



## SAFETY DATA SHEET FRC FLUX REMOVER C, BULK PACKAGE

According to Regulation (EC) No 1907/2006

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

|                       |  |                     |   |
|-----------------------|--|---------------------|---|
| <b>PRODUCT NAME</b>   | FRC FLUX REMOVER C, BULK PACKAGE   |                     |   |
| <b>PRODUCT NO.</b>    | MCC-FRCL, MCC-FRCG, MCC-FRCP, MCC-FRCD   |                     |   |
| <b>SUPPLIER</b>       | MICROCARE EUROPE, BVBA<br>Havendoklaan 19<br>1804 Cargovil - Vilvoorde<br>Belgium<br>+32 251 95 05 | <b>MANUFACTURER</b> | MICROCARE CORPORATION<br>595 John Downey Drive<br>New Britain, CT 06019<br>United States of America<br>CAGE: OATV9<br>+1 860-827-0626<br>+1 860-827-8105<br>techsupport@microcare.com |
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### 2 HAZARDS IDENTIFICATION

Harmful by inhalation, in contact with skin and if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**CLASSIFICATION (1999/45)** Xn;R20/21/22, R68/20/21/22. R52/53.

#### 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

Vapours are heavier than air and may travel along the floor and in the bottom of containers. Gas or vapour displaces oxygen available for breathing (asphyxiant).

#### HUMAN HEALTH

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

### 3 COMPOSITION/INFORMATION ON INGREDIENTS

| Name                                  | EC No.    | CAS-No.     | Content | Classification (67/548)        |
|---------------------------------------|-----------|-------------|---------|--------------------------------|
| 1,1,1,2,3,4,4,5,5,5-decafluoropentane | 420-640-8 | 138495-42-8 | 30-60%  | R52/53.                        |
| METHANOL                              | 200-659-6 | 67-56-1     | 1-5%    | F;R11 T;R23/24/25,R39/23/24/25 |
| trans-DICHLOROETHYLENE                | 205-860-2 | 156-60-5    | 30-60%  | F;R11 Xn;R20 R52/53            |

The Full Text for all R-Phrases are Displayed in Section 16

### 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.

#### INHALATION

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

#### INGESTION

Do not induce vomiting. Immediately rinse mouth and drink plenty of water (200-300 ml). Consult a physician for specific advice.

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### 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

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.

## 6 ACCIDENTAL RELEASE MEASURES

### PERSONAL PRECAUTIONS

Warn everybody of potential hazards and evacuate if necessary. Ventilate well, avoid breathing vapours. 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

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.

## 7 HANDLING AND STORAGE

### USAGE PRECAUTIONS

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

### STORAGE PRECAUTIONS

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

| Name                   | Std   | TWA - 8 hrs |               | STEL - 15 min |               | Notes |
|------------------------|-------|-------------|---------------|---------------|---------------|-------|
| METHANOL               | WEL   | 200 ppm(Sk) | 266 mg/m3(Sk) | 250 ppm(Sk)   | 333 mg/m3(Sk) |       |
| trans-DICHLOROETHYLENE | ACGIH |             |               | 200 ppm       |               |       |

WEL = Workplace Exposure Limit.

ACGIH = American Conference of Governmental Industrial Hygienists.

### PROTECTIVE EQUIPMENT



### ENGINEERING MEASURES

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

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### RESPIRATORY EQUIPMENT

Vapours 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.

### 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

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                   |                               |     |
| COLOUR                         | Colourless                     |                               |     |
| ODOUR                          | Slight odour Ether             |                               |     |
| VOLATILITY DESCRIPTION         | Volatile.                      |                               |     |
| SOLUBILITY                     | Slightly soluble in water.     |                               |     |
| Flammability                   | This product is not flammable. |                               |     |
| BOILING POINT (°C)             | 37 C / 99 F                    | VAPOUR DENSITY (air=1)        | 4.0 |
| VAPOUR PRESSURE                | 65 kPa 20 C / 77 F             | VOLATILE BY VOL. (%)          | 100 |
| SATURATION CONCENTRATION (ppm) | 600                            | FLAMMABILITY LIMIT - LOWER(%) | 7.5 |
| FLAMMABILITY LIMIT - UPPER(%)  | 9.0                            |                               |     |

## 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.

### HAZARDOUS DECOMPOSITION PRODUCTS

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

## 11 TOXICOLOGICAL INFORMATION

### INHALATION

Vapours 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 vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

Name

METHANOL

## FRC FLUX REMOVER C, BULK PACKAGE

|                             |                        |
|-----------------------------|------------------------|
| <b>Toxic Dose 1 - LD 50</b> | 13000 mg/kg (oral rat) |
| <b>Name</b>                 | trans-DICHLOROETHYLENE |
| <b>Toxic Dose 1 - LD 50</b> | 1235 mg/kg (oral rat)  |
| <b>Toxic Dose 2 - LD 50</b> | >5000 mg/kg (oral-rbt) |
| <b>Toxic Conc. - LC 50</b>  | 24100 ppm/4h (inh-rat) |

### OTHER HEALTH EFFECTS

This substance has no evidence of carcinogenic properties.

|                             |                                       |
|-----------------------------|---------------------------------------|
| <b>Name</b>                 | 1,1,1,2,3,4,4,5,5,5-decafluoropentane |
| <b>Toxic Dose 1 - LD 50</b> | >5,000 mg/kg (oral rat)               |
| <b>Toxic Conc. - LC 50</b>  | 11,100 ppm/4h (inh-rat)               |
| <b>Name</b>                 | PENTAFLUOROBUTANE                     |
| <b>Toxic Dose 1 - LD 50</b> | >2000 mg/kg (oral rat)                |
| <b>Toxic Conc. - LC 50</b>  | 25000 ppm/4h (inh-rat)                |

### OTHER HEALTH EFFECTS

IARC Not Listed. OSHA Not Regulated.

## 12 ECOLOGICAL INFORMATION

|                                 |                        |
|---------------------------------|------------------------|
| <b>Name</b>                     | METHANOL               |
| <b>LC 50, 96 Hrs, FISH mg/l</b> | 1368                   |
| <b>Name</b>                     | trans-DICHLOROETHYLENE |

### Ecotoxicity

Low acute toxicity to aquatic organisms.

|                                     |      |
|-------------------------------------|------|
| <b>LC 50, 96 Hrs, FISH mg/l</b>     | 1350 |
| <b>EC 50, 48 Hrs, DAPHNIA, mg/l</b> | 220  |

### Mobility

The product has poor water-solubility.

### Bioaccumulation potential

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

### Degradability

No data available.

|             |                                       |
|-------------|---------------------------------------|
| <b>Name</b> | 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.

|                                   |      |
|-----------------------------------|------|
| <b>LC 50, 96 Hrs, FISH mg/l</b>   | 27.2 |
| <b>IC 50, 72 Hrs, ALGAE, mg/l</b> | 120  |

### Bioaccumulation 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.

|                                     |                   |
|-------------------------------------|-------------------|
| <b>Name</b>                         | PENTAFLUOROBUTANE |
| <b>LC 50, 96 Hrs, FISH mg/l</b>     | >200              |
| <b>EC 50, 48 Hrs, DAPHNIA, mg/l</b> | >200              |
| <b>IC 50, 72 Hrs, ALGAE, mg/l</b>   | 113               |

### Mobility

The product has poor water-solubility.

### Bioaccumulation potential

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

### Degradability

The product is not readily biodegradable.

## 13 DISPOSAL CONSIDERATIONS

### GENERAL INFORMATION

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

## FRC FLUX REMOVER C, BULK PACKAGE

### DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

### 14 TRANSPORT INFORMATION

**GENERAL** Not regulated. The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).  
No transport warning sign required.

### 15 REGULATORY INFORMATION

#### LABELLING



Harmful

**CONTAINS** METHANOL  
trans-DICHLOROETHYLENE

#### RISK PHRASES

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R68/20/21/22 Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

#### SAFETY PHRASES

S36/37 Wear suitable protective clothing and gloves.  
S51 Use only in well-ventilated areas.  
S60 This material and its container must be disposed of as hazardous waste.

#### EU DIRECTIVES

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

### 16 OTHER INFORMATION

#### REVISION COMMENTS

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

**REVISION DATE** 06/01/2011

**REV. NO./REPL. SDS  
GENERATED** 3

#### SAFETY DATA SHEET STATUS

Approved.

**DATE** January 6, 2011

#### RISK PHRASES IN FULL

R20 Harmful by inhalation.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R11 Highly flammable.  
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.  
R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

#### DISCLAIMER

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