



Safety Data Sheet

acc. to OSHA HCS

Printing date 01/24/2020

Reviewed on 01/24/2020

1 Identification

- **Product identifier**
- **Trade name:** Muc Off 650 & 650US Chain Cleaner
- **Article number:** 11-00000-1711
- **Application of the substance / the mixture** Cleaner solvent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
MUC-OFF LTD
Unit 23 Branksome Business Park
Bourne Valley Rd, Poole
BH12 1DW
United Kingdom
- **Information department:** Research & Development/E-mail: info@muc-off.com
- **Emergency telephone number:** During normal opening hours: +44(0)1202 307790

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Aerosol 1 H222 Extremely flammable aerosol.



GHS04 Gas cylinder

Press. Gas H280 Contains gas under pressure; may explode 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



GHS04



GHS07



GHS08

- **Signal word** Danger

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

Distillates (petroleum), hydrotreated light

- **Hazard statements**

H222 Extremely flammable aerosol.

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H280 Contains gas under pressure; may explode 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.

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 spray.

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

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection.

P301+P310 If swallowed: Immediately call a doctor.

P331 Do NOT induce vomiting.

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.

Classification system:

NFPA ratings (scale 0 - 4)



Health = 2

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: Cleansing agent

Dangerous components:

64742-47-8	Distillates (petroleum), hydrotreated light	50-<75%
106-97-8	butane (containing < 0.1% butadiene (203-450-8))	10-<25%
74-98-6	propane	10-<25%
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	1-<2.5%

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.

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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.
- **Protective Action Criteria for Chemicals**

· PAC-1:

106-97-8	butane (containing < 0.1% butadiene (203-450-8))	5500* ppm
74-98-6	propane	5500* ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	5500* ppm
5989-27-5	(R)-p-mentha-1,8-diene	15 ppm
141-78-6	ethyl acetate	1,200 ppm

· PAC-2:

106-97-8	butane (containing < 0.1% butadiene (203-450-8))	17000** ppm
74-98-6	propane	17000** ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	17000** ppm
5989-27-5	(R)-p-mentha-1,8-diene	67 ppm
141-78-6	ethyl acetate	1,700 ppm

· PAC-3:

106-97-8	butane (containing < 0.1% butadiene (203-450-8))	53000*** ppm
74-98-6	propane	33000*** ppm
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	53000*** ppm
5989-27-5	(R)-p-mentha-1,8-diene	170 ppm

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141-78-6 ethyl acetate

10000** ppm

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.

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.

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
(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; D, EX

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

TLV	Short-term value: 2370 mg/m ³ , 1000 ppm
(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.
Do not inhale gases / fumes / aerosols.
- **Breathing equipment:**
Filter AX/P2
Use suitable respiratory protective device in case of insufficient ventilation.

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Filter A2/P2

· **Protection of hands:**

Draag handschoenen voor bescherming tegen chemicaliën volgens 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**

The exact break through 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:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	-44.5 °C (-112.1 °F)

· **Flash point:** -97 °C (-206.6 °F)· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 236 °C (456.8 °F)· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.

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

· **Explosion limits:**

Lower:	0.7 Vol %
Upper:	10.9 Vol %

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· Vapor pressure at 20 °C (68 °F):	8300 hPa (6225.5 mm Hg)
· Density at 20 °C (68 °F):	0.702 g/cm ³ (5.858 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:	94.8 %
· Solids content:	0.2 %

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:**

64742-47-8 Distillates (petroleum), hydrotreated light

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50(8h)	>5000 mg/m3 (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)**

5989-27-5 (R)-p-mentha-1,8-diene

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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.

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12 Ecological information

· Toxicity

· Aquatic toxicity:

64742-47-8 Distillates (petroleum), hydrotreated light

EL0 (48h)	1000 mg/l (Daphnia magna)
EL0(72h)	1000 mg/l (Pseudokirchneriella subcapitata)
LL0(96h)	1000 mg/l (Oncorhynchus mykiss (96h))

· **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.

· Additional ecological information:

· General notes:

Water hazard class 1 (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.

· 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
 · **IMDG** AEROSOLS
 · **IATA** AEROSOLS, flammable

· Transport hazard class(es)

· DOT



· **Class** 2.1

· **Label** 2.1

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· **ADR**

· **Class** 2.1 F Gases
 · **Label** 2.1

· **ADN**

· **ADN/R Class:** 2.1 F

· **IMDG, IATA**

· **Class** 2.1
 · **Label** 2.1

· **Packing group**

· **DOT, ADR, IMDG, IATA** Void

· **Environmental hazards:**

· **Marine pollutant:** No

· **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.

· **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

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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):

64742-47-8	Distillates (petroleum), hydrotreated light	ACTIVE
106-97-8	butane (containing < 0.1% butadiene (203-450-8))	ACTIVE
74-98-6	propane	ACTIVE
1338-43-8	Sorbitanoleate	ACTIVE
75-28-5	isobutane (containing < 0,1 % butadiene (203-450-8))	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.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· 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	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.

- Department issuing SDS: Research & Development
- Contact: info@muc-off.com
- Date of preparation / last revision 01/24/2020 / 8

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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)

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

Flam. Aerosol 1: Aerosols – Category 1

Press. Gas: Gases under pressure – Liquefied gas

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

Asp. Tox. 1: Aspiration hazard – Category 1

*** Data compared to the previous version altered. fdsv**

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