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MOS2 ANTIFRICT.F.GEARS 50 g

Art.: 2019

## Safety Data Sheet according to EC-Regulation 91/155/EEC

### 1. Identification of the substance/preparation and of the company/undertaking

#### Identification of the substance or preparation

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#### Use of the substance/preparation

Refer to description of material or preparation.

#### Company/undertaking identification

LIQUI MOLY GmbH, Jerg-Wieland-Straße 4, D-89081 Ulm-Lehr

Telephone (+49) 0731-1420-0, Fax (+49) 0731-1420-88

#### Emergency telephone / Office for advice

#### Advisory office in case of poisoning:

Tel.:

#### Telephone number of the company in case of emergencies:

Tel. (+49) 0731-1420-0

### 2. Composition/information on ingredients

2.1 Chemical name	content %	symbol	R-phrases	EINECS, ELINCS
Olefin sulfide	5 - 15	---	53	
Phosphoric acid ester amine salts	1 - 5	N	51-53	
Oleyl amine	0,5 - 2	Xn/C/N	22-34-43-50	204-015-5
1,2,4-trimethylbenzene	0,01 - 1	Xn/Xi/N	10-20-36/37/38-51-53	202-436-9
Solvent naphtha (petroleum), light arom.	0,01 - 1	Xn/Xi	10-36/38-53-65	265-199-0

For complete wording of the R-phrases, refer to point 16.

### 3. Hazards identification

#### 3.1 To people

See point 11 and 15.

Preparation is classified as hazardous in the sense of directive 1999/45/EC.

May cause sensitization by skin contact.

#### 3.2 To the environment

See point 12.

Product can compose a film on the water surface, which can prevent oxygen exchange.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 4. First aid measures

#### 4.1 Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

Respiratory arrest - Artificial respiration apparatus necessary.

#### 4.2 Eye contact

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### 4.3 Skin contact

Wash thoroughly with soap and copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

#### 4.4 Ingestion

Rinse the mouth thoroughly with water.  
Do not induce vomiting - give copious water to drink. Consult doctor immediately.

#### 4.5 Special resources necessary for first aid

Indications for the physician:  
Symptomatic treatment

### 5. Fire-fighting measures

#### 5.1 Suitable extinguishing media

CO<sub>2</sub>  
Dry extinguisher  
Foam  
Cool container at risk with water.

#### 5.2 Extinguishing media which must not be used for safety reasons

High volume water jet

#### 5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

In case of fire the following can develop:  
Oxides of carbon  
Oxides of sulphur  
Oxides of phosphorus  
Aldehydes  
Toxic pyrolysis products.  
Danger of bursting (explosion) when heated.  
In case of spreading near the ground, flashback to distance sources of ignition is possible.

#### 5.4 Special protective equipment for fire-fighters

Protective respirator with independent air supply  
According to size of fire  
Full protection, if necessary

#### 5.5 Further information

Dispose of contaminated extinction water according to official regulations.

### 6. Accidental release measures

Refer to point 13. and for personal protection refer to point 8.

#### 6.1 Personal precautions

Ensure sufficient supply of air.  
Avoid inhalation, and contact with eyes or skin.  
If applicable, caution - risk of slipping.  
Do not carry cleaning cloths soaked in product in trouser pockets.

#### 6.2 Environmental measures

If leakage occurs, dam up.  
Prevent from entering drainage system.  
Prevent surface and ground-water infiltration, as well as ground penetration.

#### 6.3 Methods for cleaning up

Collect using absorbant material (e.g. Universal binding medium), and dispose of according to point 13.

### 7. Handling and storage

#### 7.1 Handling

##### Tips for safe handling:

See point 6.1  
Ensure good ventilation.  
Do not heat to temperatures close to flash point.  
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.  
Wash hands before breaks and at end of work.  
General hygiene measures for the handling of chemicals are applicable.  
Observe directions on label and instructions for use.  
Exposed employees should have regular medical check-ups.

## 7.2. Storage Requirements for storage rooms and containers:

Store products only unopened, in original packing.  
 Not to be stored in gangways or stair wells.  
 Do not store with oxidizing agents.  
 Solvent resistant floor

### Special storage conditions:

See point 10.2  
 Store in a well ventilated place.  
 Protect from direct sunlight and warming.

## 8. Exposure controls/personal protection

Ensure good ventilation. This can be achieved by local suction or general air extraction.  
 If this is insufficient to maintain the concentration under the WEL or AG values, suitable breathing protection should be worn.  
 Applies only if maximum permissible exposure values are listed here.

Chemical Name		
<b>Chemical Name</b>	1,2,4-trimethylbenzene	
WEL-TWA: 25 ppm (125 mg/m3) (Trimethylbenzenes, all isomers or mixtures) (WEL), 20 ppm (100 mg/m3) (EC)	WEL-STEL: ---	---
BMGV: ---	Other information: ---	
<b>Chemical Name</b>	Solvent naphtha (petroleum), light arom.	
WEL-TWA: 20 ppm (100 mg/m3) (AG)	WEL-STEL: 4 (AG)	---
BMGV: ---	Other information: ---	
<b>Chemical Name</b>	Oil mist, mineral	
WEL-TWA: 5 mg/m3 (ACGIH)	WEL-STEL: 10 mg/m3 (ACGIH)	---
BMGV: ---	Other information: ---	
<b>Chemical Name</b>	Molybdenum disulphide	
WEL-TWA: 10 mg/m3 (molybdenum insoluble compounds, as Mo)	WEL-STEL: 20 mg/m3 (molybdenum insoluble compounds, as Mo)	---
BMGV: ---	Other information: ---	
<b>Chemical Name</b>	Molybdenum compounds, insoluble	
WEL-TWA: 10 mg/m3 (as Mo)	WEL-STEL: 20 mg/m3 (as Mo)	---
BMGV: ---	Other information: ---	

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AG = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BG = "Biologischer Grenzwert" (biological limit value, Germany) | Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

- |  |  |
|--|--|
| 8.1 Respiratory protection:<br>If OES or MEL is exceeded.<br>Filter A P 3 (EN 141)   | Normally not necessary.  |
| 8.2 Hand protection:<br>If applicable<br>Protective nitrile gloves (EN 374)<br>Protective Neopren gloves (EN 374).<br>Protective hand cream recommended. | Protective gloves, oil resistant (EN 374)  |
| 8.3 Eye protection:  | Tight fitting protective goggles (EN 166) with side protection, with danger of projections.      |
| 8.4 Skin protection:   | Protective working garments (e.g. safety shoes EN 344, long-sleeved protective working garments) |

Additional information on hand protection - No tests have been performed.  
 Selection made for preparations according to the best available knowledge and information on the ingredients.  
 Selection of materials derived from glove manufacturer's indications.  
 Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.  
 Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.  
 In the case of preparations the resistance of glove materials cannot be calculated in advance

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so it has to be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

## 9. Physical and chemical properties

Physical state:	Liquid
Colour:	Black
Odour:	Characteristic
pH-value undiluted:	n.a.
Flash point (°C):	> 200
Oxidising properties:	No
Density (g/ml):	1,0 (20°C)
Solubility in water:	Insoluble
Viscosity:	~ 380 mPas

## 10. Stability and reactivity

### 10.1 Conditions to avoid

See point 7

Stable when handled and stored correctly.

### 10.2 Materials to avoid

See point 7

Avoid contact with strong oxidizing agents.

### 10.3 Hazardous decomposition products

See point 5.3

## 11. Toxicological information

### 11.1 Acute toxicity and immediate effects

Inhalation, LC50 rat inhal.(mg/l/4h): n.v.

### 11.2 Delayed and chronic effects

Sensitization:	Yes (skin contact)
Carcinogenicity:	n.g.
Mutagenicity:	n.g.
Reproductive toxicity:	n.g.

### 11.3. Further information

Classification according to calculation procedure.

The following may occur:

Headaches

Dizziness

Nausea

Fatigue

Irritant to mucosa of the nose and throat.

Allergic reaction

## 12. Ecological information

Water hazard class (Germany):	2
Self classification:	Yes (VwVwS)
Behaviour in sewage plants:	Mechanical precipitation possible.
According to the recipe, contains no AOX.	
Aquatic toxicity:	See point 3.
Ecological toxicity:	n.v.

## 13. Disposal considerations

### 13.1. for the material / preparation / residue

Soaked polluted cloths, paper or other organic materials represent a fire hazard and should be controlled, collected and disposed of.  
EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

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Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances.

13 02 05 mineral-based non-chlorinated engine, gear and lubricating oils

Recommendation:

Pay attention to local and national official regulations

Implement substance recycling.

E.g. suitable incineration plant.

Approved rubbish dump for special refuse

### 13.2 for contaminated packing material

See point 13.1

Pay attention to local and national official regulations

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

Do not perforate, cut up or weld uncleaned container.

## 14. Transport information

### General statements

UN-Number: n.a.

### Road/Rail-transport (ADR/RID)

Class/packing-group: n.a.

Classification code: n.a.

LQ: n.a.

### Transport by sea

IMDG-code: n.a. (class/packing-group)

Marine Pollutant: n.a.

### Transport by air

IATA: n.a. (class/secondary danger/packing-group)

### Additional information:

Non-dangerous material according to Transport Regulations.

## 15. Regulatory information

### Classification according to Dangerous Product Regulations incl. EC Directives (67/548/EEC and 1999/45/EC)

Symbols: Xi

Indications of danger:

Irritant



R-phrases:

43 May cause sensitization by skin contact.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases:

2 Keep out of the reach of children.

24 Avoid contact with skin.

28.b After contact with skin, wash immediately with plenty of water and soap.

37 Wear suitable gloves.

46 If swallowed, seek medical advice immediately and show this container or label.

56 Dispose of this material and its container to hazardous or special waste collection point.

Additions:

Oleyl amine

Observe restrictions:

Observe restrictive guidelines 76/769/EEC, 1999/51/EC, 1999/77/EC

VOC 1999/13/EC k.D.v.

## 16. Other information

These details refer to the product as it is delivered.

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Storage class VCI (Germany):

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Revised points:

15

The following phrases represent the prescribed R-phrases for the ingredients (designated in point 2).

53 May cause long-term adverse effects in the aquatic environment.

51 Toxic to aquatic organisms.

22 Harmful if swallowed.

34 Causes burns.

43 May cause sensitization by skin contact.

50 Very toxic to aquatic organisms.

10 Flammable.

20 Harmful by inhalation.

36/37/38 Irritating to eyes, respiratory system and skin.

36/38 Irritating to eyes and skin.

65 Also harmful:

may cause lung damage if swallowed.

### Legend:

n.a. = not applicable / n.v., k.D.v. = not available / n.g. = not checked

OES = Occupational exposure standard / MEL = Maximum exposure limit / BMGV = Biological monitoring guidance value

AG = "Arbeitsplatzgrenzwert" (workplace limit value, Germany) / BG = "Biologischer Grenzwert" (biological limit value, Germany)

VbF = Regulations for flammable liquids (Austria)

WGK = water hazard class (Germany) - WGK 3 = very hazardous, WGK 2 = hazardous, WGK 1 = slightly hazardous to water

VOC = Volatile organic compounds / AOX = Adsorbable organic halogen compounds

VwVwS = Administrative Order relating to substances hazardous to water (Germany)

The statements made here should describe the product with regard to the necessary safety precautions - they are

not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

**Chemical Check GmbH, Beim Staumberge 3, D-32839 Steinheim, Tel.: 01805-CHEMICAL / 01805-243 642, Fax: 05233-941790**

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