SAFETY DATA SHEET
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

1. Identification

Product identifier

Product name: SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL
Product number: MCC-SPR, MCC-SPR19A, MCC-SPR12Y
Synonyms; trade names: “SPR - SUPRCLEAN Nonflammable Flux Remover”

Recommended use of the chemical and restrictions on use

Application: Cleaning agent.
Uses advised against: No specific uses advised against are identified.

Details of the supplier of the safety data sheet

Supplier: MicroCare LLC
Tel: +1 860-827-0626

Manufacturer: MICROCARE 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 Hazardous under the OSHA Hazard Communication Standard.

Physical hazards: Aerosol 3

Health hazards: Acute Tox. 4 - H332 Eye Irrit. 2A - H319 Repr. 1B - H360 STOT SE 3 - H336

Physicochemical: 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).

Label elements

Hazard symbols

Signal word: Danger
**SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL**

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th>H332 Harmful if inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>H319 Causes serious eye irritation.</td>
</tr>
<tr>
<td></td>
<td>H360 May damage fertility or the unborn child.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Precautionary statements</th>
<th>P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P211 Do not spray on an open flame or other ignition source.</td>
</tr>
<tr>
<td></td>
<td>P251 Pressurized container: Do not pierce or burn, even after use</td>
</tr>
<tr>
<td></td>
<td>P261 Avoid breathing vapor/ spray.</td>
</tr>
<tr>
<td></td>
<td>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</td>
</tr>
<tr>
<td></td>
<td>P314 Get medical advice/ attention if you feel unwell.</td>
</tr>
<tr>
<td></td>
<td>P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F.</td>
</tr>
<tr>
<td></td>
<td>P501 Dispose of contents/ container in accordance with national regulations.</td>
</tr>
</tbody>
</table>

**Supplemental label information**

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

**Contains**

- trans-1,2-DICHLOROETHYLENE, METHANOL

**Other hazards**

- Harmful if inhaled

### 3. Composition/Information on ingredients

#### Mixtures

<table>
<thead>
<tr>
<th><strong>trans-1,2-DICHLOROETHYLENE</strong></th>
<th>30-60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number</td>
<td>156-60-5</td>
</tr>
</tbody>
</table>

**Classification**

- Flam. Liq. 2 - H225
- Acute Tox. 4 - H332
- Eye Irrit. 2A - H319
- STOT SE 3 - H336
- Not relevant.

<table>
<thead>
<tr>
<th><strong>HFC-134a Tetrafluoroethane</strong></th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number</td>
<td>811-97-2</td>
</tr>
</tbody>
</table>

**Classification**

- Press. Gas, Liquefied - H280
- Simple Asphyxiant - USH03

<table>
<thead>
<tr>
<th><strong>1,1,1,2,2,3,4,5,5-decafluoropentane</strong></th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number</td>
<td>138495-42-8</td>
</tr>
</tbody>
</table>

**Classification**

- Not relevant.

<table>
<thead>
<tr>
<th><strong>ETHANOL</strong></th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number</td>
<td>64-17-5</td>
</tr>
</tbody>
</table>

**Classification**

- Flam. Liq. 2 - H225
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

<table>
<thead>
<tr>
<th>METHANOL</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 67-56-1</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>ISOBUTYL METHYL KETONE</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 108-10-1</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>ETHYL ACETATE</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 141-78-6</td>
<td></td>
</tr>
</tbody>
</table>

**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

**Ingredient notes**
Denaturants in Ethanol include Methanol, CAS# 67-56-1; MIBK, CAS# 108-10-1 and Ethyl acetate, CAS# 141-78-6

**Composition**

### 4. First-aid measures

**Description of first aid measures**

#### General information
If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

#### Inhalation
Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention. Place unconscious person on their side in the recovery position and ensure breathing can take place.

#### Ingestion
Rinse mouth thoroughly with water. Get medical advice/attention if you feel unwell. Do not induce vomiting unless under the direction of medical personnel.

#### Skin Contact
Rinse with water.
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Eye contact
Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue.

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.

Inhalation
A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.

Ingestion
No specific symptoms known.

Skin contact
No specific symptoms known.

Eye contact
No specific symptoms known. May be slightly irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

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. This product is toxic.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

Advice for firefighters
Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material. Avoid inhalation of vapors and spray/mists. Use suitable respiratory protection if ventilation is inadequate.

Environmental precautions
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Environmental precautions
Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment.

Methods and material for containment and cleaning up

Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Provide adequate ventilation. Small Spillages: Collect spillage. Large Spillages: Absorb spillage with non-combustible, absorbent material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. For waste disposal, see Section 13.

Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions
Read and follow manufacturer’s recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use. Avoid the formation of mists. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage precautions
Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage.

Storage class
Miscellaneous hazardous material storage.

Specific end use(s)
The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits
trans-1,2-DICHLOROETHYLENE
Long-term exposure limit (8-hour TWA): ACGIH 200 ppm 793 mg/m³

HFC-134a Tetrafluoroethane
Long-term exposure limit (8-hour TWA): OES 4240 mg/m³

1,1,1,2,3,4,5,5-decafluoropentane
No information available that would effect occupational exposure limit values.

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

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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.

ETHANOL (CAS: 64-17-5)

<table>
<thead>
<tr>
<th>Ingredient comments</th>
<th>WEL = Workplace Exposure Limits</th>
</tr>
</thead>
</table>

| Biological limit values | 15 mg/l |

METHANOL (CAS: 67-56-1)

Exposure controls

Protective equipment

Appropriate engineering controls
Provide adequate general and local exhaust ventilation. Ensure the ventilation system is regularly maintained and tested. Good general ventilation should be adequate to control worker exposure to airborne contaminants. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection
Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection
No specific hand protection recommended. Avoid contact with skin.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures
Wash after use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection
Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
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Environmental exposure controls

Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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>Clear liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight Ether</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>41°C/106°F @ 101.3 kPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>The product is not flammable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation factor</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Upper flammable/explosive limit: 14.4 % (V) Lower flammable/explosive limit: 5.0 % (V)</td>
</tr>
<tr>
<td>Other flammability</td>
<td>The product is not flammable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>37.9 kPa @ 20°C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>3.4</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.26 g/cc</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>0.3 % water @ 20°C</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No information available</td>
</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>0.48 cP @ 20°C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not known</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>
<td>Not applicable</td>
</tr>
</tbody>
</table>
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Volatile organic compound
This product contains a maximum VOC content of 1080 g/l.

10. Stability and reactivity

Reactivity
See the other subsections of this section for further details.

Stability
Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

Possibility of hazardous reactions
No potentially hazardous reactions known.

Conditions to avoid
There are no known conditions that are likely to result in a hazardous situation.

Materials to avoid
No specific material or group of materials is likely to react with the product to produce a hazardous situation.

Hazardous decomposition products
Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic gases or vapors.

11. Toxicological information

Information on toxicological effects

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

ATE oral (mg/kg) 62,912.87

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 188,738.6

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Acute Tox. 4 - H332 Harmful if inhaled.

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 314.56

Skin corrosion/irritation
Animal data
Based on available data the classification criteria are not met.

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.

Skin sensitization
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, 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
Contains a substance/a group of substances which may cause cancer. IARC Group 1 Carcinogenic to humans.

Reproductive toxicity

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
Not classified as a specific target organ toxicant after a single exposure.

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: Headache. Exhaustion and weakness.

Ingestion
No specific symptoms known.

Skin Contact
No specific symptoms known.

Eye contact
No specific symptoms known.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target Organs
No specific target organs known.

Toxicological information on ingredients.

trans-1,2-DICHLOROETHYLENE

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

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 7,902.0
Species Rat

ATE oral (mg/kg) 7,902.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0
Species Rat
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ATE dermal (mg/kg) 5,000.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 11.0

Skin corrosion/irritation

Skin corrosion/irritation Prolonged and frequent contact may cause redness and irritation.

Animal data Slightly irritating. Rabbit

Serious eye damage/irritation

Serious eye damage/irritation Supplier's information. Rabbit 500 mg 24 hours Causes mild skin irritation.

Respiratory sensitization

Respiratory sensitization No specific test data are available.

Skin sensitization

Skin sensitization No specific test data are available.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No specific test data are available.

Specific target organ toxicity - single exposure

STOT - single exposure NOAEL Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 16 mg/l, 90 days

Target organs Endocrine system Liver Kidneys Bladder Respiratory tract

HFC-134a Tetrafluoroethane

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

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV) 567,000.0

Species Rat

ATE inhalation (gases ppm) 567,000.0

Inhalation Vapors irritate the respiratory system. May cause coughing and difficulties in breathing.

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

Skin Contact May cause allergic contact eczema. Contact with liquid form may cause frostbite.
### SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye contact</strong></td>
<td>May cause temporary eye irritation.</td>
<td></td>
</tr>
<tr>
<td>1,1,2,2,3,4,5,5-decafluoropentane</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute toxicity - oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity oral (LD₅₀ mg/kg)</td>
<td></td>
<td>5,000.0</td>
</tr>
<tr>
<td>Species</td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td></td>
<td>5,000.0</td>
</tr>
<tr>
<td><strong>Acute toxicity - dermal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity dermal (LD₅₀ mg/kg)</td>
<td></td>
<td>5,000.0</td>
</tr>
<tr>
<td>Species</td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td>ATE dermal (mg/kg)</td>
<td></td>
<td>5,000.0</td>
</tr>
<tr>
<td><strong>Acute toxicity - inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity inhalation (LC₅₀ vapours mg/l)</td>
<td></td>
<td>114.0</td>
</tr>
<tr>
<td>Species</td>
<td></td>
<td>Rat</td>
</tr>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td></td>
<td>114.0</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal data</td>
<td>Not irritating. Rabbit</td>
<td></td>
</tr>
<tr>
<td>Human skin model test</td>
<td>Data lacking.</td>
<td></td>
</tr>
<tr>
<td><strong>Extreme pH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not applicable. Not corrosive to skin.</td>
<td></td>
</tr>
<tr>
<td><strong>Serious eye damage/irritation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Not irritating. Rabbit</td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory sensitization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Data lacking.</td>
<td></td>
</tr>
<tr>
<td><strong>Skin sensitization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Not sensitizing. - Guinea pig: Not sensitizing.</td>
<td></td>
</tr>
<tr>
<td><strong>Germ cell mutagenicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genotoxicity - in vitro</td>
<td>This substance has no evidence of mutagenic properties.</td>
<td></td>
</tr>
<tr>
<td>Genotoxicity - in vivo</td>
<td>This substance has no evidence of mutagenic properties.</td>
<td></td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Does not contain any substances known to be carcinogenic.</td>
<td></td>
</tr>
<tr>
<td>IARC carcinogenicity</td>
<td>Not listed.</td>
<td></td>
</tr>
<tr>
<td>NTP carcinogenicity</td>
<td>Not listed.</td>
<td></td>
</tr>
<tr>
<td>OSHA Carcinogenicity</td>
<td>Not listed.</td>
<td></td>
</tr>
</tbody>
</table>

11/20
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Reproductive toxicity
Reproductive toxicity - fertility
No evidence of reproductive toxicity in animal studies.

Skin Contact
Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.

Eye contact
May cause eye irritation.

Acute and chronic health hazards
There is no evidence that the product can cause cancer.

ETANOL

Acute toxicity - inhalation
Acute toxicity inhalation (LC₅₀ vapours mg/l) 20,000.0
ATE inhalation (vapours mg/l) 20,000.0

METHANOL

Acute toxicity - oral
Notes (oral LD₅₀) Acute Tox. 3 - H301 Toxic if swallowed.
ATE oral (mg/kg) 100.0

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.

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

Germ cell mutagenicity
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

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.

STOT - single exposure  
STOT SE 1 - H370 Causes damage to organs.

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.

ISOBUTYL METHYL KETONE

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.

12. Ecological information

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Ecotoxicity  
Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

1,1,1,2,2,3,4,5,5,5-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.

METHANOL

Ecotoxicity

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

Toxicity

Aquatic Chronic 3 - H412 Harmful to aquatic life with long lasting effects.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Acute aquatic toxicity

Acute toxicity - fish
LC₅₀, 96 hours: 135 mg/l, Fish

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 220 mg/l, Daphnia magna

Acute toxicity - aquatic plants
LC₅₀, 72 hours: 36.36 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - fish early life stage
NOEC, 48 hours: 110,000 mg/l, Daphnia magna

HFC-134a Tetrafluoroethane

Acute aquatic toxicity

Acute toxicity - fish
LC₅₀, 96 hours: 450 mg/l, Fish

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 980 mg/l, Daphnia magna

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

Acute aquatic toxicity

Acute toxicity - fish
LC₅₀, 96 hours: 13.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates
LC₅₀, 48 hours: 11.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants
EC₅₀, 72 hours: >120 mg/l, Algae

ETHANOL

Acute aquatic toxicity

Acute toxicity - fish
LC₅₀, 96 hours: >10,000 mg/l, Fish

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: 7,800 mg/l, Daphnia magna

Acute toxicity - aquatic plants
96 hours: 1000 mg/l, Freshwater algae
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

METHANOL

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

Acute aquatic toxicity
LC₅₀, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - fish
EC₅₀, 48 hours: >10000 mg/l, Daphnia magna

Acute toxicity - aquatic invertebrates

Persistence and degradability
The degradability of the product is not known.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Biodegradation
Not readily biodegradable.
Method: OECD Test Guideline 301D

ETHANOL

Persistence and degradability
The product is expected to be biodegradable.

METHANOL

Persistence and degradability
The degradability of the product is not known.

Bioaccumulative potential

Bio-Accumulative Potential
No data available on bioaccumulation.

Partition coefficient
No information available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Bio-Accumulative Potential
Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Partition coefficient
log Pow: 2.06

HFC-134a Tetrafluoroethane

Partition coefficient
Pow: 1.06

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

Bio-Accumulative Potential
Bioaccumulation is unlikely because of the low water-solubility of this product.

Partition coefficient
Pow: 2.7

ETHANOL

Bio-Accumulative Potential
Bioaccumulation is unlikely.
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Partition coefficient
No information available.

METHANOL

Bio-Accumulative Potential
No data available on bioaccumulation.

Partition coefficient
-0.77

Mobility in soil

Mobility
No data available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Mobility
The product has poor water-solubility.

ETHANOL

Mobility
The product is soluble in water.

METHANOL

Mobility
No data available.

Other adverse effects

Other adverse effects
None known.

Ecological information on ingredients.

METHANOL

Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods

General information
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

14. Transport information

UN Number

UN No. (IMDG) 1950
UN No. (ICAO) 1950
UN proper shipping name

16/20
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Proper shipping name (TDG)  LIMITED QUANTITY
Proper shipping name (IMDG)  UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY
Proper shipping name (ICAO)  UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY
Proper shipping name (DOT)  LIMITED QUANTITY

Transport hazard class(es)
IMDG Class  2.2 LIMITED QUANTITY
ICAO class/division  2.2 LIMITED QUANTITY
ICAO subsidiary risk  N/A

Packing group
Packing group (International)  No information required.
TDG Packing Group  N/A
IMDG packing group  N/A
ICAO packing group  N/A
DOT packing group  N/A

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
Not applicable. No information required.

Transport in bulk according to
Annex II of MARPOL 73/78
and the IBC Code
Not applicable. No information required.

15. Regulatory information

US Federal Regulations
SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
The following ingredients are listed or exempt:

trans-1,2-DICHLOROETHYLENE
Final CERCLA RQ: 1000(454) pounds (Kilograms)

ISOBUTYL METHYL KETONE
Final CERCLA RQ: 5000(2270) pounds (Kilograms)

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

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

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed or exempt.
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

SARA 313 Emission Reporting
The following ingredients are listed or exempt:

- **ISOBUTYL METHYL KETONE**
  - 1.0 %
- **METHANOL**
  - 1.0 %

CAA Accidental Release Prevention
None of the ingredients are listed or exempt.

FDA - Essential Chemical
None of the ingredients are listed or exempt.

FDA - Precursor Chemical
None of the ingredients are listed or exempt.

SARA (311/312) Hazard Categories
None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals
None of the ingredients are listed or exempt.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins
The following ingredients are listed or exempt:

- **ISOBUTYL METHYL KETONE**
  - Carcinogen and developmental toxin.
- **METHANOL**
  - Developmental toxin.

California Air Toxics "Hot Spots" (A-I)
The following ingredients are listed or exempt:

- **ISOBUTYL METHYL KETONE**
- **METHANOL**

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances
The following ingredients are listed or exempt:

- **trans-1,2-DICHLOROETHYLENE**
- **ISOBUTYL METHYL KETONE**
- **ETHYL ACETATE**
- **METHANOL**
- **ETHANOL**

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

- **trans-1,2-DICHLOROETHYLENE**
- **ISOBUTYL METHYL KETONE**
ETHYL ACETATE
METHANOL
ETHANOL

Rhode Island "Right To Know" List
The following ingredients are listed or exempt:
ISOBUTYL METHYL KETONE
ETHYL ACETATE
METHANOL
ETHANOL

Minnesota "Right To Know" List
The following ingredients are listed or exempt:
ISOBUTYL METHYL KETONE
ETHYL ACETATE
METHANOL
ETHANOL

New Jersey "Right To Know" List
The following ingredients are listed or exempt:
ISOBUTYL METHYL KETONE
ETHYL ACETATE
METHANOL
ETHANOL

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:
trans-1,2-DICHLOROETHYLENE
ISOBUTYL METHYL KETONE
ETHYL ACETATE
METHANOL
ETHANOL

Inventories
Canada - DSL/NDSL
DSL
trans-1,2-DICHLOROETHYLENE
1,1,1,2,2,3,4,5,5,5-decafluoropentane
ETHANOL
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

US - TSCA
All of the ingredients of this product are TSCA listed.
1,1,1,2,2,3,4,5,5,5-DECAFLUOROPENTANE (CAS# 138495-42-8) is controlled by TSCA Section 5, Significant New Use Rule
(SNUR; 40 CFR 721.5645) The approved uses are: precision and
general cleaning, carrier fluid, displacement drying,
printed circuit board cleaning, particulate removal and film
cleaning, process medium, heat transfer fluid (dielectric
and non-dielectric), and test fluid. Processors and users
of this substance must also comply with the applicable
general SNUR requirements set forth in 40 CFR 721 subpart A,
including export notification requirements if applicable (40
CFR 721.20), and the applicable record keeping requirements
set forth at 40 CFR 721.125.

16. Other information

Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.
ICAO: Technical instructions for the safe transport of dangerous goods by air.
IMDG: International maritime dangerous goods.
CAS: Chemical abstracts service.
ATE: Acute toxicity estimate.
LC₅₀: Lethal concentration to 50 % of a test population.
LD₅₀: Lethal dose to 50% of a test population (median lethal dose).
EC₅₀: 50% of maximal effective concentration.
PBT: Persistent, bioaccumulative and toxic substance.
vPvB: Very persistent and very bioaccumulative.

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Training advice

Only trained personnel should use this material.

Revision date

5/25/2021

Revision

64

Supersedes date

5/25/2021

SDS No.

AEROSOL - SPR

Hazard statements in full

H225 Highly flammable liquid and vapor.
H280 Contains gas under pressure; may explode if heated.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs .
USH03 May displace oxygen and cause rapid suffocation

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.