.

ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT

No.

15 REGULATORY INFORMATION

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INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	CHN	PHLP
METHANOL	DSL	Yes.						
trans-DICHLOROETHYLENE	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.
1,1,1,2,3,4,4,5,5,5-decafluoropentane	Yes.
PENTAFLUOROBUTANE	No.

SARA (311/312) HAZARD CATEGORIES

Acute Chronic

REGULATORY STATUS (US)

SECTION 313: This product does not contain 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. TSCA: The ingredients of this product are on the TSCA Inventory.

REGULATORY REFERENCES

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

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM -WHMIS

LABEL(S) FOR SUPPLY



Materials Causing Other
Toxic Effects.

CONTROLLED PRODUCT CLASSIFICATION

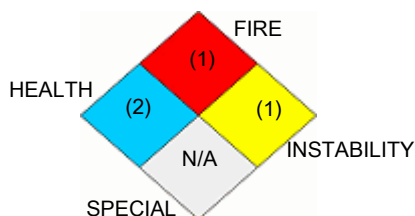
Canadian WHMIS Classification D2 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

16 OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH	2
FLAMMABILITY	1
PHYSICAL	1
PERSONAL PROTECTION	upervisor

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



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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 6, 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