SAFETY DATA SHEET
MCA Plus Specialty Fluid

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

1.1. Product identifier

Product name: MCA Plus Specialty Fluid

Product number: MCC-MCAPRD, MCC-MCAPG, MCC-MCAPGG, MCC-MCAPGL, MCC-MCAPP, MCC-MCAPT

Synonyms; trade names: Vertrel™ MCA Plus Specialty Fluid, MCA Plus Specialty Fluid repackaged by MicroCare

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

Identified uses: Cleaning agent.

Uses advised against: No specific uses advised against are identified.

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
EuroSales@MicroCare.com

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)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards: Not Classified

Health hazards: Not Classified

Environmental hazards: Aquatic Chronic 3 - H412

2.2. Label elements

Hazard statements: H412 Harmful to aquatic life with long lasting effects.
MCA Plus Specialty Fluid

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P337+P313 If eye irritation persists: Get medical advice/ attention.
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.

Supplementary precautionary statements

P264 Wash contaminated skin thoroughly after handling.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P302+P352 IF ON SKIN: Wash with plenty of water.
P321 Specific treatment (see medical advice on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Concentration</th>
<th>CAS Number</th>
<th>EC Number</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2,2,3,4,5,5,5-decafluoropentane</td>
<td>30-60%</td>
<td>138495-42-8</td>
<td>420-640-8</td>
<td>01-2119446695-28-0000</td>
</tr>
<tr>
<td>trans-1,2-DICHLOROETHYLENE</td>
<td>30-60%</td>
<td>156-60-5</td>
<td>205-860-2</td>
<td>01-2120093504-55-0003</td>
</tr>
<tr>
<td>CYCLOPENTANE</td>
<td>5-10%</td>
<td>287-92-3</td>
<td>206-016-6</td>
<td></td>
</tr>
</tbody>
</table>

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.

SECTION 4: First aid measures
MCA Plus Specialty Fluid

4.1. 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. Loosen tight clothing such as collar, tie or belt. Get medical attention if symptoms are severe or persist.

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.

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.

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
No specific symptoms known.

Ingestion
No specific symptoms known.

Skin contact
No specific symptoms known.

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

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

Notes for the doctor
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. 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.

5.2. Special hazards arising from the substance or mixture

Specific hazards
Containers can burst violently or explode when heated, due to excessive pressure build-up.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting
Avoid breathing fire gases or vapours. Evacuate area. 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. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.
MCA Plus Specialty Fluid

SECTION 6: Accidental release measures

6.1. 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.

6.2. Environmental precautions

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

6.3. 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. 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.

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. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. 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 minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists.

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

7.2. 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.

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

trans-1,2-DICHLOROETHYLENE
MCA Plus Specialty Fluid

Long-term exposure limit (8-hour TWA): ACGIH
Short-term exposure limit (15-minute): ACGIH 200 ppm
ACGIH = American Conference of Governmental Industrial Hygienists.

8.2. Exposure controls

Protective equipment

Appropriate engineering controls
Provide adequate ventilation. 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 ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

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

9.1. Information on basic physical and chemical properties

Appearance
Liquid.

Colour
Colourless.

Odour
Slight. Ether.

Odour threshold
No information available.

pH
Neutral

Melting point
<-50°C/<-58°F

Initial boiling point and range
38.0°C/100.4°F @ 101.3 kPa

Flash point
Does not flash Penskey-Martins Closed Cup (ASTM D 93)

Evaporation rate
No information available.

Evaporation factor
No information available.

Flammability (solid, gas)
No information available.

Upper/lower flammability or explosive limits
Lower flammable/explosive limit: 6 %(V) Upper flammable/explosive limit: 11 %(V)
MCA Plus Specialty Fluid

Other flammability

The product is not flammable. Aerosol ignition distance: none at 0.0 cm

Vapour pressure

61.4 kPa @ 25°C

Vapour density

4.7

Relative density

1.33 g/cm³ @ 25°C/77°F

Bulk density

Not applicable.

Solubility(ies)

No information available.

Partition coefficient

No information available.

Auto-ignition temperature

No information available.

Decomposition Temperature

No information available.

Viscosity

0.49 mPa s @ 25°C/77°F

Explosive properties

No information available.

Global Warming Potential (GWP)

9.2. Other information

Refractive index

No information available.

Particle size

No information available.

Molecular weight

No information available.

Volatile

100%

Saturation concentration

No information available.

Critical temperature

No information available.

Volatile organic compound

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity

See the other subsections of this section for further details.

10.2. Chemical stability

Stability

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

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions

No potentially hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid

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

10.5. Incompatible materials

Materials to avoid

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

10.6. Hazardous decomposition products

Hazardous decomposition products

Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.
MCA Plus Specialty Fluid

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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

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

**Acute toxicity - inhalation**
Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

ATE inhalation (vapours mg/l) 24.44

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

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

**Respiratory sensitisation**
Animal data Based on available data the classification criteria are not met.

**Skin sensitisation**
Animal data 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**
IARC carcinogenicity None of the ingredients are listed or exempt.

**Reproductive toxicity**
Reproductive toxicity - fertility 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**
Animal data 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** No specific symptoms known.

**Ingestion** No specific symptoms known.

**Skin contact** No specific symptoms known.

**Eye contact** No specific symptoms known.
MCA Plus Specialty Fluid

Route of exposure
- Ingestion
- Inhalation
- Skin and/or eye contact

Target organs
- No specific target organs known.

Toxicological information on ingredients.

1,1,1,2,2,3,4,5,5,5-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
ATE inhalation (vapours mg/l) 114.0

Skin corrosion/irritation
Animal data Not irritating. Rabbit
Human skin model test Data lacking.

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
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
MCA Plus Specialty Fluid

**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.

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**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 (LD$_{50}$ mg/kg)</th>
<th>7,902.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE oral (mg/kg)</td>
<td>7,902.0</td>
</tr>
</tbody>
</table>

**Acute toxicity - dermal**

<table>
<thead>
<tr>
<th>Acute toxicity dermal (LD$_{50}$ mg/kg)</th>
<th>5,000.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

**Acute toxicity - inhalation**

<table>
<thead>
<tr>
<th>Acute toxicity inhalation (LC$_{50}$ vapours mg/l)</th>
<th>95.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>ATE inhalation (vapours mg/l)</td>
<td>95.4</td>
</tr>
</tbody>
</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 sensitisation**
No specific test data are available.

**Skin sensitisation**
No specific test data are available.

**Germ cell mutagenicity**
This substance has no evidence of mutagenic properties.
MCA Plus Specialty Fluid

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

SECTION 12: Ecological information

Ecological information on ingredients.

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.

trans-1,2-DICHLOROETHYLENE

Ecotoxicity Harmful to aquatic life. May cause long lasting harmful effects to aquatic life.

12.1. Toxicity

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

Ecological information on ingredients.

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

Acute aquatic toxicity
Acute toxicity - fish \( LC_{96} \), 96 hours: 13.9 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates \( LC_{48} \), 48 hours: 11.7 mg/l, Daphnia magna
Acute toxicity - aquatic plants \( EC_{72} \), 72 hours: >120 mg/l, Algae

trans-1,2-DICHLOROETHYLENE

Acute aquatic toxicity
Acute toxicity - fish \( LC_{96} \), 96 hours: 135 mg/l, Fish
Acute toxicity - aquatic invertebrates \( EC_{48} \), 48 hours: 220 mg/l, Daphnia magna
Acute toxicity - aquatic plants \( LC_{72} \), 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

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.
MCA Plus Specialty Fluid

trans-1,2-DICHLOROETHYLENE

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

12.3. Bioaccumulative potential

Bioaccumulative potential  No data available on bioaccumulation.
Partition coefficient  No information available.

Ecological information on ingredients.

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

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

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

12.6. Other adverse effects

Other adverse effects  None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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.

SECTION 14: Transport information

14.1. UN number
14.2. UN proper shipping name
Not applicable. No information required.

14.3. Transport hazard class(es)
14.4. Packing group
MCA Plus Specialty Fluid

Not applicable. No information required.

14.5. Environmental hazards

14.6. Special precautions for user

Not applicable. No information required.

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

SECTION 15: Regulatory information

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

**National regulations**
Health and Safety at Work etc. Act 1974 (as amended).
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
EH40/2005 Workplace exposure limits.

**EU legislation**

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories

**EU - EINECS/ELINCS**
None of the ingredients are listed or exempt.

SECTION 16: Other information

**Abbreviations and acronyms used in the safety data sheet**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
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**
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

**Classification procedures according to Regulation (EC) 1272/2008**
Aquatic Chronic 3 - H412: : Calculation method.
MCA Plus Specialty Fluid

Training advice
Only trained personnel should use this material.

Revision date
23/01/2019

Revision
25

Supersedes date
04/01/2019

SDS number
BULK - MCAPRD

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.