



Safety Data Sheet

acc. to OSHA HCS

Printing date 07/04/2023

Reviewed on 07/04/2023

1 Identification

- **Product identifier**
- **Trade name:** Muc-Off High Pressure Quick Drying Chain Degreaser
- **Article number:** 20394US
- **Application of the substance / the mixture** Cleaner solvent
- **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:** CHEMTREC: 1-800-424-9300 24HR

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Aerosols 1

H222 Extremely flammable aerosol.



GHS08 Health hazard

Aspiration Hazard 1

H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Eye Irritation 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 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, cyclics, <5% n-hexane
propan-2-ol

- **Hazard statements**

H222 Extremely flammable aerosol.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

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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.

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

P251 Pressurized container: 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.

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

P304+P340 IF INHALED: 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.

P312 Call a poison center/doctor if you feel unwell.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 4

Reactivity = 0

- **WHMIS-ratings (scale 0 - 4)**



Health = 2

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:** Cleansing agent

- **Dangerous components:**

	Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	25-<50%
106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	25-<50%
74-98-6	propane	10-<25%
67-63-0	propan-2-ol	10-<25%
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	2.5-<10%
124-38-9	Carbon dioxide	2.5-<10%

4 First-aid measures

- **Description of 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. Then consult a doctor.

- **After swallowing:** Do not induce vomiting; immediately call for medical help.

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- **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.

5 Fire-fighting measures

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

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	5500* ppm
74-98-6	propane	5500* ppm
67-63-0	propan-2-ol	400 ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	5500* ppm

· **PAC-2:**

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	17000** ppm
74-98-6	propane	17000** ppm
67-63-0	propan-2-ol	2000* ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	17000** ppm

· **PAC-3:**

106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	53000*** ppm
74-98-6	propane	33000*** ppm
67-63-0	propan-2-ol	12000** ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	53000*** ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.

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- **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.

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:**
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.

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

REL	Long-term value: 1900 mg/m ³ , 800 ppm
TLV	Short-term value: 1000 ppm (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	see Appendix F Minimal oxygen content (D, EX)

67-63-0 propan-2-ol

PEL	Long-term value: 980 mg/m ³ , 400 ppm
REL	Short-term value: 1225 mg/m ³ , 500 ppm Long-term value: 980 mg/m ³ , 400 ppm
TLV	Short-term value: 400 ppm Long-term value: 200 ppm BEI, A4

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

TLV	Short-term value: 1000 ppm (EX)
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124-38-9 Carbon dioxide

PEL	Long-term value: 9000 mg/m ³ , 5000 ppm
REL	Short-term value: 54,000 mg/m ³ , 30,000 ppm Long-term value: 9000 mg/m ³ , 5000 ppm
TLV	Short-term value: 30,000 ppm Long-term value: 5000 ppm

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· **Ingredients with biological limit values:**

67-63-0 propan-2-ol

BEI	40 mg/L
	Medium: urine
	Time: end of shift at end of workweek
	Parameter: Acetone (background, nonspecific)

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

· **Exposure controls**

· **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.

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: ≥ 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

· **Body protection:**

Use protective suit.

Full 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 a suitable container to prevent environmental contamination.

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9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· **Form:** Aerosol
 · **Color:** According to product specification

· **Odor:** Characteristic

· **Odor threshold:** Not determined.

· **pH-value:** Mixture is non-polar/aprotic.

· **Change in condition**

· **Melting point/Melting range:** Undetermined.

· **Boiling point/Boiling range:** -44.5 °C (-48.1 °F)

· **Flash point:** -97 °C (-142.6 °F)

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

· **Auto igniting:** >200 °C (>392 °F)

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

· **Lower:** 0.8 Vol %

· **Upper:** 12 Vol %

· **Vapor pressure at 20 °C (68 °F):** 8300 hPa (6225.5 mm Hg)

· **Vapor pressure at 30 °C (86 °F):** 10800 hPa (8100.7 mm Hg)

· **Density at 20 °C (68 °F):** 0.75 g/cm³ (6.259 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not applicable.

· **Solubility in / Miscibility with**

· **Water:** Fully miscible.

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

· **Viscosity:**

· **Dynamic:** Not determined.

· **Kinematic:** Not determined.

· **Solvent content:**

· **Organic solvents:** 97.0 %

· **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.

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

Oral	LD50	>5840 mg/kg (Rat)
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Dermal	LD50	>2920 mg/kg (Rabbit)
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Inhalative	LC50 (4h)	>25 mg/l (Rat)
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67-63-0 propan-2-ol

Oral	LD50	5840 mg/kg (Rat) (Acute Oral Toxicity)
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Dermal	LD50	13900 mg/kg (Rabbit) (Acute Dermal Toxicity)
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Inhalative	LC50 (4h)	>25 mg/l (Rat)
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	LC50	>25 mg/L (Rat) (Acute Inhalation Toxicity)
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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 internally approved calculation methods for preparations:

Irritant

- **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.

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

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane

NOELR (72h)	3 mg/l (Pseudokirchneriella subcapitata)
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EL50 (48h)	3 mg/l (Daphnia magna)
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EL50 (72h)	30-100 mg/l (Pseudokirchneriella subcapitata)
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LL50 (96h)	11.4 mg/l (Oncorhynchus mykiss)
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NOEC (21 days)	0.17 mg/l (Daphnia magna)
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LOEC (21 days)	0.32 mg/l (Daphnia magna)
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67-63-0 propan-2-ol

EC50	>100 mg/l (Bacteria)
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LOEC (8 days)	1000 mg/l (algae)
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LC50 (96h)	9640 mg/l (Pimephales promelas)
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LC50 (24h)	9714 mg/l (Daphnia magna)
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- **Persistence and degradability** Not easily biodegradable

- **Behavior in environmental systems:**

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

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- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for 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.
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 packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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, MARINE POLLUTANT
- **IATA** AEROSOLS, flammable
- **Transport hazard class(es)**
- **DOT**
- 
- **Class** 2.1 Gases
- **Label** 2.1
- **ADR**
- 
- **Class** 2 5F Gases
- **Label** 2.1

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· ADN · ADN/R Class:	2 5F
· IMDG 	
· Class · Label	2.1 Gases 2.1
· IATA 	
· Class · Label	2.1 Gases 2.1
· Packing group · DOT, ADR, IMDG, IATA	Void
· Environmental hazards: · Marine pollutant: · Special marking (ADR):	Product contains environmentally hazardous substances: Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): - · EMS Number: · Stowage Code · Segregation Code	Warning: Gases F-D,S-U 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. 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) · Excepted quantities (EQ)	1L Code: E0 Not permitted as Excepted Quantity

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· **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):**

67-63-0 propan-2-ol

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

	Hydrocarbons, C6-C7, n-alkanes, isoalkanes,cyclics, <5% n-hexane	*
106-97-8	butane (containing < 0.1% butadiene (203-450-8), Note K)	ACTIVE
74-98-6	propane	ACTIVE
67-63-0	propan-2-ol	ACTIVE
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8), Note K)	ACTIVE
124-38-9	Carbon dioxide	ACTIVE

· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **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.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

67-63-0	propan-2-ol	A4
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· **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:**

· **Disturbance regulations:**

Class	Share in %
NK	75-<100

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

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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 preparation / last revision** 07/04/2023

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international 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

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

BEI: Biological Exposure Limit

Flammable Aerosols 1: Aerosols – Category 1

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Aspiration Hazard 1: Aspiration hazard – Category 1