



## SAFETY DATA SHEET

### Vertrel™ SDG SPECIALTY FLUID, BULK

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

<b>Product name</b>	Vertrel™ SDG SPECIALTY FLUID, BULK
<b>Product number</b>	MCC-SDGRP, MCC-SDGRD, MCC-SDGRL, MCC-SDGRG, MCC-SDGRGL, MCC-SDGRGG, MCC-SDG0GG
<b>Synonyms; trade names</b>	SDG SPECIALTY FLUID

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

<b>Identified uses</b>	Cleaning agent.
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##### 1.3. Details of the supplier of the safety data sheet

<b>Supplier</b>	MICROCARE EUROPE BVBA VEKESTRAAT 29 B11 INDUSTRIEZONE 'T SAS 1910 KAMPENHOUT, Belgium Phone +32.2.251.95.05 Fax +32.2.400.96.39
<b>Manufacturer</b>	MICROCARE 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 techsupport@microcare.com

##### 1.4. Emergency telephone number

<b>Emergency telephone</b>	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)

<b>Physical hazards</b>	Not Classified
<b>Health hazards</b>	Acute Tox. 4 - H302
<b>Environmental hazards</b>	Aquatic Chronic 3 - H412
<b>Human health</b>	Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. Mild dermatitis, allergic skin rash.
<b>Environmental</b>	The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

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**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

<b>trans-DICHLOROETHYLENE</b>		<b>60-100%</b>
CAS number: 156-60-5	EC number: 205-860-2	REACH registration number: 05-2114285321-54-0000
<b>Classification</b>		
Flam. Liq. 2 - H225		
Acute Tox. 4 - H302		
Aquatic Chronic 3 - H412		

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<b>HEPTAFLUOROCYCLOPENTANE</b>	<b>10-30%</b>
CAS number: 15290-77-4	EC number: 430-710-1
<b>Classification</b> Aquatic Chronic 3 - H412	
<b>1,1,1,2,2,3,4,5,5,5-decafluoropentane</b>	<b>10-30%</b>
CAS number: 138495-42-8	EC number: 420-640-8
	REACH registration number: 01-2119446695-28-0000
<b>Classification</b> 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

<b>General information</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	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

<b>General information</b>	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.
<b>Inhalation</b>	May cause an asthma-like shortness of breath. Vapours may cause headache, fatigue, dizziness and nausea. Arrhythmia (deviation from normal heart beat).
<b>Ingestion</b>	Pulmonary oedema, frothy sputum.
<b>Skin contact</b>	Skin irritation. Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.
<b>Eye contact</b>	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

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**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

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<b>Storage precautions</b>	Store in tightly-closed, original container in a dry, cool and well-ventilated place.
<b>Storage class</b>	Unspecified storage. The product is not flammable.
<b>7.3. Specific end use(s)</b>	
<b>Specific end use(s)</b>	The identified uses for this product are detailed in Section 1.2.
<b>Reference to other sections.</b>	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 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

<b>Appearance</b>	Clear liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Slight. Ether.
<b>Odour threshold</b>	No information available.
<b>pH</b>	No information available.
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	43°C/109°F @ 101.3 kPa
<b>Flash point</b>	Does not flash Penskey-Martins Closed Cup (ASTM D 93)
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	Lower flammable/explosive limit: 7.0 %(V) Upper flammable/explosive limit: 14 %(V)
<b>Other flammability</b>	The product is not flammable.
<b>Vapour pressure</b>	51.7 kPa @ 25°C
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	No information available. 1.29 g/cm <sup>3</sup> @ 25°C/77°F
<b>Bulk density</b>	Not applicable.
<b>Solubility(ies)</b>	No information available.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	0.59 mPa s @ 25°C/77°F
<b>Explosive properties</b>	No information available.
<b><u>9.2. Other information</u></b>	
<b>Refractive index</b>	No information available.
<b>Particle size</b>	No information available.
<b>Molecular weight</b>	Not applicable.
<b>Volatility</b>	100%
<b>Saturation concentration</b>	No information available.
<b>Critical temperature</b>	No information available.
<b>Volatile organic compound</b>	This product contains a maximum VOC content of 1150 g/litre.
<b>UDF Phrase 1</b>	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 (CO<sub>2</sub>). 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 (LD<sub>50</sub> mg/kg)** 1,235.0

**Species** Rat

**ATE oral (mg/kg)** 1,235.0

#### Acute toxicity - dermal

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

**Species** Rabbit

**ATE dermal (mg/kg)** 5,000.0

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### Acute toxicity - inhalation

Acute toxicity inhalation (LC<sub>50</sub> vapours mg/l) 24,100.0

Species Rat

ATE inhalation (vapours mg/l) 24,100.0

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

### 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

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

<b>Carcinogenicity</b>	Does not contain any substances known to be carcinogenic.
<b>IARC carcinogenicity</b>	Not listed.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	No evidence of reproductive toxicity in animal studies.
<b>Skin contact</b>	Skin irritation should not occur when used as recommended. May cause defatting of the skin but is not an irritant.
<b>Eye contact</b>	May cause eye irritation.
<b>Acute and chronic health hazards</b>	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.

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

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

#### 12.1. Toxicity

##### Ecological information on ingredients.

##### trans-DICHLOROETHYLENE

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 1350 mg/l, Algae

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 220 mg/l, Daphnia magna

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

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 13.9 mg/l, Onchorhynchus mykiss (Rainbow trout)

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 48 hours: 11.7 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 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.

### 1,1,1,2,2,3,4,5,5,5-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.

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

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

**Partition coefficient** Pow: 2.7

### 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

### 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 Not applicable.

Annex II of MARPOL 73/78  
and the IBC Code

## 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.

## SECTION 16: Other information

<b>Revision comments</b>	NOTE: Lines within the margin indicate significant changes from the previous revision.
<b>Revision date</b>	16/06/2017
<b>Revision</b>	20
<b>Supersedes date</b>	28/04/2017
<b>SDS number</b>	BULK - SDG
<b>SDS status</b>	Approved.
<b>Hazard statements in full</b>	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.