

## Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date: 29.02.2008

Revision: 29.02.2008

### 1 Identification of substance:

· **Product details:**

· **Trade name:** ProClean™ Flux Remover

· **Article number:**

PRO101, PRO125

Aerosol: MCC-PRO, MCC-DPRO, MCC-NPRO

Bulk: MCC-PROG, MCC-PROP, MCC-PROD,

MCC-DPROG, MCC-DPROP, MCC-DPROD,

MCC-NPROG, MCC-NPROP, MCC-NPROD

· **Application of the substance / the preparation** Blend of pure alcohols for defluxing and very light degreasing

· **Supplier/Manufacturer:**

Micro Care Corporation

595 John Downey Drive

New Britain, CT 06051

United States of America

Tel.: +1-860-827-0626

Fax: +1-860-827-8105

MicroCare Europe bvba

Erasmuslaan 10

1804 Zemst

Belgium

· **Email competent person:** angelika.torges@kft.de

· **Information department:**

Tech support (Micro Care): Tel.: +1-860-827-0626

Email: techsupport@microcare.com

· **Emergency information:** National Poisons Information Centre      Tel.: +44 (0)870 6006266

### 2 Hazards identification

· **Hazard description:**



Xi Irritant

F Highly flammable

· **Information pertaining to particular dangers for man and environment:**

R 11 Highly flammable.

R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

78.0 % by mass of the contents are flammable

Keep out of the reach of children

· **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded using company data and specialized literature.

· **Additional information:**

See also item 15: Special label requirements for special mixtures.

1,1,1,2-Tetrafluoroethane belongs to the group of fluorinated/Partly fluorinated hydrocarbons, which have no ozone-depleting properties.

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### 3 Composition/information on ingredients

- **Chemical characterization**

- **Description:** Mixture of ethanol and isopropyl alcohol. The aerosol contains in addition tetrafluoroethane as propellant.

- **Dangerous components:**

CAS: 67-63-0	propan-2-ol	25-50%
EINECS: 200-661-7	Xi, F; R 11-36-67	
EU Number: 603-117-00-0		
CAS: 64-17-5	ethanol	25-50%
EINECS: 200-578-6	F; R 11	
EU Number: 603-002-00-5		
CAS: 67-56-1	methanol	< 2%
EINECS: 200-659-6	T, F; R 11-23/24/25-39/23/24/25	
EU Number: 603-001-00-X		
CAS: 811-97-2	1,1,1,2-tetrafluoroethane	10%
EINECS: 212-377-0		

- **Additional information**

Only the aerosol contains tetrafluoroethane (CAS: 811-79-2).  
For the wording of the listed risk phrases refer to section 16.

### \* 4 First aid measures

- **General information:**

Immediately remove any clothing soiled by the product.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

- **After inhalation:**

Supply fresh air and be sure to call for a doctor.  
In case of unconsciousness, place patients on their side in a stable position for transportation.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.

- **After eye contact:**

Rinse the eyes with open eyelids for 10 - 15 minutes with water.  
Treatment by an ophthalmologist

- **After swallowing:**

Induce vomiting, if person is conscious. Seek medical help.  
Drink plenty of water, but never give anything to an unconscious person.

- **Information for doctor:**

- **The following symptoms may occur:**

Local irritation symptoms  
After swallowing:  
Disturbance of central nervous system  
Gastric or intestinal disorders.  
Nausea  
Diarrhoea

- **Treatment:** Symptomatic treatment

### 5 Fire fighting measures

- **Suitable extinguishing agents:**

Alcohol resistant foam  
Fire-extinguishing powder  
Carbon dioxide (CO<sub>2</sub>)

- **For safety reasons unsuitable extinguishing agents:** Water

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- **Special hazards caused by the material, its products of combustion or resulting gases:**  
Dangerous decomposition product see chapter 10: stability and reactivity  
Formation of toxic gases is possible during heating or in case of fire.
  - **Protective equipment:** Wear self-contained respiratory protective device.
  - **Additional information:**  
Collect contaminated fire fighting water separately. It must not enter the sewage system.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Cool endangered receptacles with water spray.
- 

### 6 Accidental release measures

- **Person-related safety precautions:**



Wear protective equipment. Keep unprotected persons away.

- Ensure adequate ventilation
  - Do not smoke - keep ignition sources away
  - **Measures for environmental protection:**  
Do not allow product to reach sewage system or any water course.  
Do not allow to penetrate the ground/soil.
  - **Measures for cleaning/collecting:**  
Ensure adequate ventilation.  
Absorb liquid components with liquid-binding material.  
Send for recovery or disposal in suitable receptacles.  
Dispose contaminated material as waste according to item 13.
- 

### \* 7 Handling and storage

- **Handling**
- **Information for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Keep away from heat and direct sunlight.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
Avoid contact with eyes and skin.  
Avoid inhalation of vapours.
- **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

- Protect against electrostatic charges
- Fumes can combine with air to form an explosive mixture.
- Emergency cooling must be available in case of nearby fire.
- Flammable gas-air mixtures may be formed in empty receptacles (not valid for the aerosol).
- For aerosols you have additionally pay attention to:  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.  
Do not spray on a naked flame or any incandescent material.
- **Storage**
- **Requirements to be met by storerooms and receptacles:**  
Store cool and dry in a well ventilated area.  
Store away from open flames, sources of heat or sparks.  
Pay attention to special rules for the storage of flammable liquids.

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For aerosols you have additionally pay attention to:

Observe official regulations on storing packagings with pressurized containers.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from feed.

Do not store together with oxidizing and acidic materials.

Follow regulations for flammable liquids.

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from heat and direct sunlight.

· **Storage class**

3A Flammable Liquids

2B pressurized gas containers

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## \* 8 Exposure controls and personal protection

· **Additional information about design of technical systems:**

Install appropriate mechanical ventilation.

Keep away from open flames and other ignition sources.

Protect against electrostatic charges.

· **Components with limit values that require monitoring at the workplace:**

**67-63-0 propan-2-ol**

WEL (Great Britain)      Short-term value: 1250 mg/m<sup>3</sup>, 500 ppm  
 Long-term value: 999 mg/m<sup>3</sup>, 400 ppm

**64-17-5 ethanol**

WEL (Great Britain)      Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

**67-56-1 methanol**

IOELV (European Union) Long-term value: 260 mg/m<sup>3</sup>, 200 ppm  
 Skin

WEL (Great Britain)      Short-term value: 333 mg/m<sup>3</sup>, 250 ppm  
 Long-term value: 266 mg/m<sup>3</sup>, 200 ppm  
 Sk

**811-97-2 1,1,1,2-tetrafluorethane**

WEL (Great Britain)      Long-term value: 4240 mg/m<sup>3</sup>, 1000 ppm

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Personal protective equipment**

· **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing

Do not inhale gases / fumes / aerosols.

Apply solvent resistant skin cream before beginning work.

· **Breathing equipment:**

Not necessary if room is well-ventilated.

In case of unintentional release of substance, exceeding the occupational exposure limit value:

Short term filter device:

Filter A

· **Protection of hands:**

Neoprene gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

Check protective gloves prior to each use for their proper condition.

· **Material of gloves:**

The selection of suitable depends upon the material, and also upon the quality of the gloves. The degree of protection will vary from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- **Penetration time of glove material:**

The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Tightly sealed goggles.
  - **Body protection:** Protective work clothing.
- 

### 9 Physical and chemical properties:

- **General Information**

- |                |                     |
|----------------|---------------------|
| <b>Form:</b>   | Liquid<br>Aerosol   |
| <b>Colour:</b> | Colourless<br>Clear |
| <b>Odour:</b>  | Alcohol-like        |
- **Change in condition:**
    - Melting point/Melting range:** undetermined
    - Boiling point/Boiling range:** 77.6°C
  - **Flash point:** 12°C
  - **Ignition temperature:** 425°C
  - **Self igniting:** Product is not self-igniting.
  - **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
  - **Explosion limits:**

<b>Lower:</b>	2.0 Vol %
<b>Upper:</b>	12.7 Vol %
  - **Vapour pressure at 20°C:** 59 hPa
  - **Density at 15°C:** 0.79 g/cm<sup>3</sup>
  - **Solubility in / Miscibility with**

<b>Water:</b>	Fully miscible
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  - **pH-value:** Neutral
- 

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.  
Keep away from heat and direct sunlight.
- **Materials to be avoided:**  
Strong oxidants  
Strong acids  
Aldehydes  
Acetyl chloride  
Halogens  
Halogen compounds
- **Dangerous reactions:**  
Danger of receptacles bursting because of high vapour pressure if heated  
Flammable vapour-air mixtures may develop if stored in large receptacles above room temperature  
Used empty containers may contain product gases which form explosive mixtures with air
- **Dangerous products of decomposition:**  
In the case of fire or at high temperatures the formation of the following decomposition products is possible.  
Carbon monoxide and carbon dioxide  
Hydrogen fluoride

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Fluorocarbons

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### 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### 67-63-0 propan-2-ol

Oral LD<sub>50</sub> 4570 mg/kg (rat)  
 Dermal LD<sub>50</sub> 13400 mg/kg (rab)  
 Inhalative LC<sub>50</sub>/4 h 30 mg/L (rat)

#### 64-17-5 ethanol

Oral LD<sub>50</sub> 7060 mg/kg (rat)  
 Inhalative LC<sub>50</sub>/4 h 20000 mg/L (rat)

#### 67-56-1 methanol

Oral LD<sub>50</sub> 13000 mg/kg (rat)

#### ProClean™ Flux Remover (Aerosol)

Oral LD<sub>50</sub> 5045 mg/kg (rat)  
 Dermal LD<sub>50</sub> 12800 mg/kg (rabbit)  
 Inhalative LC<sub>50</sub> 16000 ppm (8h) (rat)

- **Primary irritant effect:**

- **on the skin:** Continuing or repeated contact with the skin may cause skin disease.

- **on the eye:** Irritating effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

In addition to local irritant manifestations, there is a narcotic effect when inhaling high concentrations, with the danger of central respiratory arrest.

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

### \*12 Ecological information

- **Ecotoxicological effects:**

- **Aquatic toxicity:**

#### 67-56-1 methanol

LC<sub>50</sub>/48h 10000 mg/l (leuciscus idus)  
 LC<sub>50</sub>/96h 21800 mg/l (Pimephales promelas)

#### 64-17-5 ethanol

EC<sub>50</sub>/24h 10800 mg/l (daphnia magna)  
 LC<sub>50</sub>/48h 8140 mg/l (leuciscus idus)  
 LC<sub>50</sub>/96h 14200 mg/l (Pimephales promelas)

#### 67-63-0 propan-2-ol

EC<sub>50</sub>/48h > 9714 mg/l (daphnia magna)  
 EC<sub>50</sub>/72h > 1450 mg/l (algae)  
 LC<sub>50</sub>/96h 10400 mg/l (Pimephales promelas)

#### ProClean™ Flux Remover (Aerosol)

LC<sub>50</sub>/96h > 100 mg/l (fish)

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

According to appendix 4 of VwVwS dated 17.05.1999 (German regulation)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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### 13 Disposal considerations

- Product:
- Recommendation:



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Disposal according to instructions of local authorities.

- **European waste catalogue:**

07 07 99 wastes not otherwise specified

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### \*14 Transport information

- Land transport ADR/RID (cross-border)



- **ADR/RID class:** 2 5F Gases Bulk: 3 (F1)
- **Danger code (Kemler):** - Bulk: 30
- **UN-Number:** 1950 Bulk: 1993
- **Packaging group:** - Bulk: II
- **Label:** 2.1 Bulk: 3
- **Description of goods:** Aerosol: Aerosols  
bulk: Alcohols, n.o.s., isopropanol (isopropyl alcohol), ethanol (ethyl alcohol)
- **Remarks:** Limited Quantity: 1 l inner packing, 30 l packing unit  
Limited quantity: 3 l inner packing, 30 kg gross packaging unit

- Maritime transport IMDG:



- **IMDG Class:** Aerosol: 2 Bulk: 3
- **UN Number:** 1950 Bulk: 1993
- **Label:** 2.1 Bulk: 3
- **Packaging group:** - Bulk: II
- **EMS Number:** F-D,S-U F-E, S-D
- **Marine pollutant:** -
- **Proper shipping name:** AEROSOLS  
BULK: Flammable liquids n.o.s, Ethanol(ethyl alcohol),Isopropanol (Isopropylalcohol)  
AEROSOLS  
BULK: Alcohol n.o.s, Ethanol(ethyl alcohol),Isopropanol (Isopropylalcohol)

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## · Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 2.1 Bulk: 3
- **UN/ID Number:** 1950 Bulk: 1993
- **Label:** 2.1 Bulk: 3
- **Packaging group:** - Bulk: II
- **Proper shipping name:** AEROSOLS, flammable  
BULK: Flammable liquids n.o.s, Ethanol(ethyl alcohol), Isopropanol (Isopropylalcohol)  
AEROSOLS  
BULK: Alcohol n.o.s, Ethanol(ethyl alcohol), Isopropanol (Isopropylalcohol)
- **Remarks:** Packing Instructions:  
For Limited Quantities: Y203(Max Net Qty/Pkg: 1 kg)  
Passenger and Cargo Aircraft: 203 (Max Net Qty/Pkg: 1 kg)  
Cargo Aircraft only: 203 (Max Net Qty/Pkg: 15 kg)  
Packing Instructions:  
For Limited Quantities: Y305 (Max Net Qty/Pkg: 1 l)  
Passenger and Cargo Aircraft: 305 (Max Net Qty/Pkg: 5 l)  
Cargo Aircraft only: 307 (Max Net Qty/Pkg: 60 l)

### 15 Regulations

· **Markings according to EC guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials

· **Code letter and hazard designation of product:**

Xi Irritant  
F Highly flammable

· **Risk phrases:**

11 Highly flammable.  
36 Irritating to eyes.  
67 Vapours may cause drowsiness and dizziness.

· **Safety phrases:**

7 Keep container tightly closed.  
16 Keep away from sources of ignition - No smoking.  
24/25 Avoid contact with skin and eyes.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
51 Use only in well-ventilated areas.  
60 This material and its container must be disposed of as hazardous waste.

· **Special labelling of certain preparations:**

Only valid for the aerosol:  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.  
78.0 % by mass of the contents are flammable  
Keep out of the reach of children

· **National regulations**· **Information about limitation of use:** Restrictions on juvenile employment must be observed.

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· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

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**16 Other information:**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Reasons for amendments:**

TLV

Regulation (EC) No. 1907/2006

General revision

· **Relevant R-phrases:**

11 Highly flammable.

23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

36 Irritating to eyes.

39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:**

KFT-Chemieservice Marienstr. 3 D-64347 Griesheim

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Tel.: +49-6155-823241 Fax: +49-6155-823246

· **Contact:** Angelika Torges· **\* Data compared to the previous version altered.**

Changes have been made to chapters marked with a \*, as compared to the previous version.