


1 Identification of the substance/mixture and of the company/undertaking


- **1.1 Product identifier**
- **Trade name: Muc Off EnduranceChain Lube + UV**
- **Article number: 637**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Sector of Use**
 - SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
 - SU21 Consumer uses: Private households / general public / consumers
 - SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
- **Product category PC24** Lubricants, greases, release products
- **Process category**
 - PROC7 Industrial spraying
 - PROC11 Non industrial spraying
- **Application of the substance / the mixture** Lubricant
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

Muc-Off Ltd. 1st Floor, Unit 1, Concept Office Park,
Innovation Close, Poole, Dorset.
BH12 4QT, UK
Tel: +44 (0)1202 307790
Fax: +44 (0) 1202 746853
E-mail: af@muc-off.com
- **Further information obtainable from:** Research & Development/E-mail: af@muc-off.com
- **1.4 Emergency telephone number:** During normal opening hours: Tel: +44 (0)1202 307790


2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
- 


GHS02 flame

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


GHS08 health hazard

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


GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.
- 

GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
- 

F+; Extremely flammable

R12: Extremely flammable.
- 

N; Dangerous for the environment

(Contd. on page 2)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 1)

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R66-67: Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

· **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.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Warning! Pressurized container.

Has a narcotizing effect.

· **Classification system:**

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

· **2.2 Label elements**

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

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS02 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

Pentane

destillaten (aardolie), met waterstof behandelde zware paraffinehoudende

· **Hazard statements**

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

H336 May cause drowsiness or dizziness.

H304 May be fatal if swallowed and enters airways.

H411 Toxic to aquatic life with long lasting effects.

· **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.

P251 Do not pierce or burn, even after use.

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

P273 Avoid release to the environment.

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

P261 Avoid breathing mist/vapours/spray.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

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.

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

GB

(Contd. on page 3)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 2)

3 Composition/information on ingredients

3.1 Substances

Additional information:

CAS: 109-66-0 EINECS: 203-692-4 Reg.nr.: 01-2119459286-30	Pentane Xn R65; F+ R12; N R51/53 R66-67 Flam. Liq. 1, H224; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336	25-<50%
	destillaten (aardolie), met waterstof behandelde zware paraffinehoudende Xn R65 Asp. Tox. 1, H304	10-<25%
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	butane (containing < 0.1% butadiene (203-450-8)) F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	propane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 12001-85-3	Zinc naphtenate N R51/53 Aquatic Chronic 2, H411	0.3-<1%

3.2 Mixtures

Description: Active substance with propellant

Dangerous components: -

Ingredients according to detergents guideline 648/2004/EC

aliphatic hydrocarbons	≥ 30%
perfumes (COUMARIN), 2-(4-tert-Butylbenzyl)propionaldehyde	< 5%

Additional information:

4 First aid measures

4.1 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; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

5.1 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

5.2 Special hazards arising from the substance or mixture No further relevant information available.

(Contd. on page 4)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 3)

- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 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.
- **6.3 Methods and material for containment and cleaning up:** Ensure adequate ventilation.
- **6.4 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

- **7.1 Precautions 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.
- **7.2 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 seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

109-66-0 Pentane

WEL | Long-term value: 1800 mg/m³, 600 ppm

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

WEL | Short-term value: 1810 mg/m³, 750 ppm
Long-term value: 1450 mg/m³, 600 ppm
Carc (if more than 0.1% of buta-1.3-diene)

(Contd. on page 5)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 4)

74-98-6 propane

OEL Short-term value: 3600 mg/m³, 2000 ppm
Long-term value: 1800 mg/m³, 1000 ppm

· DNELs

109-66-0 Pentane

Oral	DNEL Long term-systemic	214 mg/kg bw/day (Consumer)
Dermal	DNEL Long term-systemic	214 mg/kg bw/day (Consumer) 432 mg/kg bw/day (Worker)
Inhalative	DNEL Long term-systemic	643 mg/m ³ (Consumer) 3000 mg/m ³ (Worker)

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

· 8.2 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.

· 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.

Filter AX/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 Nitrile rubber, NBR

· 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:



Tightly sealed goggles

· **Body protection:** Use protective suit.

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Aerosol
Colour: Light brown

· **Odour:** Sweetish

· **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: -44 °C

(Contd. on page 6)

GB

Safety data sheet
According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 5)

· Flash point:	-97 °C
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	285 °C
· Decomposition temperature:	Not determined.
· Self-igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.4 Vol %
Upper:	10.9 Vol %
· Vapour pressure at 20 °C:	4 Bar
· Density at 20 °C:	0.649 g/cm ³
· Relative density	Not determined.
· Vapour 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:	73.5 %
Solids content:	0.6 %
· 9.2 Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

- **11.1 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.

GB

(Contd. on page 7)

Safety data sheet
According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 6)

12 Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

109-66-0 Pentane

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

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Water danger class 3 (German Regulation) (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

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

· **13.1 Waste treatment methods**

· **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

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1950

· **14.2 UN proper shipping name**

· **ADR**

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS

· **IMDG**

AEROSOLS (PENTANES, Zinc naphthenate), MARINE POLLUTANT

· **IATA**

AEROSOLS, flammable

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

2 5F Gases.

(Contd. on page 8)

Safety data sheet
According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 7)

· **Label** 2.1

· **IMDG**



· **Class** 2.1

· **Label** 2.1

· **IATA**



· **Class** 2.1

· **Label** 2.1

· **14.4 Packing group**

· **ADR, IMDG, IATA** Void

· **14.5 Environmental hazards:**

Product contains environmentally hazardous substances:
p-mentha-1,8(9)-diene, Pentane

· **Marine pollutant:**

Yes

· **Special marking (ADR):**

Symbol (fish and tree)
Symbol (fish and tree)

· **14.6 Special precautions for user**

Warning: Gases.

· **Danger code (Kemler):**

-

· **EMS Number:**

F-D,S-U

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)** 1L

· **Transport category** 2

· **Tunnel restriction code** D

· **UN "Model Regulation":**

UN1950, AEROSOLS, ENVIRONMENTALLY HAZARDOUS, 2.1

15 Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
NK	50-<75

· **VOC-CH** 73.51 %

· **VOC-EU** 477.1 g/l

· **Danish MAL Code** 5-3

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

GB

(Contd. on page 9)

Safety data sheet
According to 1907/2006 EEC Article 31

Printing date: 05.03.2014

Version: 1

Revision: 05.03.2014

Trade name: Muc Off EnduranceChain Lube + UV

(Contd. of page 8)

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 phrases**

H220 Extremely flammable gas.

H224 Extremely flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H304 May be fatal if swallowed and enters airways.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

R12 Extremely flammable.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

R67 Vapours may cause drowsiness and dizziness.

· **Department issuing MSDS:** Research & Development

· **Contact:** Ing. J. 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)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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)

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

DNEL: Derived No-Effect Level (REACH)

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

GB



Safety data sheet

Printing date: 30.01.2014

According to 1907/2006 EEC Article 31

Version: 1

Revision: 30.01.2014

1 Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**· **Trade name:** Muc Off Motorcycle Protectant + PTFE· **Article number:** 18-00000-4123 (68-35645-0100 Muc Off: 608)**1.2 Relevant identified uses of the substance or mixture and uses advised against****Sector of Use**

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category** PC24 Lubricants, greases, release products**Process category**

PROC11 Non industrial spraying

PROC7 Industrial spraying

Environmental release category

ERC8a Wijdverbreid gebruik (binnen) van verwerkingshulpmiddelen in open systemen

ERC8d Wide dispersive outdoor use of processing aids in open systems

· **Application of the substance / the mixture** Lubricant**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Muc-Off Ltd. 1st Floor, Unit 1, Concept Office

Park, Innovation Close, Poole, Dorset

BH12 4QT, UK

Tel: +44 (0)1202 307790

Fax: +44 (0)1202 746853

E-mail: af@muc-off.com

· **Further information obtainable from:** Research & Development/E-mail: af@muc-off.com· **1.4 Emergency telephone number:** During normal opening hours: Tel: +44 (0)1202 307790**2 Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

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



GHS08 health hazard

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

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

F+; Extremely flammable

R12: Extremely flammable.

R66: Repeated exposure may cause skin dryness or cracking.

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.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Warning! Pressurized container.

Classification system:

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

(Contd. on page 2)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 1)

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms


GHS02 GHS08

Signal word Danger

Hazard-determining components of labelling:

Naphtha (petroleum), hydrotreated heavy Benzene <0.1%

Distillates (petroleum), solvent-dewaxed heavy paraffinic <0.1% Benzene

Hazard statements

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

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.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.

2.3 Other hazards
Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3 Composition/information on ingredients

3.1 Substances
Additional information:

CAS: 64742-48-9 EINECS: 265-150-3 Reg.nr.: 01-2119463258-33 01-2119457273-39	Naphtha (petroleum), hydrotreated heavy Benzene <0.1% Xn R65 R66 Asp. Tox. 1, H304	50-<75%
CAS: 64742-65-0 EINECS: 265-169-7	Distillates (petroleum), solvent-dewaxed heavy paraffinic <0.1% Benzene Xn R65 Asp. Tox. 1, H304	10-<25%
CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	butane (containing < 0.1% butadiene (203-450-8)) F+ R12 Flam. Gas 1, H220; Press. Gas, H280	3-<10%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	propane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	3-<10%

3.2 Mixtures

Description: Active substance with propellant

Dangerous components: -

(Contd. on page 3)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 2)

· **Ingredients according to detergents guideline 648/2004/EC**

aliphatic hydrocarbons

≥ 30%

· **Additional information:**

4 First aid measures

- **4.1 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; call for medical help immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Firefighting measures

- **5.1 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
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 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.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
- **6.4 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

- **7.1 Precautions 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.

(Contd. on page 4)

GB

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 3)

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.

· **7.2 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 seal receptacle gas tight.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· **8.1 Control parameters**

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

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

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

74-98-6 propane

OEL	Short-term value: 3600 mg/m ³ , 2000 ppm
	Long-term value: 1800 mg/m ³ , 1000 ppm

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

· **8.2 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.

· **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.

Filter AX/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** Nitrile rubber, NBR

· **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.

(Contd. on page 5)

GB

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 4)

· Eye protection:


Tightly sealed goggles

· Body protection: Use protective suit.

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties
· General Information
· Appearance:
Form: Aerosol

Colour: Clear

· Odour: Sweetish

· Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition
Melting point/Melting range: Undetermined.

Boiling point/Boiling range: -44 °C

· Flash point: -97 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 236 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

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

· Explosion limits:
Lower: 0.7 Vol %

Upper: 10.9 Vol %

· Vapour pressure at 20 °C: 4 Bar

· Density at 20 °C: 0.737 g/cm³
· Relative density Not determined.

· Vapour 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: 89.2 %

Solids content: 0.4 %

· 9.2 Other information No further relevant information available.

GB

(Contd. on page 6)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 5)

10 Stability and reactivity

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

11 Toxicological information

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

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

64742-48-9 Naphtha (petroleum), hydrotreated heavy Benzene <0.1 %

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rabbit)
Inhalative	LC50/4h	>4951 mg/l (rat)

64742-65-0 Distillates (petroleum), solvent-dewaxed heavy paraffinic <0.1 % Benzene

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/4h	>5 mg/l (rat)

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

12 Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

64742-48-9 Naphtha (petroleum), hydrotreated heavy Benzene <0.1 %

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

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water danger class 3 (German Regulation) (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.

- **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

- **12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 7)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014



Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 6)

13 Disposal considerations

- **13.1 Waste treatment methods**
- **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

- | | |
|---|-----------------------|
| · 14.1 UN-Number | UN1950 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | 1950 AEROSOLS |
| · ADR | AEROSOLS |
| · IMDG | AEROSOLS |
| · IATA | AEROSOLS, flammable |
| · 14.3 Transport hazard class(es) | |
| · ADR | |
|  | |
| · Class | 2 5F Gases. |
| · Label | 2.1 |
| · IMDG, IATA | |
|  | |
| · Class | 2.1 |
| · Label | 2.1 |
| · 14.4 Packing group | Void |
| · ADR, IMDG, IATA | |
| · 14.5 Environmental hazards: | |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Warning: Gases. |
| · Danger code (Kemler): | - |
| · EMS Number: | F-D,S-U |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 1L |
| · Transport category | 2 |
| · Tunnel restriction code | D |
| · UN "Model Regulation": | UN1950, AEROSOLS, 2.1 |

GB

(Contd. on page 8)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 1

Revision: 30.01.2014

Trade name: Muc Off Motorcycle Protecant + PTFE

(Contd. of page 7)

15 Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
NK	75-<100

· **VOC-CH** 89.24 %

· **VOC-EU** 657.7 g/l

· **Danish MAL Code** 5-3

· **15.2 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.

· **Relevant phrases**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H304 May be fatal if swallowed and enters airways.

R12 Extremely flammable.

R65 Harmful: may cause lung damage if swallowed.

R66 Repeated exposure may cause skin dryness or cracking.

· **Department issuing MSDS:** Research & Development

· **Contact:** Ing. J. 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)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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)

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

**1 Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

· **Trade name:** **Bio Degreaser / Chaincleaner**

· **Article number:** 11-00000-1701

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Sector of Use

SU21 Consumer uses: Private households / general public / consumers

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

· **Product category** PC35 Washing and cleaning products (including solvent based products)

Process category

PROC7 Industrial spraying

PROC11 Non industrial spraying

· **Application of the substance / the mixture** Cleaner solvent

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Muc-Off Ltd. 1st Floor, Unit 1, Concept Office

Park, Innovation Close, Poole, Dorset

BH12 4QT, UK

Tel: +44 (0)1202 307790

Fax: +44 (0)1202 746853

E-mail: af@muc-off.com

· **Further information obtainable from:** Research & Development/E-mail: af@muc-off.com

· **1.4 Emergency telephone number:** During normal opening hours: Tel: +44 (0)1202 307790

2 Hazards identification**2.1 Classification of the substance or mixture**

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



GHS02 flame

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



GHS08 health hazard

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



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



F+; Extremely flammable

R12: Extremely flammable.

R66: Repeated exposure may cause skin dryness or cracking.

· **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.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

Warning! Pressurized container.

(Contd. on page 2)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 1)

- **Classification system:**

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

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

- **Hazard pictograms**



GHS02 GHS05 GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**

Naphtha (petroleum), hydrotreated heavy Benzene <0.1%

Fatty Acid Amide

Fatty alcohol polyglycolether

Polyoxyethylene (7) tridecyl ether

- **Hazard statements**

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

H318 Causes serious eye damage.

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.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

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

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

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.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **3.1 Substances**

- **Additional information:**

CAS: 64742-48-9

EINECS: 265-150-3

Reg.nr.: 01-2119463258-33

01-2119457273-39

Naphtha (petroleum), hydrotreated heavy Benzene <0.1%

Xn R65

R66

Asp. Tox. 1, H304

50-<75%

(Contd. on page 3)

GB

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 2)

CAS: 106-97-8 EINECS: 203-448-7 Reg.nr.: 01-2119474691-32	butane (containing < 0.1% butadiene (203-450-8)) F+ R12 Flam. Gas 1, H220; Press. Gas, H280	10-<25%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21	propane F+ R12 Flam. Gas 1, H220; Press. Gas, H280	3-<10%
CAS: 68155-06-6 EINECS: 268-934-3	Fatty Acid Amide Xi R38-41 Eye Dam. 1, H318; Skin Irrit. 2, H315	1.0-<2.5%
CAS: 68439-50-9 Reg.nr.: 01-2119487984-16	Fatty alcohol C12-C14 with approx. 2 moles EO Xi R41; N R50 Eye Dam. 1, H318; Aquatic Acute 1, H400	0.3-<1%

3.2 Mixtures

· **Description:** Active substance with propellant

· **Dangerous components:** -

Ingredients according to detergents guideline 648/2004/EC

aliphatic hydrocarbons	≥ 30%
non-ionic surfactants	< 5%

· **Additional information:**

4 First aid measures

4.1 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; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

5 Firefighting measures

5.1 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

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Sulphur dioxide (SO₂)
No further relevant information available.

5.3 Advice for firefighters

· **Protective equipment:** Mount respiratory protective device.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

(Contd. on page 4)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 3)

- **6.2 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.
- **6.3 Methods and material for containment and cleaning up:**
 - Ensure adequate ventilation.
 - Do not flush with water or aqueous cleansing agents
- **6.4 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

- **7.1 Precautions 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.
- **7.2 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 seal receptacle gas tight.
 - Store in cool, dry conditions in well sealed receptacles.
 - Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

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

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

74-98-6 propane

OEL	Short-term value: 3600 mg/m ³ , 2000 ppm Long-term value: 1800 mg/m ³ , 1000 ppm
-----	---

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

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

- Wash hands before breaks and at the end of work.

(Contd. on page 5)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 4)

Do not inhale gases / fumes / aerosols.

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.

Filter AX/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 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

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Aerosol
Colour:	According to product specification
Odour:	Characteristic
Odour threshold:	Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	-44 °C

Flash point: -97 °C

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 236 °C

Decomposition temperature: Not determined.

Self-igniting: Product is not selfigniting.

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

Explosion limits:

Lower:	0.7 Vol %
Upper:	10.9 Vol %

Vapour pressure at 20 °C: 5 Bar

Density at 20 °C: 0.708 g/cm³

Relative density Not determined.

Vapour density Not determined.

(Contd. on page 6)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 5)

- | | |
|---|--|
| · 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: | 95.7 % |
| · 9.2 Other information | No further relevant information available. |

10 Stability and reactivity

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

11 Toxicological information

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

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

64742-48-9 Naphtha (petroleum), hydrotreated heavy Benzene <0.1 %

Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rabbit)
Inhalative	LC50/4h	>4951 mg/l (rat)

68155-06-6 Fatty Acid Amide

Oral	LD50	>5000 mg/kg (Human)
------	------	---------------------

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

12 Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

64742-48-9 Naphtha (petroleum), hydrotreated heavy Benzene <0.1 %

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

68155-06-6 Fatty Acid Amide

EC0	>100 mg/l	(Bacteria)
LC50	>1 - ≤10 mg/l	(Fish)

(Contd. on page 7)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner



(Contd. of page 6)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1 Waste treatment methods**
- **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

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | UN1950 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG · IATA | 1950 AEROSOLS
AEROSOLS
AEROSOLS, flammable |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 2 5F Gases.
2.1 |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 2.1
2.1 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): | Warning: Gases.
- |

(Contd. on page 8)

Safety data sheet

According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

Revision: 30.01.2014

Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 7)

- | | |
|---|-----------------------|
| · EMS Number: | F-D,S-U |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADR | |
| · Limited quantities (LQ) | 1L |
| · Transport category | 2 |
| · Tunnel restriction code | D |
| · UN "Model Regulation": | UN1950, AEROSOLS, 2.1 |

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **National regulations:**
 - **Technical instructions (air):**
- | Class | Share in % |
|-------|------------|
| NK | 75-<100 |
- **VOC-CH** 95.70 %
 - **VOC-EU** 677.6 g/l
 - **Danish MAL Code** 5-3
 - **15.2 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.

- **Relevant phrases**
- H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
-
- R12 Extremely flammable.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R50 Very toxic to aquatic organisms.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
- **Department issuing MSDS:** Research & Development
 - **Contact:** Ing. J. Sleumer
 - **Abbreviations and acronyms:**
- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
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
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
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)

(Contd. on page 9)

Safety data sheet
According to 1907/2006 EEC Article 31

Printing date: 30.01.2014

Version: 4

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Trade name: Bio Degreaser / Chaincleaner

(Contd. of page 8)

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

GB