SAFETY DATA SHEET
MicroCare HDS Heavy Duty Degreasing Solvent

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

1.1. Product identifier
Product name MicroCare HDS Heavy Duty Degreasing Solvent
Product number MCC-HDSL, MCC-HDSG, MCC-HDSP, MCC-HDSD, MCC-HDSGL, MCC-HDSGG
Synonyms; trade names MCC-HDSL (2.5 lb - 1 Liter); MCC-HDSG (10 lb - 1 Gallon Pail); MCC-HDSP (50 lb - 5 Gallon Pail); MCC-HDSD (500 lb - 55 Gallon Drum)

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

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.
Precautionary statements P273 Avoid release to the environment.
P501 Dispose of contents/container in accordance with national regulations.
MicroCare HDS Heavy Duty Degreasing Solvent

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

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>Substance</th>
<th>Concentration</th>
<th>CAS number</th>
<th>EC number</th>
<th>REACH registration number</th>
</tr>
</thead>
<tbody>
<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>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>1,1,1,3,3-PENTAFLUOROBUTANE</td>
<td>10-30%</td>
<td>406-58-6</td>
<td>430-250-1</td>
<td>01-0000017653-68-0000</td>
</tr>
</tbody>
</table>

Classification
Flam. Liq. 2 - H225
Acute Tox. 4 - H332
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

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.
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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.

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
MicroCare HDS Heavy Duty Degreasing Solvent

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. Avoid discharge to the aquatic environment.

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
trans-1,2-DICHLOROETHYLENE
Long-term exposure limit (8-hour TWA): ACGIH
Short-term exposure limit (15-minute): ACGIH 200 ppm

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

1,1,1,3,3-PENTAFLUOROBUTANE
Long-term exposure limit (8-hour TWA): 1000 ppm
ACGIH = American Conference of Governmental Industrial Hygienists.

Additional Occupational Exposure Limits

Ingredient comments
SUP = Supplier's recommendation.

8.2. Exposure controls
MicroCare HDS Heavy Duty Degreasing Solvent

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
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
37°C/99°F @ 101.3 kPa

Flash point
The product is not flammable.

Evaporation rate
0.87 (Butyl Acetate =1)

Evaporation factor
No information available.

Flammability (solid, gas)
Not applicable.

Upper/lower flammability or explosive limits
Lower flammable/explosive limit: 7.5 %(V) Upper flammable/explosive limit: 9.0 %(V)

Other flammability
The product is not flammable.

Vapour pressure
65 kPa @ 25°C

Vapour density
4.0
MicroCare HDS Heavy Duty Degreasing Solvent

Relative density  1.37
Bulk density     Not applicable.
Solubility(ies)  Slightly soluble in water.
Partition coefficient  No information available.
Auto-ignition temperature  No information available.
Viscosity        No information available.
Explosive properties  No information available.

9.2. Other information
Refractive index  No information available.
Particle size     No information available.
Molecular weight  No information available.
Viscosity         100%
Saturation concentration  No information available.
Critical temperature  No information available.
Volatile organic compound  This product contains a maximum VOC content of 590 g/l.

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.

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.
MicroCare HDS Heavy Duty Degreasing Solvent

**Acute toxicity - inhalation**

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

ATE inhalation (vapours mg/l)
22.0

**Skin corrosion/irritation**

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

**Serious eye damage/irritation**

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

**Respiratory sensitisation**

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

**Skin sensitisation**

Skin sensitisation
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**

Carcinogenicity
Based on available data the classification criteria are not met.

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.

Reproductive toxicity - development
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**

Aspiration hazard
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.

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

**Target organs**
No specific target organs known.

**Toxicological information on ingredients.**

trans-1,2-DICHLOROETHYLENE

**Other health effects**
There is no evidence that the product can cause cancer.
MicroCare HDS Heavy Duty Degreasing Solvent

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.

**Extreme pH**

Not applicable. Not corrosive to skin.

**Serious eye damage/irritation**

Serious eye damage/irritation Not irritating. Rabbit

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**

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.
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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.

1,1,1,3,3-PENTAFLUOROBUTANE

Acute toxicity - inhalation
Acute toxicity inhalation (LC₅₀ vapours mg/l) 100,000.0
ATE inhalation (vapours mg/l) 100,000.0

Specific target organ toxicity - single exposure
STOT - single exposure LOAEL 75100 ppm, Inhalation,

Specific target organ toxicity - repeated exposure
STOT - repeated exposure NOAEC 6 mg/l, Inhalation, Rat

Target organs Liver Kidneys

SECTION 12: Ecological Information

Ecological information on ingredients.

trans-1,2-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 daphnies.

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

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

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

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
MicroCare HDS Heavy Duty Degreasing Solvent

Acute toxicity - aquatic plants

EC₅₀, 72 hours: >120 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.

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.

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

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

14.1. UN number

Not applicable.

14.2. UN proper shipping name
MicroCare HDS Heavy Duty Degreasing Solvent

Not applicable.

14.3. Transport hazard class(es)
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

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.
MicroCare HDS Heavy Duty Degreasing Solvent

**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.

**Training advice**

Only trained personnel should use this material.

**Revision date**

12/09/2018

**Revision**

31

**Supersedes date**

26/06/2018

**SDS number**

BULK - HDS

**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.