



SAFETY DATA SHEET

CleanBlast™ HFE-based Cleaning Fluid

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

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

1.1. Product identifier

Product name CleanBlast™ HFE-based Cleaning Fluid

Product number FCLP-SOL1, FCLP-SOL1-6

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 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 Acute Tox. 4 - H332

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.

Physicochemical Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers. Not considered to be a significant hazard due to the small quantities used. Gas or vapour displaces oxygen available for breathing (asphyxiant).

CleanBlast™ HFE-based Cleaning Fluid

2.2. Label elements

Pictogram



Signal word

Warning

Hazard statements

H332 Harmful if inhaled.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing vapour/ spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a POISON CENTER/ doctor if you feel unwell.

P501 Dispose of contents/ container in accordance with national regulations.

Supplemental label information

EUH210 Safety data sheet available on request.

RCH001a For use in industrial installations only.

Contains

trans-DICHLOROETHYLENE

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

| | |
|-------------------------------|--|
| trans-DICHLOROETHYLENE | 60-100% |
| CAS number: 156-60-5 | EC number: 205-860-2 |
| | REACH registration number: 05-2114285321-54-0000 |

Classification

Flam. Liq. 2 - H225

Acute Tox. 4 - H332

Aquatic Chronic 3 - H412

ETHYL NONAFLUOROBUTYL ETHER

10-30%

CAS number: 163702-05-4

Classification

Not Classified

ETHYL NONAFLUOROISOBUTYL ETHER

10-30%

CAS number: 163702-06-5

EC number: 639-027-3

Classification

Not Classified

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| | | |
|---|----------------------|--|
| Methyl Nonafluorobutyl Ether | | 5-10% |
| CAS number: 163702-07-6 | EC number: 422-270-2 | |
| Classification Not Classified | | |
| Methyl Nonafluoroisobutyl Ether | | 5-10% |
| CAS number: 163702-08-7 | EC number: 422-270-2 | |
| Classification Not Classified | | |
| PROPAN-2-OL | | 1-5% |
| CAS number: 67-63-0 | EC number: 200-661-7 | REACH registration number: 05-2114285306-46-0000 |
| Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336 | | |

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

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

Composition

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|----------------------------|--|
| General information | Never give anything by mouth to an unconscious person. Do not induce vomiting. Place unconscious person on the side in the recovery position and ensure breathing can take place. If breathing stops, provide artificial respiration. Consult a physician for specific advice. |
| Inhalation | Remove affected person from source of contamination. 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. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Get medical attention. |
| Skin contact | Remove contaminated clothing and rinse skin thoroughly with water. |
| Eye contact | Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Consult a physician for specific advice. |

4.2. Most important symptoms and effects, both acute and delayed

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|----------------------------|---|
| General information | The severity of the symptoms described will vary dependent on the concentration and the length of exposure. |
| Inhalation | Vapours may cause headache, fatigue, dizziness and nausea. |

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| | |
|---------------------|---|
| Ingestion | May cause nausea, headache, dizziness and intoxication. May cause stomach pain or vomiting. |
| Skin contact | Prolonged or repeated contact with skin may cause irritation, redness and dermatitis. |
| Eye contact | Irritation and redness, followed by blurred vision. |

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. |
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SECTION 5: Firefighting measures

5.1. Extinguishing media

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| Suitable extinguishing media | The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire. |
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5.2. Special hazards arising from the substance or mixture

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| 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. Aerosol containers can explode when heated, due to excessive pressure build-up. |
|-------------------------|--|

5.3. Advice for firefighters

| | |
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| Protective actions during firefighting | Move containers from fire area if it can be done without risk. |
| Special protective equipment for firefighters | Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

| | |
|----------------------------------|---|
| Environmental precautions | Contain spillage with sand, earth or other suitable non-combustible material. Avoid release to the environment. |
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6.3. Methods and material for containment and cleaning up

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|--------------------------------|---|
| Methods for cleaning up | Provide adequate ventilation. Contain spillage with sand, earth or other suitable non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely. |
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6.4. Reference to other sections

| | |
|------------------------------------|---|
| Reference to other sections | For personal protection, see Section 8. For waste disposal, see section 13. |
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| Usage precautions | Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Keep away from heat, sparks and open flame. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Keep out of the reach of children. |
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store at room temperature.

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

Methyl Nonafluorobutyl Ether

Long-term exposure limit (8-hour TWA): 750 ppm

Methyl Nonafluoroisobutyl Ether

Long-term exposure limit (8-hour TWA): 750 ppm

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³
Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³
ACGIH = American Conference of Governmental Industrial Hygienists.
WEL = Workplace Exposure Limit

Additional Occupational Exposure Limits

Ingredient comments WEL = Workplace Exposure Limits ACGIH = US Standard.

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.

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

No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products. When using do not eat, drink or smoke.

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| 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 | Toxic and corrosive gases or vapours. |

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

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| Appearance | Clear liquid. |
| Colour | Colourless. |
| Odour | Slight. |
| Odour threshold | No information available. |
| pH | No information available. |
| Melting point | No information available. |
| Initial boiling point and range | 45°C/113°F @ unspecified |
| Flash point | Does not flash |
| Evaporation rate | No information available. |
| Evaporation factor | No information available. |
| Flammability (solid, gas) | No information available. |
| Upper/lower flammability or explosive limits | Upper flammable/explosive limit: 14.5 %(V) Lower flammable/explosive limit: 5.9 %(V) |
| Other flammability | No information available. |
| Vapour pressure | 48 kPa @ 25°C |
| Vapour density | 2.26 |
| Relative density | 1.27 @ unspecified°C |
| Bulk density | No information available. |
| Solubility(ies) | Slightly soluble in water. |
| Partition coefficient | No information available. |
| Auto-ignition temperature | 408°C/766.4°F |
| Decomposition Temperature | No information available. |
| Viscosity | 0.4 cP @ unspecified°C |
| Explosive properties | No information available. |

9.2. Other information

| | |
|---------------------------------|---------------------------|
| Refractive index | No information available. |
| Particle size | Not relevant. |
| Molecular weight | No information available. |
| Volatility | 100% |
| Saturation concentration | No information available. |
| Critical temperature | No information available. |

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Volatile organic compound This product contains a maximum VOC content of 889 g/l.

UDF Phrase 1 The product is not flammable.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

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

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

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 16.67

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.

Methyl Nonafluorobutyl Ether

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

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Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

ATE oral (mg/kg) 5,000.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 1,000.0

Species Rat

ATE inhalation (vapours mg/l) 1,000.0

Methyl Nonafluoroisobutyl Ether

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.0

Species Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 1,000.0

Species Rat

ATE inhalation (vapours mg/l) 1,000.0

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Carcinogenicity

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

NTP carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

SECTION 12: Ecological Information

Ecotoxicity There are no data on the ecotoxicity of this product.

Ecological information on ingredients.

trans-DICHLOROETHYLENE

Ecotoxicity Low acute toxicity to aquatic organisms.

Methyl Nonafluorobutyl Ether

Ecotoxicity There are no data on the ecotoxicity of this product.

Methyl Nonafluoroisobutyl Ether

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Ecotoxicity The product is not expected to be toxic to aquatic organisms.

12.1. Toxicity

Toxicity No data available.

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

Methyl Nonafluorobutyl Ether

Toxicity Not considered toxic to fish.

Methyl Nonafluoroisobutyl Ether

Toxicity Not considered toxic to fish.

PROPAN-2-OL

Acute toxicity - fish LC₅₀, 96 hours: 9,640 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 5102 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: >2,000 mg/l, Fish

12.2. Persistence and degradability

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

Ecological information on ingredients.

Methyl Nonafluorobutyl Ether

Persistence and degradability No data available.

Methyl Nonafluoroisobutyl Ether

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.

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Methyl Nonafluorobutyl Ether

Bioaccumulative potential No data available on bioaccumulation.

Methyl Nonafluoroisobutyl Ether

Bioaccumulative potential No data available on bioaccumulation.

PROPAN-2-OL

Partition coefficient : 0.05

12.4. Mobility in soil

Mobility The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces.

Ecological information on ingredients.

trans-DICHLOROETHYLENE

Mobility The product has poor water-solubility.

Methyl Nonafluorobutyl Ether

Mobility Not applicable.

Methyl Nonafluoroisobutyl Ether

Mobility Not applicable.

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.

12.6. Other adverse effects

Other adverse effects The product contains a substance which has a photochemical ozone creation potential.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Empty containers must not be punctured or incinerated because of the risk of an explosion. Aerosol containers can explode when heated, due to excessive pressure build-up. Reuse or recycle products wherever possible.

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

CleanBlast™ HFE-based Cleaning Fluid

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 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

National regulations

The Aerosol Dispensers Regulations 2009 (SI 2009 No. 2824).

EU legislation

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

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

US - TSCA

Yes

SECTION 16: Other information

Revision comments

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

Revision date

26/01/2018

Revision

37

Supersedes date

21/04/2017

SDS number

BULK - FCLP-SOL1

SDS status

Approved.

Hazard statements in full

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

CleanBlast™ HFE-based Cleaning Fluid

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.