



# [ MATERIAL SAFETY DATA SHEET ]

Printing date 30.08.2013

Revision: 30.08.2013

## 1 Identification of the substance/preparation and of the company/undertaking

### Product details

**Trade name:** Muc-Off Silicon Shine 500ml

**Article number:** 227

**Application of the substance / the preparation** Lubricant / detailer

### Manufacturer/Supplier:

Muc-Off Ltd  
1st Floor, Unit 1,  
Concept Office Park, Innovation Close,  
Poole, Dorset, BH12 4QT, UK  
Tel: +44 (0)1202 307790

**Further information obtainable from:** ag@muc-off.com

### Information in case of emergency:

During normal opening times: 8.30am - 5.30pm Monday to Friday:  
Tel: +44 (0)1202 307790

## 2 Hazards identification

### Hazard description:



Xi Irritant  
F+ Extremely flammable  
N Dangerous for the environment

### Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Warning! Pressurized container.

Has a narcotizing effect.

R 12 Extremely flammable.

R 38 Irritating to skin.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 67 Vapours may cause drowsiness and dizziness.

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

Buildup of explosive mixtures possible without sufficient ventilation.

### Classification system:

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

### GHS label elements



**Danger**

2.2/1 - Extremely flammable gas.

2.3/1 - Extremely flammable aerosol.



**Warning**

3.2/2 - Causes skin irritation.

3.8/3 - May cause drowsiness or dizziness.



4.1/2 - Toxic to aquatic life with long lasting effects.

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**Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 Do not spray on an open flame or other ignition source.  
 Pressurized container: Do not pierce or burn, even after use.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Wash thoroughly after handling.  
 Use only outdoors or in a well-ventilated area.  
 Avoid release to the environment.  
 Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.  
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
 Call a POISON CENTER or doctor/physician if you feel unwell.  
 Specific treatment (see label).  
 If skin irritation occurs: Get medical advice/attention.  
 Take off contaminated clothing and wash before reuse.  
 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
 Eliminate all ignition sources if safe to do so.  
 Collect spillage.

**Storage:**

Store in a well-ventilated place.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

### 3 Composition/information on ingredients

**Chemical characterization**

**Description:** Active substance with propellant

**Dangerous components:**

CAS: 142-82-5 EINECS: 205-563-8	heptane Xn, Xi, F, N; R 11-38-51/53-65-67	
CAS: 106-97-8 EINECS: 203-448-7	butane F+; R 12	
CAS: 74-98-6 EINECS: 200-827-9	propane F+; R 12	
CAS: 108-87-2 EINECS: 203-624-3	methylcyclohexane Xn, Xi, F, N; R 11-38-51/53-65-67	

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CAS: 110-82-7 EINECS: 203-806-2	cyclohexane Xn, Xi, F, N; R 11-38-50/53-65-67	
CAS: 111-65-9 EINECS: 203-892-1	octane Xn, Xi, F, N; R 11-38-51/53-65-67	
CAS: 110-54-3 EINECS: 203-777-6	n-hexane Xn, Xi, F, N; R 11-38-48/20-62-51/53-65-67	
CAS: 73513-42-5	Hexane, mixture of isomers (containing less than 5% n-hexane EEC no 203-777-6) Xn, Xi, F, N; R 11-38-51/53-65-67	

#### 4 First-aid measures

**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.  
**After skin contact:** Immediately wash with water and soap and rinse thoroughly.  
**After eye contact:** Rinse opened eye for several minutes under running water.  
**After swallowing:** Do not induce vomiting; call for medical help immediately.

#### 5 Fire-fighting measures

**Suitable extinguishing agents:**  
 Water haze  
 Fire-extinguishing powder  
 Carbon dioxide  
 Alcohol resistant foam  
**For safety reasons unsuitable extinguishing agents:** Water with full jet  
**Protective equipment:**  
 No special measures required.  
 Mount respiratory protective device.

#### 6 Accidental release measures

**Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.  
**Measures for environmental protection:**  
 Inform respective authorities in case of seepage into water course or sewage system.  
 Do not allow to enter sewers/ surface or ground water.  
**Measures for cleaning/collecting:** Ensure adequate ventilation.

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### 7 Handling and storage

**Handling:****Information 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.

Pressurized 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.

**Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Observe official regulations on storing packagings with pressurized containers.

**Information about storage in one common storage facility:**

Observe official regulations on storing packagings with pressurized 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.

### 8 Exposure controls/personal protection

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

**Ingredients with limit values that require monitoring at the workplace:****142-82-5 heptane**

WEL	Long-term value: 500 ppm
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**106-97-8 butane**

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

**74-98-6 propane**

WEL	Short-term value: 3600 mg/m <sup>3</sup> , 2000 ppm
	Long-term value: 1800 mg/m <sup>3</sup> , 1000 ppm

**110-82-7 cyclohexane**

WEL	Short-term value: 1050 mg/m <sup>3</sup> , 300 ppm
	Long-term value: 350 mg/m <sup>3</sup> , 100 ppm

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

**Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

**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.

Use suitable respiratory protective device in case of insufficient ventilation.

Filter AX/P2

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**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** Nitrile rubber, NBR**Penetration time of glove material**

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

**Eye protection:**

Tightly sealed goggles

**Body protection:** Use protective suit.

### 9 Physical and chemical properties

**General Information**

<b>Form:</b>	Liquid
<b>Colour:</b>	According to product specification
<b>Odour:</b>	Characteristic

**Change in condition****Melting point/Melting range:** Undetermined.**Boiling point/Boiling range:** -44°C**Flash point:** -97°C**Ignition temperature:** 215°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:**

<b>Lower:</b>	1.1 Vol %
<b>Upper:</b>	10.9 Vol %

**Vapour pressure at 20°C:** 8300 hPa**Density at 20°C:** 0.659 g/cm**Solubility in / Miscibility with water:** Not miscible or difficult to mix.**Solvent content:****Organic solvents:** 88.0 %**Solids content:** 12.0 %

### 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**Dangerous reactions** No dangerous reactions known.

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**Dangerous decomposition products:** No dangerous decomposition products known.

#### 11 Toxicological information

**Acute toxicity:**

**LD/LC50 values relevant for classification:**

**110-82-7 cyclohexane**

Oral	LD50	12705 mg/kg
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**Primary irritant effect:**

**on the skin:** Irritant to skin and mucous membranes.

**on the eye:** No irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

#### 12 Ecological information

**Ecotoxicological effects:**

**Aquatic toxicity:**

**142-82-5 heptane**

EC50/24h	>10 mg/l (Daphnia magna)
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LC50(48h)	4924 mg/l (Fish)
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**108-87-2 methylcyclohexane**

LC50(48h)	5 mg/l (Fish)
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**Remark:** Toxic for fish

**General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

#### 13 Disposal considerations

**Product:**

**Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Uncleaned packaging:**

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

#### 14 Transport information

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** 2 5F Gases.

**Danger code (Kemler):** -

**UN-Number:** 1950

**Packaging group:** -

**Hazard label** 2.1

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**Description of goods:** 1950 AEROSOLS  
**Limited quantities (LQ)** LQ2  
**Transport category** 2  
**Tunnel restriction code** B1D

**Maritime transport IMDG:**

**IMDG Class:** 2.1  
**UN Number:** 1950  
**Label** 2.1  
**Packaging group:** -  
**EMS Number:** F-D,S-U  
**Marine pollutant:** No  
**Proper shipping name:** AEROSOLS

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** 2.1  
**UN/ID Number:** 1950  
**Label** 2.1  
**Packaging group:** -  
**Proper shipping name:** AEROSOLS, flammable

UN "Model Regulation": UN1950; AEROSOLS; 2.1; -

### 15 Regulatory information

**Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

**Code letter and hazard designation of product:**

Xi Irritant  
 F+ Extremely flammable  
 N Dangerous for the environment

**Risk phrases:**

12 Extremely flammable.  
 38 Irritating to skin.  
 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 67 Vapours may cause drowsiness and dizziness.

**Safety phrases:**

2 Keep out of the reach of children.  
 23 Do not breathe aerosol.  
 46 If swallowed, seek medical advice immediately and show this container or label.  
 51 Use only in well-ventilated areas.

**Special labelling of certain preparations:**

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.  
 Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.  
 Buildup of explosive mixtures possible without sufficient ventilation.

**National regulations:****Technical instructions (air):**

Class	Share in %
I	0,1-<1,0
NK	50-100

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**Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

**VOC-CH** 88.00 %

**VOC-EU** 579.9 g/l

**Danish MAL Code** 3-3

#### 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 R-phrases

- 11 Highly flammable.
- 12 Extremely flammable.
- 38 Irritating to skin.
- 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 62 Possible risk of impaired fertility.
- 65 Harmful: may cause lung damage if swallowed.
- 67 Vapours may cause drowsiness and dizziness.

**Department issuing MSDS:** Research & Development

**Contact:** Ing. J.H.Sleumer

##### Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement internationale concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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