SAFETY DATA SHEET
Opteon™ SF79 specialty fluid

1. Identification

Product identifier

Product name Opteon™ SF79 specialty fluid


Synonyms; trade names Opteon™ Sion specialty fluid M2S-SIONGL, M2S-SIONGG, M2S-SIONG, M2S-SIONL, M2S-SIONP, M2S-SIOND, MicroCare Repackaged

Recommended use of the chemical and restrictions on use

Application Cleaning agent.

Details of the supplier of the safety data sheet

Supplier MICROCARE CORPORATION

Manufacturer MICROCARE CORPORATION
595 John Downey Drive
New Britain, CT 06051
United States of America
CAGE: OATV9
Tel: +1 800 638 0125, +1 860-827-0626
Fax: +1 860-893-1930
techsupport@microcare.com

Emergency telephone number

Emergency telephone CHEMTREC 1-800-424-9300 (within the U.S.)
+1 703-741-5970 (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 Not Classified

Health hazards Acute Tox. 4 - H332 Eye Irrit. 2B - H320 STOT SE 3 - H336

Environmental hazards Aquatic Chronic 3 - H412

Human health Irritating to eyes.

Physicochemical Vapors are heavier than air and may travel along the floor and accumulate in the bottom of containers.
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Signal word: Warning

Hazard statements:
- H332 Harmful if inhaled.
- H320 Causes eye irritation.
- H336 May cause drowsiness or dizziness.
- H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:
- P261 Avoid breathing vapor/spray.
- P264 Wash contaminated skin thoroughly after handling.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 Call a poison center/doctor if you feel unwell.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with national regulations.

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

Contains:
- trans-1,2-DICHLOROETHYLENE

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>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>trans-1,2-DICHLOROETHYLENE</td>
<td>60-100%</td>
<td>Flam. Liq. 2 - H225</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute Tox. 4 - H332</td>
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<tr>
<td></td>
<td></td>
<td>Aquatic Chronic 3 - H412</td>
</tr>
<tr>
<td>Proprietary Fluorocarbon</td>
<td>Confidential</td>
<td>Aquatic Chronic 4 - H413</td>
</tr>
<tr>
<td>Proprietary A</td>
<td>&lt;1%</td>
<td>Aquatic Chronic 3 - H412</td>
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<td>CAS number: 156-60-5</td>
<td></td>
<td>CAS number: Proprietary</td>
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<tr>
<td>CAS number: 138495-42-8</td>
<td></td>
<td>CAS number: 138495-42-8</td>
</tr>
</tbody>
</table>
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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

**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**
Vapors in high concentrations are anesthetic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Central nervous system depression.

**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.

**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

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

**Hazardous combustion products**

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.

**Reference to other sections**
For personal protection, see Section 8. See Section 11 for additional information on health hazards.

7. Handling and 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

**Proprietary A**
No information available that would effect occupational exposure limit values. ACGIH = American Conference of Governmental Industrial Hygienists.
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9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Color</td>
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<tr>
<td>Odor</td>
</tr>
<tr>
<td>Odor threshold</td>
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<tr>
<td>pH</td>
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<tr>
<td>Initial boiling point and range</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Evaporation factor</td>
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<tr>
<td>Upper/lower flammability or explosive limits</td>
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<tr>
<td>Other flammability</td>
</tr>
<tr>
<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Bulk density</td>
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<tr>
<td>Solubility(ies)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
</tr>
<tr>
<td>Viscosity</td>
</tr>
<tr>
<td>Explosive properties</td>
</tr>
<tr>
<td>Oxidizing properties</td>
</tr>
<tr>
<td>Volatility</td>
</tr>
<tr>
<td>Volatile organic compound</td>
</tr>
<tr>
<td>Flammability</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

| Reactivity | Not classified as a reactivity hazard. |
| Possibility of hazardous reactions | Vapors may form flammable mixture with air. In use may form flammable/explosive vapor-air mixture. |
| Conditions to avoid | None known. |
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Materials to avoid

None known.

Hazardous decomposition products

No known hazardous decomposition products.

11. Toxicological Information

Information on toxicological effects

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)  11.58

Toxicological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Other health effects

There is no evidence that the product can cause cancer.

Acute toxicity - inhalation

ATE Inhalation (vapours mg/l)  11.0

Proprietary Fluorocarbon

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)  222.15

Species Rat

ATE inhalation (vapours mg/l)  222.15

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
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Respiratory sensitization
Data lacking.

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

Germ cell mutagenicity
This substance has no evidence of mutagenic properties.

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

Carcinogenicity
Does not contain any substances known to be carcinogenic.

IARC carcinogenicity
Not listed.

NTP carcinogenicity
Not listed.

OSHA Carcinogenicity
Not listed.

Reproductive toxicity
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.

Proprietary A

Acute toxicity - oral
Acute toxicity oral (LD<sub>50</sub> mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - dermal
Acute toxicity dermal (LD<sub>50</sub> mg/kg) 5,000.0

Species Rat

ATE dermal (mg/kg) 5,000.0

Acute toxicity - inhalation
Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l) 114.0

Species Rat

ATE inhalation (vapours mg/l) 114.0

Skin corrosion/irritation
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### Animal data
- Not irritating. Rabbit

### Human skin model test
- Data lacking.

### Extreme pH
- Not applicable. Not corrosive to skin.

### Serious eye damage/irritation
- Not irritating. Rabbit

### Respiratory sensitization
- Data lacking.

### 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
- Does not contain any substances known to be carcinogenic.

### IARC carcinogenicity
- Not listed.

### NTP carcinogenicity
- Not listed.

### OSHA Carcinogenicity
- Not listed.

### Reproductive toxicity
- 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.

### 12. Ecological information

#### Ecological information on ingredients.

**trans-1,2-DICHLOROETHYLENE**

**Ecotoxicity**
- Low acute toxicity to aquatic organisms.

**Proprietary A**

**Ecotoxicity**
- It is unlikely that the substance will dissolve in water in amounts big enough to have a toxic effect on fish and daphnies.
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**Acute aquatic toxicity**

**Acute toxicity - fish**  
LC₅₀, 96 hours: 1350 mg/l, Fish

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

**Proprietary Fluorocarbon**

**Acute aquatic toxicity**

**Acute toxicity - fish**  
LC₅₀, 96 hours: >0.096 mg/l, Oryzias latipes (Red killifish)

**Acute toxicity - aquatic invertebrates**  
LC₅₀, 48 hours: >0.157 mg/l, Daphnia magna

**Acute toxicity - aquatic plants**  
EC₅₀, 72 hours: >0.000477 mg/l, Pseudokirchneriella subcapitata

**Proprietary A**

**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

**Persistence and degradability**

Ecological information on ingredients.

**Proprietary Fluorocarbon**

**Biodegradation**  
Inherently biodegradable.

**Bioaccumulative potential**

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.

**Proprietary Fluorocarbon**

**Bio-Accumulative Potential**  
BCF: 1990, Cyprinus carpio (Common carp)

**Partition coefficient**  
Pow: 4.9

**Proprietary A**

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

**Partition coefficient**  
Pow: 2.7

**Mobility in soil**

Ecological information on ingredients.
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**trans-1,2-DICHLOROETHYLENE**

**Mobility**

The product has poor water-solubility.

13. Disposal considerations

14. Transport information

15. Regulatory information

**US Federal Regulations**

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

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

*trans-1,2-DICHLOROETHYLENE*

Final CERCLA RQ: 1000(454) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
Not listed.

SARA 313 Emission Reporting
Not listed.

CAA Accidental Release Prevention
Not listed.

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

*trans-1,2-DICHLOROETHYLENE*

Present.

Massachusetts "Right To Know" List

*trans-1,2-DICHLOROETHYLENE*

Present.

Rhode Island "Right To Know" List
Not listed.

Minnesota "Right To Know" List
Not listed.
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New Jersey "Right To Know" List
Not listed.

Pennsylvania "Right To Know" List
trans-1,2-DICHLOROETHYLENE
Present.

Inventories
Canada - DSL/NDSL
Yes

US - TSCA
All the ingredients are listed.

US - TSCA 12(b) Export Notification

Proprietary Fluorocarbon

16. Other information

<table>
<thead>
<tr>
<th>Revision date</th>
<th>1/4/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision</td>
<td>23</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>12/4/2018</td>
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<tr>
<td>SDS No.</td>
<td>BULK - SF79</td>
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</table>

Hazard statements in full
H225 Highly flammable liquid and vapor.
H320 Causes eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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.