

## Safety Data Sheet according to HPR, Schedule 1

Printing date 08/08/2023

Reviewed on 08/08/2023

### 1 Identification

- **Product identifier**
- **Trade name:** Muc-Off Silicon Shine
- **Article number:** 227, 227CA, 227CEE, 277ES, 227FR, 227FR/RC, 399, 227US
- **Application of the substance / the mixture** Grease
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Muc-Off Ltd  
UK - Muc-Off Ltd, Unit 23 Branksome Business Park, Bourne Valley Road, Poole, Dorset, BH12 1DW  
EU- Muc-Off Ltd, Unit 3D North Point House, North Point Business Park, New Mallow Road, Cork, Ireland, T23 AT2P  
Tel: +44(0)1202 307790 Email: info@muc-off.com
- **Information department:** Research & Development/E-mail: info@muc-off.com
- **Emergency telephone number:** Health Canada toll-free number, 1-844 POISON-X, or 1-844-764-7669

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Aerosols - Category 1

 H222-H229 Extremely flammable aerosol.  
Pressurized container: may burst if heated.


GHS08 Health hazard

Aspiration Hazard - Category 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

 Specific Target Organ Toxicity - Single Exposure -  
Category 3

H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes max. 5% n-hexanes

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Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic (&lt; 0.1% benzene)

propan-2-ol

Ethyl methylphenylglycidate

**· Hazard statements**

H222-H229 Extremely flammable aerosol.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

**· 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.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P260 Do not breathe mist/vapours/spray.

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

P280 Wear protective gloves / eye protection.

P302+P352 If on skin: Wash with plenty of soap and water.

P304+P341 If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P403 Store in a well-ventilated place.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

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

### 3 Composition/Information on ingredients

**· Chemical characterization: Mixtures**
**· Description:** Active substance with propellant

**· Dangerous components:**

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	25-<50% w/w *
	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes max. 5% n-hexanes	10-<25% w/w *
74-98-6	propane	10-<25% w/w *
67-63-0	propan-2-ol	2.5-<10% w/w *
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	2.5-<10% w/w *
	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic (< 0.1% benzene)	2.5-<10% w/w *

\* Actual concentration ranges are withheld as a trade secret.

### 4 First-aid measures

**· 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; immediately call for medical help.

**· Information for doctor:**
**· Most important symptoms and effects, both acute and delayed** No further relevant information available.

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- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
  - Water haze
  - Fire-extinguishing powder
  - Carbon dioxide
  - Alcohol resistant foam
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **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.
- **Methods and material for containment and cleaning up:**
  - Ensure adequate ventilation.
  - Do not flush with water or aqueous cleansing agents
- **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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**
  - Do not spray on 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.
- **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 pressurized containers.
- **Information about storage in one common storage facility:**
  - Observe official regulations on storing packagings with pressurized containers.
- **Further information about storage conditions:**
  - Store in cool, dry conditions in well sealed receptacles.
  - Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

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### 8 Exposure controls/ Personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

#### 106-97-8 butane (containing < 0.1% butadiene (203-450-8), Note K)

EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18

#### 74-98-6 propane

EL	Simple asphyxiant; EX
EV	TWA: 1,000 ppm revoked as of 01/01/18

#### 67-63-0 propan-2-ol

EL	STEL: 400 ppm TWA: 200 ppm
EV	STEL: 400 ppm TWA: 200 ppm

#### 75-28-5 isobutane (containing < 0,1 % butadiene (203-450-8), Note K)

EL	STEL: 1000 ppm EX
EV	TWA: 800 ppm revoked as of 01/01/18

· **Additional Occupational Exposure Limit Values for possible hazards during processing:**

#### 110-54-3 n-hexane

EL	TWA: 20 ppm Skin
EV	TWA: 176 mg/m <sup>3</sup> , 50 ppm

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

General ventilation

· **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter A2/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:  $\geq 0.5$  mm

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- **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

- **Body protection:**

Use protective suit.

Fully skin-covering antistatic, chemical- and oil-resistant clothing and safety shoes are recommended. (EN1149; EN340&EN ISO 13688; EN13034-6).

- **Limitation and supervision of exposure into the environment**

Use an appropriate container to prevent environmental contamination.

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

· <b>Color:</b>	Clear
· <b>Odor:</b>	Fruit-like
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Mixture is non-polar/aprotic.
· <b>Melting point/Melting range:</b>	Undetermined.
· <b>Boiling point/Boiling range:</b>	-44.5 °C
· <b>Flash point:</b>	-97 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Auto igniting:</b>	>200 °C
· <b>Ignition temperature:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	0.8 Vol %
· <b>Upper:</b>	12 Vol %
· <b>Vapor pressure at 20 °C:</b>	8300 hPa
· <b>Vapor pressure at 30 °C:</b>	10800 hPa
· <b>Density at 20 °C:</b>	0.7 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.
· <b>Organic solvents:</b>	89.5 %

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Solids content: 0.0 %

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes max. 5% n-hexanes

Oral	LD50	>2000 mg/kg (Rat)
Dermal	LD50	>2000 mg/kg (Rat)
Inhalative	LC50 (4h)	20 mg/l (Rat)

#### 67-63-0 propan-2-ol

Oral	LD50	5840 mg/kg (Rat) (Acute Oral Toxicity)
Dermal	LD50	13900 mg/kg (Rabbit) (Acute Dermal Toxicity)
Inhalative	LC50 (4h)	>25 mg/l (Rat)
	LC50	>25 mg/L (Rat) (Acute Inhalation Toxicity)

#### Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic (< 0.1% benzene)

Oral	LD50	>5000 mg/kg (Rat)
	LD50	>8 ml/kg (Rat)
Dermal	LD50	>3100 mg/kg (Rat)
Inhalative	LC50 (4h)	>23.3 mg/l (Rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

67-63-0	propan-2-ol	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes max. 5% n-hexanes**

NOELR (21d)	1 mg/l (Daphnia magna)
NOELR (28d)	2.04 mg/l (Oncorhynchus mykiss)
EL50 (48h)	3 mg/l (Daphnia magna)
LL50 (96h)	11.4 mg/l (Oncorhynchus mykiss)

**67-63-0 propan-2-ol**

EC50	>100 mg/l (Bacteria)
LOEC (8 days)	1000 mg/l (algae)
LC50 (96h)	9640 mg/l (Pimephales promelas)
LC50 (24h)	9714 mg/l (Daphnia magna)

**Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic (< 0.1% benzene)**

NOELR (72h)	10 mg/l (Pseudokirchneriella subcapitata)
EL50 (48h)	3 mg/l (Daphnia magna)
EL50 (72h)	10-30 mg/l (Pseudokirchneriella subcapitata)
LL50 (96h)	>13.4 mg/l (Oncorhynchus mykiss)
NOEC (21 days)	0.17 mg/l (Daphnia magna)
LOEC (21 days)	0.32 mg/l (Daphnia magna)

- **Persistence and degradability** Not easily biodegradable
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 2 (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.
  - Harmful to aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
  - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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### 14 Transport information

· UN-Number	
· DOT/TDG, ADR, ADN, IMDG, IATA	UN1950
· UN proper shipping name	
· DOT/TDG	Aerosols, flammable
· ADR, ADN	UN1950 Aerosols
· IMDG	AEROSOLS
· IATA	AEROSOLS, flammable
· Transport hazard class(es)	
· DOT/TDG (Transport dangerous goods):	
	
· Class	2.1 Gases
· Label	2.1
· ADR	
	
· Class	2.5F Gases
· Label	2.1
· ADN	
· ADN/R Class:	2.5F
· IMDG, IATA	
	
· Class	2.1 Gases
· Label	2.1
· Packing group	
· DOT/TDG, ADR, IMDG, IATA	Void
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Gases
· Hazard identification number (Kemler code):	-
· 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.

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- |  |  |
|--|--|
| <b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                |
| <b>· Transport/Additional information:</b>                                       |  |
| <b>· ADR</b>   |  |
| <b>· Excepted quantities (EQ)</b>  | Code: E0<br>Not permitted as Excepted Quantity |
| <b>· IMDG</b>  |  |
| <b>· Limited quantities (LQ)</b>   | 1L   |
| <b>· Excepted quantities (EQ)</b>  | Code: E0<br>Not permitted as Excepted Quantity |
| <b>· UN "Model Regulation":</b>  | UN 1950 AEROSOLS, 2.1                          |

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

#### · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

#### · Section 313 (Specific toxic chemical listings):

67-63-0 | propan-2-ol

#### · TSCA (Toxic Substances Control Act):

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	ACTIVE
	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cycloalkanes max. 5% n-hexanes	*
74-98-6	propane	ACTIVE
63148-62-9	Polydimethylsiloxane	ACTIVE
67-63-0	propan-2-ol	ACTIVE
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	ACTIVE

#### · MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

#### · CANADIAN SUSTANCE LISTINGS

##### · CANADIAN DOMESTIC SUSTANCES LIST (DSL)

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)
74-98-6	propane
63148-62-9	Polydimethylsiloxane
67-63-0	propan-2-ol
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)
	Hydrocarbons, C7-C9, n-alkanes, iso-alkanes, cyclic (< 0.1% benzene)
77-83-8	Ethyl methylphenylglycidate
105-54-4	ethyl butyrate
134-20-3	methyl anthranilate
4940-11-8	Ethyl maltol
55066-48-3	3-Methyl-5-phenylpentanol
103-26-4	methyl cinnamate

##### · CANADIAN DISCLOSURE LIST (0.1%)

None of the ingredients is listed.

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**· CANADIAN DISCLOSURE LIST (1%)**

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)
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67-63-0	propan-2-ol
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**· National regulations:**
**· Disturbance regulations:**

Class	Share in %
NK	75-<100

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**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.

**· Classification according to Regulation (EC) No 1272/2008**

Fysiske og kjemiske egenskaper: Klassifiseringen er basert på resultatene av blandingene som er testet.  
Helsefarer, Miljøfarer: Metoden for klassifisering av blandinger basert på blandingens bestanddeler (sumformel).

**· Contact:** info@muc-off.com

**· Date of the latest revision of the safety data sheet 08/08/2023**
**· Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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