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

According to the Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

SECTION 1: identification of the hazardous chemical and of the supplier

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 substance or mixture and restrictions on use
Identified uses Cleaning agent.
Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet
Supplier MICROCARE ASIA PTE LTD
102E, Pasir Panjang Road,
Citilink, #05-06,
Singapore 118529
(65) 6271.0182
techsupport@microcare.com

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 +65 3163 5349 (SINGAPORE)
1-352-323-3500 (from anywhere in the world)

SECTION 2: Hazard identification

Classification of the substance or mixture
Classification
Physical hazards Not Classified

Health hazards Eye Irrit. 2 - H319 STOT SE 3 - H336

Environmental hazards Aquatic Chronic 3 - H412

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

Label elements
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Pictogram

Signal word

Warning

Hazard statements
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P210 Keep away from heat/ sparks/ open flames /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.
P261 Avoid breathing vapour/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P314 Get medical advice/ attention if you feel unwell.
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.

Supplemental label information
EUH210 Safety data sheet available on request. RCH001a For use in industrial installations only.

Contains
trans-1,2-DICHLOROETHYLENE

Supplementary precautionary statements
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink, or smoke when using this product.
P273 Avoid release to the environment.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P330 Rinse mouth.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.

Other hazards
This product contains a substance classified as PBT (persistent, bioaccumulative and toxic).

SECTION 3: Composition and information of the ingredients of the hazardous chemical

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>trans-1,2-DICHLOROETHYLENE</td>
<td>30-60%</td>
</tr>
<tr>
<td>CAS number: 156-60-5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H332</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
<td></td>
</tr>
</tbody>
</table>

| 1,1,1,2,2,3,4,5,5-decafluoropentane    | 10-30%     |
| CAS number: 138495-42-8                |            |
| Classification                        |            |
| Aquatic Chronic 3 - H412               |            |
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

<table>
<thead>
<tr>
<th>ETHANOL</th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<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>

<table>
<thead>
<tr>
<th>METHANOL</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 67-56-1</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 3 - H301</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 3 - H311</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 3 - H331</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Repr. 1B - H360</td>
<td></td>
</tr>
<tr>
<td>STOT SE 1 - H370</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4-Methylpentan-2-one</th>
<th>&lt;1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 108-10-1</td>
<td></td>
</tr>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
<tr>
<td>Acute Tox. 4 - H332</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H335</td>
<td></td>
</tr>
</tbody>
</table>

<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>
<tr>
<td><strong>Classification</strong></td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2 - H225</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3 - H336</td>
<td></td>
</tr>
</tbody>
</table>

The full text for all hazard statements is displayed in Section 16.

**Composition**

**SECTION 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.
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Skin contact
Rinse with water.

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 any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.

SECTION 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 vapours.

Advice for fire-fighters

Protective actions during firefighting
Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, 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 vapours 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. Fire-fighter's clothing will provide a basic level of protection for chemical incidents.

SECTION 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 vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate.
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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
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.

SECTION 7: Handling and storage
Precautions for safe handling
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 minimise 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. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities
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.

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

SECTION 8: Exposure controls and personal protection
Control parameters
Occupational exposure limits
ETHANOL
Eight-hour time-weighted average: PEL 1000 ppm 1880 mg/m³

METHANOL
Eight-hour time-weighted average: PEL 200 ppm 262 mg/m³

4-Methylpentan-2-one
Eight-hour time-weighted average: PEL 50 ppm 205 mg/m³

Ethyl acetate
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Eight-hour time-weighted average: PEL 400 ppm 1440 mg/m³

Permissible exposure limit (PEL) skin = Refers to the potential contribution to the overall exposure by the cutaneous route including mucous membranes and eye, either by air-borne or more particularly, by direct contact with the substance.

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. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges suitable for intended use should be used. Full face mask respirators with replaceable filter cartridges suitable for intended use should be used. Half mask and quarter mask respirators with replaceable filter cartridges suitable for intended use should be used.

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.

SECTION 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>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight. Ether</td>
</tr>
<tr>
<td>Odour 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>
</tbody>
</table>
### SPR - HEAVY DUTY FLUX REMOVER - SUPRICLEAN, AEROSOL

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper/lower flammability or</td>
<td>Upper flammable/explosive limit: 14.4 %(V) Lower flammable/explosive limit: 5.0 %(V)</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Other flammability</td>
<td>The product is not flammable.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>37.9 kPa @ 20°C</td>
</tr>
<tr>
<td>Vapour 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>Oxidising 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>
<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 1080 g/l.</td>
</tr>
<tr>
<td>Heat of vaporization (at boiling point), cal/g (Btu/lb)</td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>See the other subsections of this section for further details.</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable at normal ambient temperatures and when used as recommended.</td>
</tr>
<tr>
<td></td>
<td>Stable under the prescribed storage conditions.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No potentially hazardous reactions known.</td>
</tr>
<tr>
<td>Conditions to avoid</td>
<td>There are no known conditions that are likely to result in a hazardous situation.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>No specific material or group of materials is likely to react with the product to produce a hazardous situation.</td>
</tr>
</tbody>
</table>
**SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL**

### 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 vapours.

### SECTION 11: Toxicological information

**Information on toxicological effects**

**Acute toxicity - oral**

<table>
<thead>
<tr>
<th>Notes (oral LD₅₀)</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE oral (mg/kg)</td>
<td>62,912.87</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

- | Notes (dermal LD₅₀) | Based on available data the classification criteria are not met. |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>188,738.6</td>
</tr>
</tbody>
</table>

**Acute toxicity - inhalation**

<table>
<thead>
<tr>
<th>Notes (inhalation LC₅₀)</th>
<th>Acute Tox. 4 - H332 Harmful if inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>21.41</td>
</tr>
<tr>
<td>ATE inhalation (dusts/mists mg/l)</td>
<td>314.56</td>
</tr>
</tbody>
</table>

**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**

Based on available data the classification criteria are not met.

**Skin sensitization**

Based on available data the classification criteria are not met.

**Germ cell mutagenicity**

**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 entry

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

<table>
<thead>
<tr>
<th>Acute toxicity oral (LD₅₀ mg/kg)</th>
<th>7,902.0</th>
</tr>
</thead>
</table>

Species

Rat

ATE oral (mg/kg)

7,902.0

Acute toxicity - dermal

<table>
<thead>
<tr>
<th>Acute toxicity dermal (LD₅₀ mg/kg)</th>
<th>5,000.0</th>
</tr>
</thead>
</table>

Species

Rat

ATE dermal (mg/kg)

5,000.0

Acute toxicity - inhalation

<table>
<thead>
<tr>
<th>ATE inhalation (vapours mg/l)</th>
<th>11.0</th>
</tr>
</thead>
</table>

Skin corrosion/irritation

Prolonged and frequent contact may cause redness and irritation.

Animal data

Slightly irritating. Rabbit

Serious eye damage/irritation

Supplier's information. Rabbit 500 mg 24 hours Causes mild skin irritation.

Respiratory sensitization

No specific test data are available.

Skin sensitization

No specific test data are available.

Germ cell mutagenicity

This substance has no evidence of mutagenic properties.

Genotoxicity - in vitro

This substance has no evidence of mutagenic properties.
SPR - HEAVY DUTY FLUX REMOVER - SUPRICLEAN, AEROSOL

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 ppmV) 567,000.0

Inhalation
Vapours 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.

Eye contact
May cause temporary eye irritation.

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

Acute toxicity - oral

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

Acute toxicity - dermal

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

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 114.0
Species Rat
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

ATE inhalation (vapours mg/l) 114.0

Skin corrosion/irritation

Animal data Not irritating. Rabbit

Human skin model test Data lacking.

Extreme pH Not applicable. Not corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. Rabbit

Respiratory sensitization

Respiratory sensitization Data lacking.

Skin sensitization

Skin sensitization Not sensitizing. - Guinea pig: Not sensitizing.

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 Does not contain any substances known to be carcinogenic.

IARC carcinogenicity Not listed.

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.

ETHANOL

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
### SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

**Acute toxicity - dermal**

<table>
<thead>
<tr>
<th>Notes (dermal LD₅₀)</th>
<th>Acute Tox. 3 - H311 Toxic in contact with skin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE dermal (mg/kg)</td>
<td>300.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - inhalation**

<table>
<thead>
<tr>
<th>Notes (inhalation LC₅₀)</th>
<th>Acute Tox. 3 - H331 Toxic if inhaled.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>3.0</td>
</tr>
<tr>
<td>ATE inhalation (dusts/mists mg/l)</td>
<td>0.5</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**

<table>
<thead>
<tr>
<th>Animal data</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Serious eye damage/irritation**

<table>
<thead>
<tr>
<th>Serious eye damage/irritation</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Respiratory sensitization**

<table>
<thead>
<tr>
<th>Respiratory sensitization</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Skin sensitization**

<table>
<thead>
<tr>
<th>Skin sensitization</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Germ cell mutagenicity**

<table>
<thead>
<tr>
<th>Genotoxicity - in vitro</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**Carcinogenicity**

<table>
<thead>
<tr>
<th>Carcinogenicity</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**IARC carcinogenicity**

<table>
<thead>
<tr>
<th>None of the ingredients are listed or exempt.</th>
</tr>
</thead>
</table>

**Reproductive toxicity**

<table>
<thead>
<tr>
<th>Reproductive toxicity - fertility</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive toxicity - development</td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
</tbody>
</table>

**Specific target organ toxicity - single exposure**

<table>
<thead>
<tr>
<th>Specific target organ toxicity - single exposure</th>
<th>STOT SE 1 - H370 Causes damage to organs.</th>
</tr>
</thead>
</table>

**Specific target organ toxicity - repeated exposure**

<table>
<thead>
<tr>
<th>Specific target organ toxicity - repeated exposure</th>
<th>Not classified as a specific target organ toxicant after repeated exposure.</th>
</tr>
</thead>
</table>

**Aspiration hazard**

<table>
<thead>
<tr>
<th>Aspiration hazard</th>
<th>Based on available data the classification criteria are not met.</th>
</tr>
</thead>
</table>

**General information**

<table>
<thead>
<tr>
<th>General information</th>
<th>The severity of the symptoms described will vary dependent on the concentration and the length of exposure.</th>
</tr>
</thead>
</table>

**Inhalation**

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>A single exposure may cause the following adverse effects: Drowsiness, dizziness, disorientation, vertigo. Unconsciousness. High concentrations may be fatal.</th>
</tr>
</thead>
</table>
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

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 entry
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

4-Methylpentan-2-one

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

SECTION 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.

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
SPR - HEAVY DUTY FLUX REMOVER - SUPRICLEAN, AEROSOL

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

Acute aquatic toxicity

Acute toxicity - fish

$\text{LC}_{50}$, 96 hours: 13.9 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates

$\text{LC}_{50}$, 48 hours: 11.7 mg/l, Daphnia magna

Acute toxicity - aquatic plants

$\text{EC}_{50}$, 72 hours: >120 mg/l, Algae

ETHANOL

Acute aquatic toxicity

Acute toxicity - fish

$\text{LC}_{50}$, 96 hours: >10,000 mg/l, Fish

Acute toxicity - aquatic invertebrates

$\text{EC}_{50}$, 48 hours: 7,800 mg/l, Daphnia magna

Acute toxicity - aquatic plants

$\text{EC}_{50}$, 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

$\text{LC}_{50}$, 96 hours: >100 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates

$\text{EC}_{50}$, 48 hours: >10000 mg/l, Daphnia magna

Persistence and degradability

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

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

No information available.

Ecological information on ingredients
**SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL**

**trans-1,2-DICHLOROETHYLENE**

- **Bioaccumulative 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

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

- **Bioaccumulative potential**: Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.
- **Partition coefficient**: Pow: 2.7

**ETHANOL**

- **Bioaccumulative potential**: Bioaccumulation is unlikely.
- **Partition coefficient**: No information available.

**METHANOL**

- **Bioaccumulative 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**

- **None known.**

**Ecological information on ingredients**

**METHANOL**

- **Other adverse effects**: None known.

**SECTION 13: Disposal information**

**Waste treatment methods**
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

**General information**

The generation of waste should be minimised 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, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

**SECTION 14: Transportation information**

<table>
<thead>
<tr>
<th>UN number</th>
<th>1950</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN No. (IMDG)</td>
<td>1950</td>
</tr>
<tr>
<td>UN No. (ICAO)</td>
<td>1950</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>UN1950 AEROSOLS, NON-FLAMMABLE, 2.2, LIMITED QUANTITY</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>2.2 LIMITED QUANTITY</td>
</tr>
<tr>
<td>IMDG class</td>
<td>2.2 LIMITED QUANTITY</td>
</tr>
<tr>
<td>ICAO class/division</td>
<td>2.2 LIMITED QUANTITY</td>
</tr>
<tr>
<td>ICAO subsidiary risk</td>
<td>N/A</td>
</tr>
<tr>
<td>Packing group</td>
<td>No information required.</td>
</tr>
<tr>
<td>IMDG packing group</td>
<td>N/A</td>
</tr>
<tr>
<td>ICAO packing group</td>
<td>N/A</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Environmentally hazardous substance/marine pollutant: No.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable. No information required.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
<td>Not applicable. No information required.</td>
</tr>
</tbody>
</table>

**SECTION 15: Regulatory information**

Safety, health and environmental regulations specific for the substance or mixture

**SECTION 16: Other information**
SPR - HEAVY DUTY FLUX REMOVER - SUPRCLEAN, AEROSOL

Abbreviations and acronyms used in the safety data sheet

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

25/5/2021

Revision

64

Supersedes date

25/5/2021

SDS number

AEROSOL - SPR

Hazard statements in full

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic if 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.
H360 May damage fertility or the unborn child.
H370 Causes damage to organs.
H412 Harmful to aquatic life with long lasting effects.

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.