



SAFETY DATA SHEET

Opteon™ SF79 specialty fluid

According to Regulation (EC) No 1907/2006, Annex II, as amended by Regulation (EU) No 453/2010

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name	Opteon™ SF79 specialty fluid
Product number	MCC-SF79GL, MCC-SF79GG, MCC-SF79G, MCC-SF79L, MCC-SF79P, MCC-SF79D
Synonyms; trade names	Opteon™ Sion specialty fluid M2S-SIONGL, M2S-SIONGG, M2S-SIONG, M2S-SIONL, M2S-SIONP, M2S-SIOND

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Cleaning agent.
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1.3. Details of the supplier of the safety data sheet

Supplier	MICROCARE EUROPE BVBA VEKESTRAAT 29 B11 INDUSTRIEZONE 'T SAS 1910 KAMPENHOUT, Belgium Phone +32.2.251.95.05 Fax +32.2.400.96.39
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: +1 860-827-8105 techsupport@microcare.com

1.4. Emergency telephone number

Emergency telephone	CHEMTREC UK (London) +(44)-870-8200418 +1 703-741-5970 (from anywhere in the world)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H332
Environmental hazards	Aquatic Chronic 3 - H412
Human health	Irritating to eyes.
Physicochemical	Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers.

2.2. Label elements

Opteon™ SF79 specialty fluid

Pictogram



Signal word	Warning
Hazard statements	H332 Harmful if inhaled. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P261 Avoid breathing vapour/ spray. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312 Call a POISON CENTRE/doctor if you feel unwell. 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

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

trans-1,2-DICHLOROETHYLENE	60-100%
CAS number: 156-60-5	EC number: 205-860-2
	REACH registration number: 01-2120093504-55-0003
Classification	
Flam. Liq. 2 - H225	
Acute Tox. 4 - H332	
Aquatic Chronic 3 - H412	
MicroCare HFX110 Carrier Fluid	10-30%
CAS number: —	REACH registration number: 02-2120746230-66-0000
Classification	
Aquatic Chronic 3 - H412	

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

Composition comments The data shown are in accordance with the latest EC Directives.

Composition

SECTION 4: First aid measures

4.1. 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.

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Inhalation	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	Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Place unconscious person on their side in the recovery position and ensure breathing can take place. Get medical attention immediately.
Skin contact	Wash skin thoroughly with soap and water. Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

4.2. 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	Vapours in high concentrations are anaesthetic. 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.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Water spray. Never use water by itself on spillage; this will spread the spill and cause further contamination.

5.2. 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 vapours. Closed containers can burst violently when heated, due to excess pressure build-up.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen. Hydrogen fluoride (HF). Halogenated hydrocarbons.

5.3. Advice for firefighters

Protective actions during firefighting	Containers close to fire should be removed or cooled with water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with non-combustible, absorbent material. Do not discharge into drains or watercourses or onto the ground. Contain and absorb spillage with sand, earth or other non-combustible material. Collect spillage with a shovel and broom, or similar and reuse, if possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. It is recommended that gloves are made of the following material: Neoprene.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Keep out of the reach of children.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Storage class Unspecified storage. The product is not flammable.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

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

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

trans-1,2-DICHLOROETHYLENE

Long-term exposure limit (8-hour TWA): ACGIH

Short-term exposure limit (15-minute): ACGIH 200 ppm

ACGIH = American Conference of Governmental Industrial Hygienists.

Additional Occupational Exposure Limits

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

No specific ventilation requirements. This product must not be handled in a confined space without adequate ventilation.

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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. Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.
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	Avoid inhalation of spray mist and contact with skin and eyes. When using do not eat, drink or smoke. Wash skin thoroughly after handling.
Respiratory protection	Vapours 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.
Thermal hazards	Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.
Odour	Slight.
Odour threshold	No information available.
pH	Neutral
Melting point	No information available.
Initial boiling point and range	47°C/117°F @ unspecified
Flash point	The product is not flammable. Tag Closed Cup (ASTM D 56) Does not flash
Evaporation rate	8 (butyl acetate = 1)
Evaporation factor	No information available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable. Upper flammable/explosive limit: 15.25 %(V) Lower flammable/explosive limit: 7.25 %(V)
Other flammability	The product is not flammable.
Vapour pressure	44.7 kPa @ unspecified°C
Vapour density	1.81
Relative density	1.29 @ 25°C/77°F
Bulk density	Not applicable.
Solubility(ies)	No information available.
Partition coefficient	No information available.

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Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	0.42 mPa s @ unspecified°C Kinematic viscosity ≤ 20.5 mm ² /s.
Explosive properties	No information available.
Oxidising properties	There are no chemical groups present in the product that are associated with oxidising properties.

9.2. Other information

Refractive index	No information available.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	100%
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.
UDF Phrase 1	The product is not flammable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Not classified as a reactivity hazard.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Vapors may form flammable mixture with air. In use may form flammable/explosive vapor-air mixture.
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10.4. Conditions to avoid

Conditions to avoid	None known.
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10.5. Incompatible materials

Materials to avoid	None known.
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10.6. Hazardous decomposition products

Hazardous decomposition products	No known hazardous decomposition products.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - inhalation

ATE inhalation (vapours mg/l)	12.22
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Inhalation	Vapours may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.
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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 vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Headache. Fatigue. Nausea, vomiting.

Toxicological information on ingredients.

trans-1,2-DICHLOROETHYLENE

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

MicroCare HFX110 Carrier Fluid

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

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 sensitisation

Respiratory sensitisation Data lacking.

Skin sensitisation

Skin sensitisation Not sensitising. - Guinea pig: Not sensitising.

Germ cell mutagenicity

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Genotoxicity - in vitro	This substance has no evidence of mutagenic properties.
Genotoxicity - in vivo	This substance has no evidence of mutagenic properties.
<u>Carcinogenicity</u>	
Carcinogenicity	Does not contain any substances known to be carcinogenic.
IARC carcinogenicity	Not listed.
<u>Reproductive toxicity</u>	
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.

SECTION 12: Ecological Information

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

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Ecotoxicity Low acute toxicity to aquatic organisms.

12.1. Toxicity

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

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

MicroCare HFX110 Carrier Fluid

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

12.2. Persistence and degradability

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

Ecological information on ingredients.

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MicroCare HFX110 Carrier Fluid

Biodegradation Inherently biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient No information available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Bioaccumulative potential Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

MicroCare HFX110 Carrier Fluid

Bioaccumulative potential BCF: 1990, Cyprinus carpio (Common carp)

Partition coefficient Pow: 4.9

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

trans-1,2-DICHLOROETHYLENE

Mobility The product has poor water-solubility.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB. No data available.

12.6. Other adverse effects

Other adverse effects The product contains a substance or substances that will contribute to global warming (greenhouse effect).

SECTION 13: Disposal considerations

13.1. 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. Reuse or recycle products wherever possible.

SECTION 14: Transport information

General Not regulated. The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

14.2. UN proper shipping name

No information required.

14.3. Transport hazard class(es)

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No information required.

Transport labels

No transport warning sign required.

14.4. Packing group

No information required.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

US - TSCA 12(b) Export Notification

MicroCare HFX110 Carrier Fluid

Present.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	10/05/2018
Revision	19
Supersedes date	30/04/2018
SDS number	BULK - SF79
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H332 Harmful if inhaled. 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.