

Printing date 01/20/2017

Reviewed on 01/02/2021

1 Identification

- **Product identifier**
- **Trade name:** Muc-Off Off-Road Lube
- **Article number:** 20452US
- **Application of the substance / the mixture** Lubricant
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Muc-Off Ltd
23 Branksome Business Park
Branksome Poole, Dorset, BH12 1DW
Tel: +44 (0) 1202 307790
Fax: +44 (0) 1202 746853
E-mail: info@muc-off.com
- **Information department:** Research & Development/E-mail: info@muc-off.com
- **Emergency telephone number:** during normal opening hours: CHEMTREC: 1-800-424-9300
24HR

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

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



GHS08 Health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

STOT SE 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:**

Pentane

Distillates (petroleum), hydrotreated heavy paraffinic benzene < 0.1%

- **Hazard statements**

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

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

- **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P251 Do not pierce or burn, even after use.

P260 Do not breathe spray.

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

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 1)

- P280 Wear protective gloves / eye protection.
 P273 Avoid release to the environment.
 P271 Use only outdoors or in a well-ventilated area.
 P301+P310 IF SWALLOWED: Immediately call a doctor.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P331 Do NOT induce vomiting.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
 P403 Store in a well-ventilated place.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 0
 Fire = 4
 Reactivity = 3

· **WHMIS-ratings (scale 0 - 4)**

Health = 0
 Fire = 4
 Reactivity = 3

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

3 Composition/information on ingredients

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

CAS: 109-66-0 Reg.nr.: 01-2119459286-30	Pentane	25-<50%
CAS: 106-97-8 Reg.nr.: 01-2119474691-32	butane (containing < 0.1% butadiene (203-450-8))	10-<25%
CAS: 64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic benzene < 0.1%	10-<25%
CAS: 74-98-6 Reg.nr.: 01-2119486944-21	propane	10-<25%

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.· **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.· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

US

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 2)

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.
- **Protective Action Criteria for Chemicals**

· PAC-1:

109-66-0	Pentane	3000* ppm
106-97-8	butane (containing < 0.1% butadiene (203-450-8))	5500* ppm
74-98-6	propane	5500* ppm
1303-86-2	diboron trioxide	30 mg/m3

· PAC-2:

109-66-0	Pentane	33000*** ppm
106-97-8	butane (containing < 0.1% butadiene (203-450-8))	17000** ppm
74-98-6	propane	17000** ppm
1303-86-2	diboron trioxide	100 mg/m3

· PAC-3:

109-66-0	Pentane	200000*** ppm
106-97-8	butane (containing < 0.1% butadiene (203-450-8))	53000*** ppm
74-98-6	propane	33000*** ppm
1303-86-2	diboron trioxide	620 mg/m3

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - Open and handle receptacle with care.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 3)

- **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:**
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

109-66-0 Pentane

PEL	Long-term value: 2950 mg/m ³ , 1000 ppm
REL	Long-term value: 350 mg/m ³ , 120 ppm Ceiling limit value: 1800* mg/m ³ , 610* ppm *15-min
TLV	Long-term value: 2950 mg/m ³ , 1000 ppm

106-97-8 butane (containing < 0.1% butadiene (203-450-8))

REL	Long-term value: 1900 mg/m ³ , 800 ppm
TLV	Short-term value: (2370) mg/m ³ , (1000) ppm NIC-EX

74-98-6 propane

PEL	Long-term value: 1800 mg/m ³ , 1000 ppm
REL	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV	refer to Appendix F in TLVs&BEIs book; NIC-EX

- **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.
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Filter AX/P2
Use suitable respiratory protective device in case of insufficient ventilation.
Filter A/P2

(Contd. on page 5)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 4)

· Protection of hands:

Wear gloves for the protection against chemicals according to EN 374



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**

For continuous contact we recommend gloves with breakthrough time of at least 240 minutes, with the preference given to a breakthrough time greater than 480 minutes. For short-term or splash guard we recommend the same. We are aware that suitable gloves that offer this level of protection may not be available. In that case, a shorter breakthrough time are acceptable as long as the procedures governing maintenance and timely replacement are followed. The thickness of the gloves is not a good measure of the resistance of the gloves against a chemical substance, because this depends on the exact composition of the material from which the gloves are made.

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.

9 Physical and chemical properties

· Information on basic physical and chemical properties**· General Information****· Appearance:**

Form:	Aerosol
Color:	Light brown
· Odor:	Sweetish
· Odor threshold:	Not determined.

· pH-value:	Not determined.
--------------------	-----------------

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	-44 °C (-47 °F)

· Flash point:	-97 °C (-143 °F)
-----------------------	------------------

· Flammability (solid, gaseous):	Not applicable.
---	-----------------

· Ignition temperature:	285 °C (545 °F)
--------------------------------	-----------------

· Decomposition temperature:	Not determined.
-------------------------------------	-----------------

· Auto igniting:	Product is not selfigniting.
-------------------------	------------------------------

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 5)

· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.4 Vol %
Upper:	10.9 Vol %
· Vapor pressure at 20 °C (68 °F):	8300 hPa (6226 mm Hg)
· Density at 20 °C (68 °F):	0.65 g/cm ³ (5.424 lbs/gal)
· Relative density	Not determined.
· Vapor 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:	73.6 %
Solids content:	0.4 %
· Other information	No further relevant information available.

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:**
- **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)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

US

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 6)

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

109-66-0 Pentane

NOEC (72h)	7.51 mg/l (Pseudokirchneriella subcapitata)
EC50 (72h)	10.7 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	4.26 mg/l (Oncorhynchus mykiss (96h))
EC50/48h	2.7 mg/l (Daphnia magna)

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Ecotoxical effects:**

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Water danger class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

Also poisonous for fish and plankton in water bodies.

Toxic for 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.

14 Transport information

- **UN-Number**

- **DOT, ADR, ADN, IMDG, IATA** UN1950

- **UN proper shipping name**

- **DOT**

Aerosols, flammable

- **ADR, ADN**

UN1950 Aerosols, ENVIRONMENTALLY HAZARDOUS

- **IMDG**

AEROSOLS (PENTANES, Zinc naphtenate), MARINE

POLLUTANT

- **IATA**

AEROSOLS, flammable

(Contd. on page 8)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 7)

· Transport hazard class(es)

· DOT



· Class 2.1

· Label 2.1

· ADR



· Class 2 5F Gases

· Label 2.1

· ADN

· ADN/R Class: 2 5F

· IMDG



· Class 2.1

· Label 2.1

· IATA



· Class 2.1

· Label 2.1

· Packing group

· DOT, ADR, IMDG, IATA Void

· Environmental hazards: Product contains environmentally hazardous substances:
Pentane

· Marine pollutant: Yes

Symbol (fish and tree)

· Special marking (ADR):

Symbol (fish and tree)

· 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.

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 8)

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

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):

None of the ingredients is listed.

· TSCA (Toxic Substances Control Act):

109-66-0 Pentane

106-97-8 butane (containing < 0.1% butadiene (203-450-8))

74-98-6 propane

12001-85-3 Zinc naphtenate

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

1303-86-2 diboron trioxide

I (oral)

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 01/20/2017

Reviewed on 01/02/2021

Trade name: Muc-Off Off-Road Lube

(Contd. of page 9)

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

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **National regulations:**

Class	Share in %
NK	50-<75

· **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.

· **Department issuing SDS:** Research & Development· **Date of preparation / last revision** 01/20/2017 / 1· **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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Aerosol 1: Aerosols – Category 1

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

Asp. Tox. 1: Aspiration hazard – Category 1