SAFETY DATA SHEET  
Vertrel™ SDG SPECIALTY FLUID, BULK  

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

1.1. Product identifier
Product name  
Vertrel™ SDG SPECIALTY FLUID, BULK

Product number  
MCC-SDGRP, MCC-SDGRD, MCC-SDGRL, MCC-SDGRG, MCC-SDGRGL, MCC-SDGRGG, MCC-SDG0GG

Synonyms; trade names  
SDG SPECIALTY FLUID

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

1.3. Details of the supplier of the safety data sheet
Supplier  
MICROCRE EUROPE BVBA  
VEKESTRAAT 29 B1 1  
INDUSTRIEZONE T SAS  
1910 KAMPENHOUT, Belgium  
Phone +32.2.251.95.05  
Fax +32.2.400.96.39

Manufacturer  
MICROCRE CORPORATION  
595 John Downey Drive  
New Britain, CT 06051  
United States of America  
CAGE: OATV9  
Tel: +1 860-827-0626  
Fax: +1 860-827-8105  
technicalsupport@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  
Acute Tox. 4 - H302

Environmental hazards  
Aquatic Chronic 3 - H412

Human health  
Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.

Environmental  
The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.
Vertrel™ SDG SPECIALTY FLUID, BULK

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).

2.2. Label elements

Pictogram

Signal word
Warning

Hazard statements
H302 Harmful if swallowed.
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.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.

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

Contains
trans-DICHLOROETHYLENE

Supplementary precautionary statements
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330 Rinse mouth.
P331 Do NOT induce vomiting.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with national regulations.

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

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<thead>
<tr>
<th>trans-DICHLOROETHYLENE</th>
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</thead>
<tbody>
<tr>
<td>CAS number: 156-60-5</td>
<td>EC number: 205-860-2</td>
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</table>

Classification
Flam. Liq. 2 - H225
Acute Tox. 4 - H302
Aquatic Chronic 3 - H412
Vertrel™ SDG SPECIALTY FLUID, BULK

<table>
<thead>
<tr>
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<td>EC number: 430-710-1</td>
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<tr>
<td>Classification</td>
<td></td>
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<tr>
<td>Aquatic Chronic 3 - H412</td>
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</table>

<table>
<thead>
<tr>
<th>1,1,1,2,2,3,4,5,5-decafluoropentane</th>
<th>10-30%</th>
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</tr>
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<td>EC number: 420-640-8</td>
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<td>REACH registration number: 01-211944695-28-0000</td>
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<tr>
<td>Classification</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 3 - H412</td>
<td></td>
</tr>
</tbody>
</table>

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

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. Consult a physician for specific advice.

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
Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.

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. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations. May cause discomfort. Symptoms following overexposure may include the following: Headache. Dizziness. Nausea, vomiting.

Inhalation
May cause an asthma-like shortness of breath. Vapours may cause headache, fatigue, dizziness and nausea. Arrhythmia (deviation from normal heart beat).

Ingestion
Pulmonary oedema, frothy sputum.

Skin contact
Skin irritation. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact
May cause temporary eye irritation. Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

4.3. Indication of any immediate medical attention and special treatment needed
Vertrel™ SDG SPECIALTY FLUID, BULK

Notes for the doctor
No specific recommendations. If in doubt, get medical attention promptly.

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
Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Fire creates: Carbonyl compounds. Chlorides.

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
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. No smoking, sparks, flames or other sources of ignition near spillage. Follow precautions for safe handling described in this safety data sheet. For personal protection, see Section 8.

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. For waste disposal, see section 13.

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.

7.2. Conditions for safe storage, including any incompatibilities
Vertrel™ SDG SPECIALTY FLUID, BULK

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-DICHLOROETHYLENE
Long-term exposure limit (8-hour TWA): ACGIH
Short-term exposure limit (15-minute): ACGIH 200 ppm

1,1,1,2,2,3,4,5,5,5-decafluoropentane
Long-term exposure limit (8-hour TWA): SUP 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.

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 an 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 at the end of each work shift and before eating, smoking and using the toilet.

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
Vertrel™ SDG SPECIALTY FLUID, BULK

Appearance Clear liquid.
Colour Colourless.
Odour Slight. Ether.
Odour threshold No information available.
pH No information available.
Melting point No information available.
Initial boiling point and range 43°C/109°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: 7.0 %(V) Upper flammable/explosive limit: 14 %(V)
Other flammability The product is not flammable.
Vapour pressure 51.7 kPa @ 25°C
Vapour density Not applicable.
Relative density No information available. 1.29 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 0.59 mPa s @ 25°C/77°F
Explosive properties No information available.
9.2. Other information
Refractive index No information available.
Particle size No information available.
Molecular weight Not applicable.
Volatileility 100%
Saturation concentration No information available.
Critical temperature No information available.
Volatile organic compound This product contains a maximum VOC content of 1150 g/litre.
UDF Phrase 1 The product is not flammable.

SECTION 10: Stability and reactivity

10.1. Reactivity
10.2. Chemical stability
Vertrel™ SDG SPECIALTY FLUID, BULK

Stability

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions
Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid
Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours.

10.5. Incompatible materials

Materials to avoid
Alkali metals. Alkaline earth metals. Powdered metal.

10.6. Hazardous decomposition products

Hazardous decomposition products
Heating may generate the following products: Toxic and corrosive gases or vapours. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon dioxide (CO2). Carbon monoxide (CO).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
ATE oral (mg/kg) 1,603.9

Inhalation
Vapours may irritate throat/respiratory system. A single exposure may cause the following adverse effects: Coughing. Difficulty in breathing.

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-DICHLOROETHYLENE

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

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,235.0
Species Rat
ATE oral (mg/kg) 1,235.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 5,000.0
Species Rabbit
ATE dermal (mg/kg) 5,000.0
Vertrel™ SDG SPECIALTY FLUID, BULK

### Acute toxicity - inhalation

<table>
<thead>
<tr>
<th>Species</th>
<th>ATE inhalation (vapours mg/l)</th>
<th>(LC₅₀ vapours mg/l)</th>
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<tbody>
<tr>
<td>Rat</td>
<td>24,100.0</td>
<td>24,100.0</td>
</tr>
</tbody>
</table>

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

### Acute toxicity - oral

<table>
<thead>
<tr>
<th>Species</th>
<th>ATE oral (mg/kg)</th>
<th>Acute toxicity oral (LD₅₀ mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>5,000.0</td>
<td>5,000.0</td>
</tr>
</tbody>
</table>

### Acute toxicity - dermal

<table>
<thead>
<tr>
<th>Species</th>
<th>ATE dermal (mg/kg)</th>
<th>Acute toxicity dermal (LD₅₀ mg/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>5,000.0</td>
<td>5,000.0</td>
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</table>

### Acute toxicity - inhalation

<table>
<thead>
<tr>
<th>Species</th>
<th>ATE inhalation (vapours mg/l)</th>
<th>(LC₅₀ vapours mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
<td>114.0</td>
<td>114.0</td>
</tr>
</tbody>
</table>

### 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

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

### Carcinogenicity
Vertrel™ SDG SPECIALTY FLUID, BULK

Carcinogenicity
- Does not contain any substances known to be carcinogenic.
IARC carcinogenicity
- Not listed.
Reproductive toxicity
- No evidence of reproductive toxicity in animal studies.
Reproductive toxicity - fertility
- 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-DICHLOROETHYLENE**

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

1. **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.

#### 12.1. Toxicity

#### Ecological information on ingredients.

**trans-DICHLOROETHYLENE**

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

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

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

**Acute toxicity - fish**
- LC₅₀, 96 hours: 13.9 mg/l, Onchorhynchus 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, Fish

#### 12.2. Persistence and degradability

**Persistence and degradability**
- No data available.

#### Ecological information on ingredients.

**trans-DICHLOROETHYLENE**
Vertrel™ SDG SPECIALTY FLUID, BULK

Persistence and degradability
No data available.

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

Persistence and degradability
The product is not expected to be biodegradable.

12.3. Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation.

Partition coefficient
No information available.

Ecological information on ingredients.

trans-DICHLOROETHYLENE

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

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

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

Partition coefficient
Pow: 2.7

12.4. Mobility in soil
Mobility
No data available.

Ecological information on ingredients.

trans-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
Refer to manufacturer/supplier for information on recovery/recycling. 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).
Vertrel™ SDG SPECIALTY FLUID, BULK

14.1. UN number
Not applicable.

14.2. UN proper shipping name
Not applicable.

14.3. Transport hazard class(es)
Transport labels
No transport warning sign required.

14.4. Packing group
Not applicable.

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.

SECTION 15: Regulatory information

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

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

SECTION 16: Other information

Revision comments
NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date
16/06/2017

Revision
20

Supersedes date
28/04/2017

SDS number
BULK - SDG

SDS status
Approved.

Hazard statements in full
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
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.