



## SAFETY DATA SHEET

### PFR POLAR FLUX REMOVER, AEROSOL

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

#### 1. Identification

##### Product identifier

**Product name** PFR POLAR FLUX REMOVER, AEROSOL

**Product number** MCC-PFR10A, MCC-PFR107, MCC-PFR10Y

##### Recommended use of the chemical and restrictions on use

**Application** Cleaning agent.

##### Details of the supplier of the safety data sheet

**Supplier** MicroCare Corporation

**Contact Person** techsupport@microcare.com

**Manufacturer** MICROCARE CORPORATION  
595 John Downey Drive  
New Britain, CT 06051  
United States of America  
CAGE: OATV9  
Tel: +1 860-827-0626  
Fax: +1 860-827-8105  
techsupport@microcare.com

##### Emergency telephone number

**Emergency telephone** CHEMTREC (800) 424-9300 CHEMTREC +1 703-741-5970

#### 2. Hazard(s) identification

##### Classification of the substance or mixture

**OSHA Regulatory Status** This Product is Hazardous under the OSHA Hazard Communication Standard.

**Physical hazards** Flam. Aerosol 1 - H222 Press. Gas, Compressed - H280

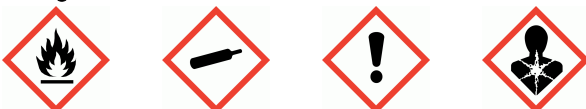
**Health hazards** Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Repr. 2 - H361 STOT SE 3 - H336 STOT RE 2 - H373  
Asp. Tox. 1 - H304

**Human health** Splashes in the eyes may cause redness and irritation. Keep out of the reach of children. See Section 11 for additional information on health hazards.

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

##### Label elements

##### Pictogram



## PFR POLAR FLUX REMOVER, AEROSOL

<b>Signal word</b>	Danger
<b>Hazard statements</b>	H222 Extremely flammable aerosol. H280 Contains gas under pressure; may explode if heated. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure.
<b>Precautionary statements</b>	P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking. P251 Pressurized container: Do not pierce or burn, even after use P261 Avoid breathing vapor/ spray. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 If on skin: Wash with plenty of water. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/ attention if you feel unwell. P331 Do NOT induce vomiting. P332+P313 If skin irritation occurs: Get medical advice/ attention. P337+P313 If eye irritation persists: Get medical advice/ attention. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. P501 Dispose of contents/ container in accordance with national regulations.
<b>Supplemental label information</b>	RCH001a For use in industrial installations only. EUH209A Can become flammable in use. EUH210 Safety data sheet available on request.
<b>Contains</b>	ACETONE, HEXANE-norm, METHANOL

### Other hazards

This product does not contain any substances classified as PBT or vPvB.

### 3. Composition/information on ingredients

#### Mixtures

<b>ACETONE</b>	<b>30-60%</b>
CAS number: 67-64-1	
<b>Classification</b>	
Flam. Liq. 2 - H225	
Eye Irrit. 2A - H319	
STOT SE 3 - H335	

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<b>HEXANE-norm</b>	<b>10-30%</b>
CAS number: 110-54-3	
<b>Classification</b>	
Flam. Liq. 2 - H225	
Skin Irrit. 2 - H315	
Repr. 2 - H361f	
STOT SE 3 - H336	
STOT RE 2 - H373	
Asp. Tox. 1 - H304	
Not relevant.	
<b>TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE</b>	<b>10-30%</b>
CAS number: 29118-24-9	
<b>Classification</b>	
Press. Gas, Liquefied - H280	
<b>METHANOL</b>	<b>&lt;1%</b>
CAS number: 67-56-1	
<b>Classification</b>	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
STOT SE 1 - H370	

The Full Text for all Hazard Statements are Displayed in Section 16.

**Composition comments** TSCA: The ingredients of this product are on the TSCA Inventory.,The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of CFR 1900.1200

#### 4. First-aid measures

##### Description of first aid measures

<b>General information</b>	Promptly remove any clothing that becomes wet or contaminated. Move affected person to fresh air at once. Get medical attention if any discomfort continues.
<b>Inhalation</b>	Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep affected person warm and at rest. Get medical attention immediately.
<b>Ingestion</b>	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Consult a physician for specific advice.
<b>Skin Contact</b>	Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

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<b>General information</b>	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	Vapors may cause headache, fatigue, dizziness and nausea.
<b>Ingestion</b>	May cause stomach pain or vomiting. Headache.
<b>Skin contact</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
<b>Eye contact</b>	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain. Irritation and redness, followed by blurred vision.

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

**Notes for the doctor** No specific recommendations. If in doubt, get medical attention promptly.

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** Extinguish with the following media: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

#### Special hazards arising from the substance or mixture

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up. Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m<sup>3</sup>.

**Hazardous combustion products** Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

#### Advice for firefighters

**Protective actions during firefighting** Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse vapors.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

#### Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground.

#### Methods and material for containment and cleaning up

**Methods for cleaning up** Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. If leakage cannot be stopped, evacuate area. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb in vermiculite, dry sand or earth and place into containers.

### 7. Handling and storage

#### Precautions for safe handling

## PFR POLAR FLUX REMOVER, AEROSOL

**Usage precautions** Keep away from heat, sparks and open flame. Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level. Keep out of the reach of children.

### Conditions for safe storage, including any incompatibilities

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

### Specific end uses(s)

**Specific end use(s)** Cleaning agent.

**Reference to other sections.** Store away from incompatible materials (see Section 10).

## 8. Exposure Controls/personal protection

### Control parameters

#### Occupational exposure limits

##### ACETONE

Long-term exposure limit (8-hour TWA): ACGIH 250 ppm 594 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 500 ppm 1187 mg/m<sup>3</sup>

A4

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 2400 mg/m<sup>3</sup>

##### HEXANE-norm

Long-term exposure limit (8-hour TWA): ACGIH 50 ppm 176 mg/m<sup>3</sup>

Sk

Long-term exposure limit (8-hour TWA): OSHA 500 ppm 1800 mg/m<sup>3</sup>

##### METHANOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 262 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 250 ppm 328 mg/m<sup>3</sup>

Sk

Long-term exposure limit (8-hour TWA): OSHA 200 ppm 260 mg/m<sup>3</sup>

ACGIH = American Conference of Governmental Industrial Hygienists.

Sk = Danger of cutaneous absorption.

A4 = Not Classifiable as a Human Carcinogen.

OSHA = Occupational Safety and Health Administration.

**Ingredient comments** WEL = Workplace Exposure Limits

### Exposure controls

#### Protective equipment



#### **Appropriate engineering controls**

Provide adequate general and local exhaust ventilation.

#### **Eye/face protection**

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

#### **Hand protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. It is recommended that gloves are made of the following material: Nitrile rubber. Polyvinyl alcohol (PVA). Viton rubber (fluoro rubber).

#### **Other skin and body protection**

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

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<b>Hygiene measures</b>	Do not smoke in work area. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.
<b>Respiratory protection</b>	No specific recommendations. Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit.

### 9. Physical and Chemical Properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Liquid.
<b>Color</b>	Clear liquid. Colorless.
<b>Odor</b>	Acetone.
<b>Odor threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	55°C/131°F @ 101.3 kPa
<b>Flash point</b>	Not determined.
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	Not determined.
<b>Other flammability</b>	No information available.
<b>Vapor pressure</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Relative density</b>	0.75
<b>Bulk density</b>	No information available.
<b>Solubility(ies)</b>	Not determined.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Explosive properties</b>	No information available.
<b>Comments</b>	Aerosol.
<b>Refractive index</b>	No information available.
<b>Particle size</b>	No information available.
<b>Molecular weight</b>	Not applicable.
<b>Volatility</b>	100%
<b>Saturation concentration</b>	No information available.
<b>Critical temperature</b>	No information available.

## PFR POLAR FLUX REMOVER, AEROSOL

<b>Volatile organic compound</b>	This product contains a maximum VOC content of 179 g/l.
<b>Flammability</b>	Flammable aerosol.

### 10. Stability and reactivity

<b>Stability</b>	Stable at normal ambient temperatures.
<b>Possibility of hazardous reactions</b>	Will not polymerize.
<b>Conditions to avoid</b>	Avoid heat, flames and other sources of ignition.
<b>Materials to avoid</b>	Strong oxidizing agents. Strong alkalis. Strong mineral acids.
<b>Hazardous decomposition products</b>	Fire creates: Vapors/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen fluoride (HF).

### 11. Toxicological information

#### Information on toxicological effects

**Other health effects**                      There is no evidence that the product can cause cancer.

#### Acute toxicity - oral

**ATE oral (mg/kg)**                      14,285.71

#### Acute toxicity - dermal

**ATE dermal (mg/kg)**                      42,857.14

#### Acute toxicity - inhalation

**ATE inhalation (vapours mg/l)**      428.57

<b>Inhalation</b>	May cause respiratory system irritation. Vapors may cause headache, fatigue, dizziness and nausea. Prolonged inhalation of high concentrations may damage respiratory system.
<b>Skin Contact</b>	Product has a defatting effect on skin. May cause skin irritation/eczema.
<b>Eye contact</b>	Irritating to eyes.

#### Toxicological information on ingredients.

#### TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE

##### Acute toxicity - inhalation

**Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l)**      965.0

**Species**                                      Rat

**ATE inhalation (vapours mg/l)**                      965.0

#### METHANOL

##### Acute toxicity - oral

**Acute toxicity oral (LD<sub>50</sub> mg/kg)**                      7,300.0

**PFR POLAR FLUX REMOVER, AEROSOL**

<b>Species</b>	Mouse
<b>ATE oral (mg/kg)</b>	100.0
<b><u>Acute toxicity - dermal</u></b>	
<b>Acute toxicity dermal (LD<sub>50</sub> mg/kg)</b>	15,800.0
<b>Species</b>	Rabbit
<b>ATE dermal (mg/kg)</b>	300.0
<b><u>Acute toxicity - inhalation</u></b>	
<b>Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l)</b>	64,000.0
<b>Species</b>	Rat
<b>ATE inhalation (vapours mg/l)</b>	3.0

**12. Ecological Information****Toxicity****Ecological information on ingredients.****TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: >160 mg/l, Daphnia magna

**METHANOL**

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: >10000 mg/l, Daphnia magna

**Persistence and degradability****Ecological information on ingredients.****TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**

**Persistence and degradability** The product is not readily biodegradable.

**Bioaccumulative potential**

**Partition coefficient** No information available.

**Mobility in soil**

**Mobility** Not considered to be a significant hazard due to the small quantities used.

**13. Disposal considerations****Waste treatment methods**

**General information** Reuse or recycle products wherever possible.



## PFR POLAR FLUX REMOVER, AEROSOL

### Disposal methods

Empty containers must not be punctured or incinerated because of the risk of an explosion. Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 14. Transport information

#### UN Number

UN No. (DOT)	UN1950
UN No. (TDG)	UN1950
UN No. (IMDG)	UN1950
UN No. (ICAO)	UN1950

#### UN proper shipping name

Proper shipping name (DOT)	UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (TDG)	UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (IMDG)	UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY
Proper shipping name (ICAO)	UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

#### Transport hazard class(es)

TDG class	2.1
TDG label	2.1
IMDG Class	2.1
ICAO class/division	2.1

#### Transport labels



#### Packing group

DOT pack group	N/A
TDG Packing Group	N/A
IMDG packing group	N/A
ICAO packing group	N/A

#### Environmental hazards

##### Environmentally Hazardous Substance

No.

#### Special precautions for user

EmS	F-E, S-E
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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

### 15. Regulatory information

## PFR POLAR FLUX REMOVER, AEROSOL

### US Federal Regulations

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

Not listed.

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

##### **HEXANE-norm**

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

##### **ACETONE**

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

##### **METHANOL**

Final CERCLA RQ: 5000(2270) pounds (Kilograms)

#### **SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

Not listed.

#### **SARA 313 Emission Reporting**

##### **HEXANE-norm**

1.0 %

##### **METHANOL**

1.0 %

#### **CAA Accidental Release Prevention**

Not listed.

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

Acute  
Chronic  
Fire  
Pressure

#### **OSHA Highly Hazardous Chemicals**

Not listed.

### US State Regulations

#### **California Proposition 65 Carcinogens and Reproductive Toxins**

##### **METHANOL**

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

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

##### **HEXANE-norm**

Present.

##### **METHANOL**

Present.

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

Not listed.

#### **California Directors List of Hazardous Substances**

## PFR POLAR FLUX REMOVER, AEROSOL

### ACETONE

Present.

### Massachusetts "Right To Know" List

#### HEXANE-norm

Present.

#### ACETONE

Present.

#### METHANOL

Present.

### Rhode Island "Right To Know" List

#### HEXANE-norm

Present.

#### ACETONE

Present.

#### METHANOL

Present.

### Minnesota "Right To Know" List

#### HEXANE-norm

Present.

#### ACETONE

Present.

#### METHANOL

Present.

### New Jersey "Right To Know" List

#### HEXANE-norm

Present.

#### ACETONE

Present.

#### METHANOL

Present.

### Pennsylvania "Right To Know" List

#### HEXANE-norm

Present.

#### ACETONE

Present.

#### METHANOL

Present.

### Inventories

## PFR POLAR FLUX REMOVER, AEROSOL

### Canada - DSL/NDSL

Yes  
Domestic Substance List

### US - TSCA

All the ingredients are listed or exempt.

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

Not listed.

### 16. Other information

<b>Revision comments</b>	NOTE: Lines within the margin indicate significant changes from the previous revision.
<b>Revision date</b>	2/15/2016
<b>Revision</b>	21
<b>Supersedes date</b>	2/10/2016
<b>SDS No.</b>	AEROSOL - PFR
<b>Hazard statements in full</b>	H222 Extremely flammable aerosol. H225 Highly flammable liquid and vapor. H280 Contains gas under pressure; may explode if heated. H301 Toxic if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H331 Toxic if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H361 Suspected of damaging fertility or the unborn child. H361f Suspected of damaging fertility. H370 Causes damage to organs . H373 May cause damage to organs through prolonged or repeated exposure.
<b>NFPA - health hazard</b>	Temporary incapacitation, injury. (2)
<b>NFPA - flammability hazard</b>	Ignites easily. (3)
<b>NFPA - instability hazard</b>	Normally stable. (0)
<b>NFPA - special hazard</b>	N/A
<b>ACA HMIS Health rating.</b>	Moderate Hazard. (2)
<b>ACA HMIS Flammability rating.</b>	Ignites easily. (3)
<b>ACA HMIS Physical hazard rating.</b>	Normally stable. (0)
<b>ACA HMIS Personal protection rating.</b>	A

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 own particular use.