# SAFETY DATA SHEET

## UFR  UNIVERSAL FLUX REMOVER, AEROSOL


## 1. Identification

### Product identifier
- **Product name**: UFR  UNIVERSAL FLUX REMOVER, AEROSOL
- **Product number**: MCC-UFR10A, MCC-UFR10Y

### Recommended use of the chemical and restrictions on use
- **Application**: Cleaning agent.

### Details of the supplier of the safety data sheet
- **Supplier**: MicroCare LLC
  - Tel: +1 860-827-0626
- **Manufacturer**: MICRO Care LLC
  - 595 John Downey Drive
  - New Britain, CT  06051
  - United States of America
  - CAGE: OATV9
  - Tel: + 1 800 638 0125, +1 860-827-0626
  - techsupport@microcare.com

### Emergency telephone number
- **Emergency telephone**: INFOTRAC 1-800-535-5053 (U.S.A. and CANADA)
- 1-352-323-3500 (from anywhere in the world)

## 2. Hazard(s) identification

### Classification of the substance or mixture
- **OSHA Regulatory Status**: This Product is Not Hazardous under the OSHA Hazard Communication Standard.
- **Physical hazards**: Not Classified
- **Health hazards**: Repr. 1B - H360
- **Environmental hazards**: Not Classified

### Human health
- Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.

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

### Physicochemical
- Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Not considered to be a significant hazard due to the small quantities used. Gas or vapor displaces oxygen available for breathing (asphyxiant).

### Label elements
## UFR UNIVERSAL FLUX REMOVER, AEROSOL

### Hazard symbols

- **Signal word**: Danger

### Hazard statements

- **H360**: May damage fertility or the unborn child.

### Precautionary statements

- **P210**: Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- **P211**: Do not spray on an open flame or other ignition source.
- **P251**: Pressurized container: Do not pierce or burn, even after use
- **P280**: Wear protective gloves/ protective clothing/ eye protection/ face protection.
- **P410+P412**: Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F.
- **P501**: Dispose of contents/ container in accordance with local regulations.

### Supplemental label information

- **EUH210**: Safety data sheet available on request.
- **RCH001a**: For use in industrial installations only.

### Contains

- METHANOL

### Other hazards

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

## 3. Composition/information on ingredients

### Mixtures

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>trans-1-Chloro-3,3,3-trifluoropropene</td>
<td>60-100%</td>
</tr>
<tr>
<td>CAS number: 102687-65-0</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Press. Gas, Liquefied - H280</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE</td>
<td>10-30%</td>
</tr>
<tr>
<td>CAS number: 29118-24-9</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
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<tr>
<td>Press. Gas, Liquefied - H280</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHANOL</td>
<td>1-5%</td>
</tr>
<tr>
<td>CAS number: 64-17-5</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
</tbody>
</table>
# UFR UNIVERSAL FLUX REMOVER, AEROSOL

## METHANOL

**CAS number:** 67-56-1

**<1%**

**Classification**
- Flam. Liq. 2 - H225
- Acute Tox. 3 - H301
- Acute Tox. 3 - H311
- Acute Tox. 3 - H331
- STOT SE 1 - H370

## ISOBUTYL METHYL KETONE

**CAS number:** 108-10-1

**<1%**

**Classification**
- Flam. Liq. 2 - H225
- Acute Tox. 4 - H332
- Eye Irrit. 2A - H319
- Carc. 2 - H351
- STOT SE 3 - H335

## ETHYL ACETATE

**CAS number:** 141-78-6

**<1%**

**Classification**
- Flam. Liq. 2 - H225
- Eye Irrit. 2A - H319
- STOT SE 3 - H336

The full text for all hazard statements is 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

**Composition**

## 4. First-aid measures

### Description of first aid measures

**General information**
- Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration. Consult a physician for specific advice.

**Inhalation**
- Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

**Ingestion**
- Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention.

**Skin Contact**
- Remove contaminated clothing and rinse skin thoroughly with water.
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Eye contact
Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Consult a physician for specific advice.

Most important symptoms and effects, both acute and delayed

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Get medical attention promptly if symptoms occur after washing.

Inhalation
Upper respiratory irritation. Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. Gas or vapor displaces oxygen available for breathing (asphyxiant). Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion
May cause stomach pain or vomiting. Diarrhea. May cause nausea, headache, dizziness and intoxication. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin contact
Skin irritation. This product is rapidly absorbed through the skin and may cause symptoms similar to those of ingestion.

Eye contact
Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain. May cause blurred vision and serious eye damage.

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
The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Special hazards arising from the substance or mixture

Specific hazards
Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. Aerosol containers can explode when heated, due to excessive pressure build-up.

Hazardous combustion products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors. Oxides of carbon. Fire or high temperatures create: Carbonyl compounds. Mineral acids.

Advice for firefighters

Protective actions during firefighting
Move containers from fire area if it can be done without risk. Bursting aerosol containers may be propelled from a fire at high speed.

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
Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level.

Environmental precautions

Environmental precautions
Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to the environment.

Methods and material for containment and cleaning up
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Methods for cleaning up
Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely.

Reference to other sections
For personal protection, see Section 8. For waste disposal, see section 13.

7. Handling and storage

Precautions for safe handling
Usage precautions
Provide adequate ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors. 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)
The identified uses for this product are detailed in Section 1.

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

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

trans-1-Chloro-3,3,3-trifluoropropene

Long-term exposure limit (8-hour TWA): SUP 800 ppm

ETHANOL

Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m³
A3

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m³

METHANOL

Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 262 mg/m³
Short-term exposure limit (15-minute): ACGIH 250 ppm 328 mg/m³
Sk

Long-term exposure limit (8-hour TWA): OSHA 200 ppm 260 mg/m³

ISOBUTYL METHYL KETONE

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 82 mg/m³
Short-term exposure limit (15-minute): ACGIH 75 ppm 307 mg/m³
A3

Long-term exposure limit (8-hour TWA): OSHA 100 ppm 410 mg/m³

ETHYL ACETATE

Long-term exposure limit (8-hour TWA): ACGIH 400 ppm 1440 mg/m³
Long-term exposure limit (8-hour TWA): OSHA 400 ppm 1400 mg/m³

ACGIH = American Conference of Governmental Industrial Hygienists.
A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.
OSHA = Occupational Safety and Health Administration.
Sk = Danger of cutaneous absorption.
**UFR UNIVERSAL FLUX REMOVER, AEROSOL**

**Ingredient comments**


**trans-1-Chloro-3,3,3-trifluoropropene (CAS: 102687-65-0)**

**Ingredient comments**

No exposure limits known for ingredient(s).

**ETHANOL (CAS: 64-17-5)**

**Ingredient comments**

WEL = Workplace Exposure Limits

**METHANOL (CAS: 67-56-1)**

**Biological limit values**

15 mg/l

**Exposure controls**

**Protective equipment**

**Appropriate engineering controls**

No specific ventilation requirements. This product must not be handled in a confined space without adequate 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 suitable protective clothing as protection against splashing or contamination. Wear apron or protective clothing in case of contact.

**Hygiene measures**

No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. When using do not eat, drink or smoke.

**Respiratory protection**

Considering the size of the packaging, the risk is regarded as minimal. Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers. In confined or poorly-ventilated spaces, a supplied-air respirator must be worn. Wear self-contained breathing apparatus with full facepiece.

**9. Physical and chemical properties**

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Aerosol. Liquid. Gas</td>
</tr>
<tr>
<td>Color</td>
<td>Clear liquid. Colorless.</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>19°C/66°F @ 101.3 kPa</td>
</tr>
</tbody>
</table>
**UFR UNIVERSAL FLUX REMOVER, AEROSOL**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>Not applicable. The product is not flammable.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation factor</td>
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</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Other flammability</td>
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</tr>
<tr>
<td>Vapor pressure</td>
<td>1.91 kPa @ 20°C</td>
</tr>
<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
<td>1.24</td>
</tr>
<tr>
<td>Bulk density</td>
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</tr>
<tr>
<td>Solubility(ies)</td>
<td>Slightly soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient</td>
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</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available.</td>
</tr>
<tr>
<td>Global Warming Potential (GWP)</td>
<td></td>
</tr>
<tr>
<td>Surface tension</td>
<td></td>
</tr>
<tr>
<td>Refractive index</td>
<td>No information available.</td>
</tr>
<tr>
<td>Particle size</td>
<td>No information available.</td>
</tr>
<tr>
<td>Molecular weight</td>
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</tr>
<tr>
<td>Volatility</td>
<td>100%</td>
</tr>
<tr>
<td>Saturation concentration</td>
<td>No information available.</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Volatile organic compound</td>
<td>This product contains a maximum VOC content of 59 g/litre.</td>
</tr>
<tr>
<td>Heat of vaporization (at boiling point), cal/g (Btu/lb)</td>
<td></td>
</tr>
</tbody>
</table>

**10. Stability and reactivity**

- **Reactivity**: There are no known reactivity hazards associated with this product.
- **Stability**: Stable at normal ambient temperatures and when used as recommended.
- **Possibility of hazardous reactions**: Will not polymerize.
- **Conditions to avoid**: Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapors.
- **Materials to avoid**: Alkali metals. Alkaline earth metals.
Hazardous decomposition products

Heating may generate the following products: Toxic and corrosive gases or vapors. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide (CO).

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) 50,384.18

Acute toxicity - dermal
ATE dermal (mg/kg) 151,152.54

Acute toxicity - inhalation
ATE inhalation (vapours mg/l) 1,511.53
ATE inhalation (dusts/mists mg/l) 251.92

Inhalation
Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.

Ingestion
May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

Skin Contact
Product has a defatting effect on skin. May cause allergic contact eczema.

Eye contact
May cause temporary eye irritation.

Medical Symptoms
Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

trans-1-Chloro-3,3,3-trifluoropropene

Acute toxicity - oral
Notes (oral LD₅₀) No information available.

Acute toxicity - dermal
Notes (dermal LD₅₀) No information required.

Acute toxicity - inhalation
Acute toxicity inhalation (LC₅₀ gases ppmV) 120,000.0
Species Rat
ATE inhalation (gases ppm) 120,000.0

Inhalation
Vapors may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.

Ingestion
May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.
**UFR UNIVERSAL FLUX REMOVER, AEROSOL**

**Skin Contact**  
Product has a defatting effect on skin. May cause allergic contact eczema.

**Eye contact**  
May cause temporary eye irritation.

**Medical Symptoms**  
Gas or vapor in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

**TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**

<table>
<thead>
<tr>
<th>Acute toxicity - inhalation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity inhalation</td>
<td>207,000.0</td>
</tr>
<tr>
<td>(LC₅₀ vapours mg/l)</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>207,000.0</td>
</tr>
</tbody>
</table>

**ETHANOL**

<table>
<thead>
<tr>
<th>Acute toxicity - inhalation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity inhalation</td>
<td>20,000.0</td>
</tr>
<tr>
<td>(LC₅₀ vapours mg/l)</td>
<td></td>
</tr>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>20,000.0</td>
</tr>
</tbody>
</table>

**METHANOL**

<table>
<thead>
<tr>
<th>Acute toxicity - oral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes (oral LD₅₀)</td>
<td>Acute Tox. 3 - H301 Toxic if swallowed.</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

| Notes (dermal LD₅₀)         | Acute Tox. 3 - H311 Toxic in contact with skin. |
| ATE dermal (mg/kg)          | 300.0  |

**Acute toxicity - inhalation**

| Notes (inhalation LC₅₀)     | Acute Tox. 3 - H331 Toxic if inhaled. |
| ATE inhalation (vapours mg/l)| 3.0 |
| ATE inhalation (dusts/mists mg/l)| 0.5 |

**Skin corrosion/irritation**

| Animal data                | Based on available data the classification criteria are not met. |

**Serious eye damage/irritation**

| Serious eye damage/irritation | Based on available data the classification criteria are not met. |

**Respiratory sensitization**

| Respiratory sensitization | Based on available data the classification criteria are not met. |
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Skin sensitization
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Based on available data the classification criteria are not met.

Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
STOT - single exposure
STOT SE 1 - H370 Causes damage to organs.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.

Ingestion
May cause stomach pain or vomiting. May cause severe internal injury.

Skin Contact
A single exposure may cause the following adverse effects: Pain.

Eye contact
No specific symptoms known.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target Organs
No specific target organs known.

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Acute toxicity - inhalation
ATE inhalation (vapours mg/l) 11.0
ATE inhalation (dusts/mists mg/l) 1.5

Carcinogenicity
IARC carcinogenicity IARC Group 2B Possibly carcinogenic to humans.

Ecotoxicity
There are no data on the ecotoxicity of this product.
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Ecological information on ingredients.

**trans-1-Chloro-3,3,3-trifluoropropene**

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

**METHANOL**

**Ecotoxicity**
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

**trans-1-Chloro-3,3,3-trifluoropropene**

**Acute aquatic toxicity**

- **Acute toxicity - fish**: LC₅₀, 96 hours: 38 mg/l, Oncorhynchus mykiss (Rainbow trout)
- **Acute toxicity - aquatic invertebrates**: EC₅₀, 48 hours: 82 mg/l, Freshwater invertebrates
- **Acute toxicity - aquatic plants**: EC₅₀, 72 hours: 106.7 mg/l, Freshwater algae
  NOEC, 72 hours: 115 mg/l, Freshwater algae

**TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**

**Acute aquatic toxicity**

- **Acute toxicity - aquatic invertebrates**: EC₅₀, 48 hours: >160 mg/l, Daphnia magna

**ETHANOL**

**Acute aquatic toxicity**

- **Acute toxicity - fish**: LC₅₀, 96 hours: >10,000 mg/l, Pimephales promelas (Fat-head Minnow)
- **Acute toxicity - aquatic invertebrates**: EC₅₀, 48 hours: 7,800 mg/l, Daphnia magna
- **Acute toxicity - aquatic plants**: 96 hours: 1000 mg/l, Freshwater algae

**METHANOL**

**Toxicity**
Based on available data the classification criteria are not met.

**Acute aquatic toxicity**

- **Acute toxicity - fish**: LC₅₀, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)
- **Acute toxicity - aquatic invertebrates**: EC₅₀, 48 hours: >10000 mg/l, Daphnia magna

Persistence and degradability

**Persistence and degradability**
There are no data on the degradability of this product.

Ecological information on ingredients.

**trans-1-Chloro-3,3,3-trifluoropropene**
### UFR UNIVERSAL FLUX REMOVER, AEROSOL

**Persistence and degradability**
- **TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**
  - The product is not readily biodegradable.

**ETHANOL**
- **Persistence and degradability**
  - The product is expected to be biodegradable.

**METHANOL**
- **Persistence and degradability**
  - The degradability of the product is not known.

<table>
<thead>
<tr>
<th>Bioaccumulative potential</th>
<th>Bio-Accumulative Potential</th>
<th>No data available on bioaccumulation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>No information available.</td>
<td></td>
</tr>
</tbody>
</table>

**Ecological information on ingredients.**

**trans-1-Chloro-3,3,3-trifluoropropene**

<table>
<thead>
<tr>
<th>Bio-Accumulative Potential</th>
<th>No data available on bioaccumulation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>Kow: 2.09</td>
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</tbody>
</table>

**ETHANOL**

<table>
<thead>
<tr>
<th>Bio-Accumulative Potential</th>
<th>Bioaccumulation is unlikely.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

**METHANOL**

<table>
<thead>
<tr>
<th>Bio-Accumulative Potential</th>
<th>No data available on bioaccumulation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partition coefficient</td>
<td>-0.77</td>
</tr>
</tbody>
</table>

**Mobility in soil**

**Mobility**
- The product contains volatile substances which may spread in the atmosphere.

**Ecological information on ingredients.**

**trans-1-Chloro-3,3,3-trifluoropropene**

<table>
<thead>
<tr>
<th>Mobility</th>
<th>No data available.</th>
</tr>
</thead>
</table>

**ETHANOL**

<table>
<thead>
<tr>
<th>Mobility</th>
<th>The product is soluble in water.</th>
</tr>
</thead>
</table>

**METHANOL**
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Mobility
No data available.

Other adverse effects
The product contains a substance which has a photochemical ozone creation potential.

Ecological information on ingredients.

trans-1-Chloro-3,3,3-trifluoropropene

Other adverse effects
None known.

METHANOL

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods

General information
Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods
Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Empty containers must not be punctured or incinerated because of the risk of an explosion. Aerosol containers can explode when heated, due to excessive pressure build-up. Reuse or recycle products wherever possible.

14. Transport information

UN Number

UN No. (TDG) 1950
UN No. (IMDG) 1950
UN No. (ICAO) 1950
UN No. (DOT) UN1950

UN proper shipping name

Proper shipping name (TDG) AEROSOLS
Proper shipping name (IMDG) AEROSOLS
Proper shipping name (ICAO) AEROSOLS
Proper shipping name (DOT) AEROSOLS

Transport hazard class(es)

DOT hazard class 2.2
DOT hazard label 2.2
TDG class 2.2
TDG label(s) 2.2
IMDG Class 2.2
ICAO class/division 2.2
UFR UNIVERSAL FLUX REMOVER, AEROSOL

Transport labels

DOT transport labels

Packing group
TDG Packing Group  None
IMDG packing group  None
ICAO packing group  None
DOT packing group  None

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
EmS  F-D, S-U

Transport in bulk according to
Annex II of MARPOL 73/78
and the IBC Code
Not applicable.

15. Regulatory information

Guidance
Workplace Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
Not listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
Not listed.

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
Not listed.

SARA 313 Emission Reporting
Not listed.

CAA Accidental Release Prevention
Not listed.

SARA (311/312) Hazard Categories
Acute
Pressure
UFR UNIVERSAL FLUX REMOVER, AEROSOL

OSHA  Highly Hazardous Chemicals
Not listed.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
Not listed.

California Air Toxics "Hot Spots" (A-I)
Not listed.

California Air Toxics "Hot Spots" (A-II)
Not listed.

California Directors List of Hazardous Substances
ETHANOL
Present.

Massachusetts "Right To Know" List
ETHANOL
Present.

Rhode Island "Right To Know" List
ETHANOL
Present.

Minnesota "Right To Know" List
ETHANOL
Present.

New Jersey "Right To Know" List
ETHANOL
Present.

Pennsylvania "Right To Know" List
ETHANOL
Present.

Inventories
Canada - DSL/NDSL
ETHANOL
DSL
TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE
DSL
trans-1-Chloro-3,3,3-trifluoropropene
DSL

US - TSCA
Yes
ETHANOL
Present.
# UFR UNIVERSAL FLUX REMOVER, AEROSOL

**TRANS-1,3,3,3-TETRAFLUOROPROP-1-ENE**
Present.

**trans-1-Chloro-3,3,3-trifluoropropene**
Present.

## 16. Other information

<table>
<thead>
<tr>
<th>Revision comments</th>
<th>NOTE: Lines within the margin indicate significant changes from the previous revision.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision date</td>
<td>6/1/2021</td>
</tr>
<tr>
<td>Revision</td>
<td>43</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>5/21/2021</td>
</tr>
<tr>
<td>SDS No.</td>
<td>AEROSOL - UFR10A</td>
</tr>
<tr>
<td>SDS status</td>
<td>Approved.</td>
</tr>
<tr>
<td>Hazard statements in full</td>
<td>H225 Highly flammable liquid and vapor.</td>
</tr>
<tr>
<td></td>
<td>H280 Contains gas under pressure; may explode if heated.</td>
</tr>
<tr>
<td></td>
<td>H301 Toxic if swallowed.</td>
</tr>
<tr>
<td></td>
<td>H311 Toxic in contact with skin.</td>
</tr>
<tr>
<td></td>
<td>H319 Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td>H331 Toxic if inhaled.</td>
</tr>
<tr>
<td></td>
<td>H332 Harmful if inhaled.</td>
</tr>
<tr>
<td></td>
<td>H335 May cause respiratory irritation.</td>
</tr>
<tr>
<td></td>
<td>H336 May cause drowsiness or dizziness.</td>
</tr>
<tr>
<td></td>
<td>H351 Suspected of causing cancer.</td>
</tr>
<tr>
<td></td>
<td>H360 May damage fertility or the unborn child.</td>
</tr>
<tr>
<td></td>
<td>H370 Causes damage to organs .</td>
</tr>
</tbody>
</table>

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.