



Muc-Off Helmet Care Kit

Product code: 615

Kit SDS: 06/07/2017

Version 1

Kit Label:

See components for details.

Transport Label:

Component 199: UN1950 AEROSOLS, 2.1

Component 219: Not restricted for transport.

Component 214: Not restricted for transport.



Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 20.09.2016

Version: 3

Revision: 20.09.2016

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

- **1.1 Product identifier**
- **Trade name:** Muc-Off Foam Fresh
- **Article number:** 199
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 SU21 Consumer uses: Private households / general public / consumers
 SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category** PC35 Washing and cleaning products (including solvent based products)
- **Process category**
 PROC7 Industrial spraying
 PROC11 Non industrial spraying
- **Application of the substance / the mixture** Surface cleaning
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 Muc-Off Ltd. 1st Floor, Unit 1, Concept Office
 Park, Innovation Close, Poole, Dorset
 BH12 4QT, UK
 Tel: +44 (0)1202 307790
 Fax: +44 (0)1202 746853
 E-mail: info@muc-off.com
- **Further information obtainable from:** Research & Development/E-mail: info@muc-off.com
- **1.4 Emergency telephone number:** During normal opening hours: Tel +44 (0)1202 307790

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
 The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
 H319 Causes serious eye irritation.
- **Precautionary statements**
 P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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- P251 Do not pierce or burn, even after use.
 P211 Do not spray on an open flame or other ignition source.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
 P403 Store in a well-ventilated place.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Active substance with propellant

- **Dangerous components:**

| | | |
|---|---|-----------|
| CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32 | butane (containing < 0.1% butadiene (203-450-8)) Flam. Gas 1, H220; Press. Gas C, H280 | 25-<50% |
| CAS: 67-63-0 EINECS: 200-661-7 Reg.nr.: 01-2119457558-25 | propan-2-ol Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336 | 2.5-<10% |
| CAS: 9002-92-0 | Laureth-8 Eye Dam. 1, H318; Aquatic Acute 1, H400 | 1.0-<2.5% |
| CAS: 64-17-5 EINECS: 200-578-6 Reg.nr.: 01-2119457610-43 | ethanol Flam. Liq. 2, H225; Eye Irrit. 2, H319 | 0.1-<1.0% |

- **Ingredients according to detergents guideline 648/2004/EC**

| | |
|--|-------|
| aliphatic hydrocarbons | ≥ 30% |
| non-ionic surfactants, anionic surfactants, perfumes, (R)-p-mentha-1,8-diene, Pinene, CITRAL | < 5% |

- **Additional information:**

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Water haze
Fire-extinguishing powder
Carbon dioxide
Alcohol resistant foam

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- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**
Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.
- **Information about storage in one common storage facility:**
Observe official regulations on storing packagings with pressurised containers.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Do not seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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· 8.1 Control parameters**· Ingredients with limit values that require monitoring at the workplace:****106-97-8 butane (containing < 0.1% butadiene (203-450-8))**

| | |
|-----|---|
| WEL | Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene) |
|-----|---|

67-63-0 propan-2-ol

| | |
|-----|--|
| WEL | Short-term value: 1250 mg/m ³ , 500 ppm Long-term value: 999 mg/m ³ , 400 ppm |
|-----|--|

64-17-5 ethanol

| | |
|-----|--|
| WEL | Long-term value: 1920 mg/m ³ , 1000 ppm |
|-----|--|

· DNELs**67-63-0 propan-2-ol**

| | | |
|------------|-------------------------|---------------------------------|
| Oral | DNEL Long term-systemic | 26 mg/kg bw/day (Consumer) |
| Dermal | DNEL Long term-systemic | 319 mg/kg bw/day (Consumer) |
| | | 888 mg/kg bw/day (Worker) |
| Inhalative | DNEL Long term-systemic | 89 mg/m ³ (Consumer) |
| | | 500 mg/m ³ (Worker) |

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls**· Personal protective equipment:**

· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Filter AX/P2

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A/P2

· Protection of hands:

Protective gloves

Solvent resistant gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.5 mm

· Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:

Safety glasses



Tightly sealed goggles

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· **Body protection:** Use protective suit. (EN-13034/6)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

| | |
|---------------------------|------------------------------------|
| · Form: | Aerosol |
| · Colour: | According to product specification |
| · Odour: | Characteristic |
| · Odour threshold: | Not determined. |

· **pH-value at 20 °C:** 9

· Change in condition

| | |
|---------------------------------------|---------------|
| · Melting point/Melting range: | Undetermined. |
| · Boiling point/Boiling range: | 0 °C |

· **Flash point:** -60 °C· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Explosion limits:

| | |
|-----------------|------------|
| · Lower: | 1.5 Vol % |
| · Upper: | 12.0 Vol % |

· **Vapour pressure at 20 °C:** 2100 hPa

| | |
|----------------------------|------------------------|
| · Density at 20 °C: | 0.81 g/cm ³ |
| · Relative density | Not determined. |
| · Vapour density | Not determined. |
| · Evaporation rate | Not applicable. |

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· **Partition coefficient (n-octanol/water):** Not determined.

· Viscosity:

| | |
|---------------------|-----------------|
| · Dynamic: | Not determined. |
| · Kinematic: | Not determined. |

· Solvent content:

| | |
|----------------------------|--------|
| · Organic solvents: | 35.2 % |
| · Water: | 62.2 % |

· **Solids content:** 0.9 %· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· 10.2 Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.· **10.3 Possibility of hazardous reactions** No dangerous reactions known.· **10.4 Conditions to avoid** No further relevant information available.· **10.5 Incompatible materials:** No further relevant information available.

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· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

67-63-0 propan-2-ol

| | | |
|------------|---------|-------------------------------|
| Oral | LD50 | 5840 mg/kg (rat) |
| Dermal | LD50 | 13900 mg/kg (rabbit) |
| Inhalative | LC50/6h | 25000 mg/m ³ (rat) |

9002-92-0 Laureth-8

| | | |
|------|------|------------------|
| Oral | LD50 | 8600 mg/kg (rat) |
|------|------|------------------|

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

67-63-0 propan-2-ol

| | |
|---------------|---------------------------------|
| LOEC (8 days) | 1000 mg/l (algae) |
| LC50/96h | 9640 mg/l (Pimephales promelas) |
| LC50 (24h) | 9714 mg/l (Daphnia magna) |

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**
 · **ADR, ADN, IMDG, IATA** UN1950

· **14.2 UN proper shipping name**
 · **ADR, ADN** UN1950 AEROSOLS
 · **IMDG** AEROSOLS
 · **IATA** AEROSOLS, flammable

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class** 2 5F Gases.
 · **Label** 2.1

· **ADN**
 · **ADN/R Class:** 2 5F

· **IMDG, IATA**



· **Class** 2.1
 · **Label** 2.1

· **14.4 Packing group**
 · **ADR, IMDG, IATA** Void

· **14.5 Environmental hazards:**
 · **Marine pollutant:** No

· **14.6 Special precautions for user** Warning: Gases.
 · **Danger code (Kemler):** -
 · **EMS Number:** F-D,S-U
 · **Stowage Code** SW1 Protected from sources of heat.
 SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.
 · **Segregation Code** SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

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· Transport/Additional information:
· ADR

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity
- **Transport category** 2
- **Tunnel restriction code** D

· IMDG

- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E0
Not permitted as Excepted Quantity

- **UN "Model Regulation":** UN 1950 AEROSOLS, 2.1

SECTION 15: Regulatory information
· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P3a** FLAMMABLE AEROSOLS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 150 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t

· National regulations:

| Class | Share in % |
|--------|------------|
| Wasser | 50-<75 |
| NK | 25-<50 |

- **VOC-CH** 35.18 %
- **VOC-EU** 285.1 g/l
- **Danish MAL Code** 4-3
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

- H220 Extremely flammable gas.
- H225 Highly flammable liquid and vapour.
- H280 Contains gas under pressure; may explode if heated.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H400 Very toxic to aquatic life.

· Abbreviations and acronyms:

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

MAL-Code: Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark)

DNEL: Derived No-Effect Level (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas 1: Flammable gases – Category 1

Aerosol 1: Aerosols – Category 1

Press. Gas C: Gases under pressure – Compressed gas

Flam. Liq. 2: Flammable liquids – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

GB



SAFETY DATA SHEET
Muc-Off Helmet & Visor Cleaner

Page: 1

Compilation date: 03/02/2015

Revision No: 1

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

1.1. Product identifier

Product name: Muc-Off Helmet & Visor Cleaner

Product code: 219

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

1.3. Details of the supplier of the safety data sheet

Company name:

Muc-Off Ltd.
Unit 1, 1st Floor, Concept Office Park,
Innovation Close,
BH12 4QT
United Kingdom

Tel: +44(0)1202 307790

Email: info@muc-off.com

1.4. Emergency telephone number

Emergency tel: +44(0)1202 307790
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: This product has no classification under CHIP.

Classification under CLP: This product has no classification under CLP.

2.2. Label elements

Label elements: This product has no label elements.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

[cont...]

SAFETY DATA SHEET

Muc-Off Helmet & Visor Cleaner

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Hazardous ingredients:

QUATERNARY AMMONIUM COMPOUNDS

| EINECS | CAS | CHIP Classification | CLP Classification | Percent |
|-----------|----------------|----------------------------|--|---------|
| 264-151-6 | 63449-41 -2 | Xn: R21/22; C: R34; N: R50 | Acute Tox. 4: H312; Acute Tox. 4: H302; Skin Corr. 1B: H314; Aquatic Acute 1: H400 | <1% |

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water.

Inhalation: Move to fresh air in case of accidental inhalation of vapours.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

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

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

[cont...]

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Muc-Off Helmet & Visor Cleaner

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6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Workplace exposure limits: No data available.

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Blue

Odour: Odourless

Evaporation rate: Slow

Oxidising: Not applicable.

Solubility in water: Highly soluble

Viscosity: Non-viscous

Boiling point/range°C: 100

Melting point/range°C: 0

Flammability limits %: lower: Not applicable.

upper: Not applicable.

Flash point°C: Not applicable.

Part.coeff. n-octanol/water: No data available.

Autoflammability°C: Not applicable.

Vapour pressure: No data available.

Relative density: 1.00

[cont...]

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Muc-Off Helmet & Visor Cleaner

Page: 4
pH: Approx. 7

VOC g/l: Not applicable.

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

QUATERNARY AMMONIUM COMPOUNDS

| | | | | |
|--------|-----|------|------|-------|
| DERMAL | RAT | LD50 | 1560 | mg/kg |
| ORAL | RAT | LD50 | 795 | mg/kg |

Toxicity values: No data available.

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Section 12: Ecological information

[cont...]

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12.1. Toxicity

Hazardous ingredients:

QUATERNARY AMMONIUM COMPOUNDS

| | | | |
|--|-----------|------|------|
| DAPHNIA | 48H EC50 | 0.03 | mg/l |
| GREEN ALGA (Selenastrum capricornutum) | 96H ErC50 | 0.06 | mg/l |
| RAINBOW TROUT (Oncorhynchus mykiss) | 96H LC50 | 1.7 | mg/l |

12.2. Persistence and degradability

Persistence and degradability: The surfactant(s) contained in this preparation complies (comply) with the Biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents, (or are undergoing testing to obtain a derogation within the terms of the directive). Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a manufacturer.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

Section 13: Disposal considerations

13.1. Waste treatment methods

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

Section 16: Other information

[cont...]

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Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and s.3: H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.

H400: Very toxic to aquatic life.

R21/22: Harmful in contact with skin and if swallowed.

R34: Causes burns.

R50: Very toxic to aquatic organisms.

Legend to abbreviations: PNEC = predicted no effect concentration

DNEL = derived no effect level

LD50 = median lethal dose

LC50 = median lethal concentration

EC50 = median effective concentration

IC50 = median inhibitory concentration

dw = dry weight

bw = body weight

cc = closed cup

oc = open cup

MUS = mouse

GPG = guinea pig

RBT = rabbit

HAM = hamster

HMN = human

MAM = mammal

PGN = pigeon

IVN = intravenous

SCU = subcutaneous

SKN = skin

DRM = dermal

OCC = ocular/corneal

OPT = optical

INH = inhalation

PCP = physico-chemical properties

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.



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

1.1. Product identifier Muc-Off Premium Anti-Fog Treatment (214)

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

1.3. Details of the supplier of the safety data sheet

Company Name: Muc-Off Ltd
1st Floor, Unit 1, Concept Office Park, Innovation Close, Poole,
Dorset,
BH12 4QT

Tel: +44 (0)1202 307790

Fax: +44(0)1202 746853

1.4. Emergency telephone number: +44 (0)1202 307790

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

This mixture is not classified as hazardous according to Regulation (EC) No. 1272/2008.

2.2. Label elements

Precautionary statements

P102 Keep out of reach of children.
P210 Keep away from heat. No Smoking.

Special labelling of certain mixtures

EUH210 Safety data sheet available on request.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Cleaning product, contains water, alcohols, surfactants and colourings

Hazardous components

| EC No | Chemical name | Quantity |
|--------------|---|----------|
| CAS No | Classification according to Directive 67/548/EEC | 1 - 5 % |
| Index No | Classification according to Regulation (EC) No. 1272/2008 [CLP] | |
| REACH No | | |
| 200-661-7 | Isopropanol | |
| 67-63-0 | F - Highly flammable, Xi - Irritant R11-36-67 | |
| 603-117-00-0 | Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 | |

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove soiled clothing.

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After inhalation

Upon irritation of the respiratory tract or mucous membranes (e.g. coughing), indisposition or prolonged exposure, consult a doctor.

After contact with skin

Wash contaminated skin areas thoroughly with soap and water.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids.

After ingestion

Clean mouth with water and drink plenty of water afterwards. - If you feel unwell, seek medical advice (show the label where possible).

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

No information available.

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

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide (CO₂), chemical fire extinguisher, water spray mist

Unsuitable extinguishing media

Extinguishing media which must not be used for safety reasons: High volume water jet.

5.2. Special hazards arising from the substance or mixture

Large quantities: Vapours may form explosive mixture with air. Do not breathe in the vapours and combustion gases. Vapours are heavier than air and spread at the soil. Pay attention to flashback.

5.3. Advice for firefighters

Large quantities: In the event of fire, wear self-contained breathing apparatus.

Additional information

Water mist may be used to cool closed containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes.
Slipping hazard due to leakage.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

6.3. Methods and material for containment and cleaning up

Large quantities: Soak up with inert absorbent material. Dispose of the material collected according to regulations.

6.4. Reference to other sections

Refer to safety instructions (see sections 7 and 8).
Suitable protective equipment: See section 8.
Dispose of as described in section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

No special action required if used correctly. Do not empty container with pressure, it is not a pressurised container.

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Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store sealed in the original container. Store in cool place.

Further information on storage conditions

Protect from heat and direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|---------|-------------|-----|-------------------|-----------|---------------|--------|
| 67-63-0 | Propan-2-ol | 400 | 999 | | TWA (8 h) | WEL |
| | | 500 | 1250 | | STEL (15 min) | WEL |

8.2. Exposure controls

Protective and hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

Eye/face protection

Not required. In case of risk of splashing, wear protective glasses.

Hand protection

No special measures are necessary when normal, good hygiene is practised.
In the case of lengthy skin contact. Protective gloves made out of: PVC

Skin protection

Not required.

Respiratory protection

Not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: liquid
Colour: yellowish-orange

Test method

pH-Value: approx. 7.5

Changes in the physical state

Flash point: > 90 °C

Vapour pressure: <0.02 hPa
(at 20 °C)

Density: 1.01 g/cm³

Water solubility: completely miscible

Viscosity / kinematic: 4.1 mm²/s

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

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10.2. Chemical stability

Stable at normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No decomposition if used as directed.

10.5. Incompatible materials

No dangerous reactions are known.

10.6. Hazardous decomposition products

No dangerous decomposition products known.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicokinetics, metabolism and distribution

No data is available on the product itself.

Acute toxicity

| CAS No | Chemical name | Exposure routes | Method | Dose | Species | Source |
|---------|---------------|-------------------------|--------|-------------|---------|--------|
| 67-63-0 | Isopropanol | | | | | |
| | | oral | LD50 | 4710 mg/kg | rats | |
| | | dermal | LD50 | 12800 mg/kg | rats | |
| | | inhalative (4 h) vapour | LC50 | 72.6 mg/l | rats | |

Irritation and corrosivity

Contact with eyes may result in irritation.

SECTION 12: Ecological information

12.1. Toxicity

No data is available on the product itself.

| CAS No | Chemical name | Aquatic toxicity | Method | Dose | [h] [d] | Species | Source |
|---------|---------------|--------------------------|--------|-------------|-----------|-------------------------|--------|
| 67-63-0 | Isopropanol | | | | | | |
| | | Acute fish toxicity | LC50 | 1400 mg/l | 96 h | Lepomis macrochirus | |
| | | Acute algae toxicity | ErC50 | > 1000 mg/l | 72 h | Desmodesmus subspicatus | |
| | | Acute crustacea toxicity | EC50 | 13299 mg/l | 48 h | Daphnia magna | |

12.2. Persistence and degradability

No data is available on the product itself.

The surface active substances of the product correspond to the requirements of the EC Detergent Regulation (EC/648/2004) concerning ultimate aerobic biodegradation of tensides for washing and cleaning agents.

12.3. Bioaccumulative potential

No data is available on the product itself.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|---------|---------------|---------|
| 67-63-0 | Isopropanol | 0.05 |

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12.4. Mobility in soil

No data is available on the product itself.

12.5. Results of PBT and vPvB assessment

No data is available on the product itself.

12.6. Other adverse effects

No data is available on the product itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Disposal in accordance with the official regulations. Product can be supplied in accordance with local authority requirements a biological treatment plant.

Waste disposal number of waste from residues/unused products

070601 WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of fats, grease, soaps, detergents, disinfectants and cosmetics; aqueous washing liquids and mother liquors
Classified as hazardous waste.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: not regulated

14.2. UN proper shipping name: not regulated

14.3. Transport hazard class(es): not regulated

14.4. Packing group: not regulated

Other applicable information (land transport)

Not classified as dangerous regarding transport regulations.

Inland waterways transport (ADN)

14.1. UN number: not regulated

14.2. UN proper shipping name: not regulated

14.3. Transport hazard class(es): not regulated

14.4. Packing group: not regulated

Marine transport (IMDG)

14.1. UN number: not regulated

14.2. UN proper shipping name: not regulated

14.3. Transport hazard class(es): not regulated

Other applicable information (marine transport)

Not classified as dangerous regarding transport regulations.

Air transport (ICAO)

14.1. UN number: not restricted

14.2. UN proper shipping name: not restricted

14.3. Transport hazard class(es): not restricted

Other applicable information (air transport)

Not classified as dangerous regarding transport regulations.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

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14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL73/78 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 regulatory information

2004/42/EC (VOC): < = 5%

Additional information

No Substances of Very High Concern (SVHC) according REACH Article 57.

National regulatory information

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Relevant R-phrases (Number and full text)

- | | |
|----|---|
| 11 | Highly flammable. |
| 36 | Irritating to eyes. |
| 67 | Vapours may cause drowsiness and dizziness. |

Relevant H- and EUH-phrases (Number and full text)

- | | |
|--------|---|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| EUH210 | Safety data sheet available on request. |