

# SAFETY DATA SHEET

according to regulation 1907/2006/EC (REACH) and 1272/2008/EC



**MOL-LUB Ltd.**

Trade name: **MOL DOT 4+ brake fluid**

Version: 3      Latest revision: 01. 10. 2018      Date of issue: 03. 02. 2015      Page: 1/(12)

## SECTION 1 Identification of the mixture and of the company/undertaking

### 1.1 Product identifier:

**MOL DOT 4+ brake fluid**

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

Relevant identified uses: brake fluid

Uses advised against: no data

### 1.3 Details of the supplier of the safety data sheet:

MOL-LUB Lubricant Production Distribution and Service Limited Liability Company

H-2931 Almásfüzitő, Fő út 21., Hungary

Phone / Fax: +36 34 526 330 / +36 34 526 391

E-mail: kenoanyag@mol.hu

Request SDS of:

MOL-LUB Lubricant Production Distribution and Service Limited Liability Company  
Customer Service Center

H-2931 Almásfüzitő, Fő út 21., Hungary

Phone / Fax: +36 80 201 296 / +36 34 348 010

Responsible for SDS:

MOL-LUB Ltd. Csaba Horváth, head of SD, HSE & Business Support

Phone: +36 34 526 343; Mobile: +36 20 474 2644

e-mail: csahorvath@mol.hu

### 1.4 Emergency telephone number

Emergency telephone (07-15<sup>20</sup> h): +36 34 526 210 (CET) on workdays

Health Toxicological Information Service (ETTSZ 1096 Budapest, Nagyvárad tér 2.)

Tel.: +36 80 201 199 (0-24 h, free number).

National Health Toxicological Information Service:

## SECTION 2 Hazards identification

### 2.1 Classification of the mixture or substance

Hazard Class and Category:      Hazard statement:

Eye Irrit. 2

H319

Causes serious eye irritation.

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## 2.2 Label elements

Product identification: Trade name: **MOL DOT 4+ brake fluid**

Hazardous components: -

GHS Pictogram:



Signal word: **Warning**

Hazard statement:

**H319** Causes serious eye irritation.

Supplemental hazard information: -

Precautionary statements – General:

**P101** If medical advice is needed, have product container or label at hand.

**P102** Keep out of reach of children.

Precautionary statements – Prevention:

**P280** Wear eye protection/face protection.

Precautionary statements - Response

**P301 + P312** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

**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.

Precautionary statements – Storage: -

Precautionary statements – Disposal:

**P501** Dispose of contents/container in accordance with national regulation.

Other liabilities for labelling:

Tactile warning of danger: not required.

Transport classification: see section 14.

## 2.3 Other hazards

The product does not contain any PBT or vPvB substance according to annex XIII of regulation (EC) 1907/2006.

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## SECTION 3 Composition/information on ingredients

### 3.2 Mixtures

Chemical description: Mixture.

Component(s) / Hazardous component(s):

Name	EU number	CAS number	Hazard classes and cat.	Hazard statements	Conc. % (m/m)
Triethylene glycol monobutyl ether REACH Registr. Nr.: 01-2119531322-53	205-592-6	143-22-6	Eye Dam. 1	H318	20-45
Diethylene glycol REACH Registr. Nr.: 01-2119457857-21	203-872-2	111-46-6	Acute Tox. 4 STOT RE 2	H302 H373	0-10
2-(2-Methoxyethoxy) ethanol REACH Registr. Nr.: 01-2119475100-52	203-906-6	111-77-3	Repr. 2	H361d	0-<3
2-(2-butoxyethoxy) ethanol REACH Registr. Nr.: 01-2119475104-44	203-961-6	112-34-5	Eye Irrit. 2	H319	0-3

\* Specific concentration limit:

Eye Irrit. 2; H319:  $20\% \leq C < 30\%$ ; Eye Dam. 1; H318:  $C \geq 30\%$

The full text of each relevant H- phrase and Hazard classes and cat. see in Section 16.

## SECTION 4 First aid measures

### 4.1 Description of first aid measures

General information: Never give anything by mouth to an unconscious person, or never induce vomiting.

Inhalation: Remove the affected person to fresh air. Keep at rest. If recovery is not rapid, seek medical attention.

Skin contact: Remove contaminated clothing and wash skin with plenty of water, use soap. If irritation persists, get medical attention.

Eye contact: Flush eye with plenty of water for at least 10-15 minutes, under running water with eyelids held open. Get medical attention.

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Ingestion:      If swallowed rinse mouth, give to drink plenty of water.  
If medical attention is delayed and an adult has swallowed several ounces, give 90 -120ml of hard liquor such as 40%v/v spirits. For children give proportionately less at a rate of 2ml / kg body-weight. Never give anything by mouth to an unconscious person. Induce vomiting only under medical supervision. Obtain medical advice immediately.

Protection of first-aid person:      No individual specifications.

#### 4.2 Most important symptoms and effects, both acute and delayed

Ingestion of larger quantities: kidney failure, coma, death. Other symptoms: central nervous system effects, abdominal discomfort, metabolic acidosis, headache and nausea.

Inhalation: unlikely exposure route. If product is inhaled at elevated temperatures or as an aerosol it may irritate the respiratory tract. See also: ingestion.

Skin contact: May be absorbed through contact with damaged skin.

Prolonged skin contact may de-fat the skin and cause dermatitis.

Causes serious eye irritation.

#### 4.3 Indication of any immediate medical attention and special treatment need

Treat according to symptoms. No known specific antidote. This product may have a mechanism of intoxication similar to ethylene glycol.

## SECTION 5 Fire-fighting measures

Fire hazards:

Combustible.

#### 5.1 Extinguishing media

Suitable extinguishing media:

Alcohol resistant foam, dry powder, carbon dioxide or water (fog).

Unsuitable extinguishing media:

Water jets.

#### 5.2 Special hazards arising from the mixture or substance

Hazardous combustion products:

On burning carbon dioxide, carbon monoxide, other toxic gases and vapours can be formed.

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## 5.3 Advice for fire-fighters

Special protective equipment:

According to the existing fire-fighting regulations (respiratory protection).

Further information:

In case of fire, keep containers cool with water spray.

Collect contaminated fire fighting water separately. It must not enter drains.

Contaminated extinguishing water must be disposed of in accordance with official regulations.

## SECTION 6 Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: see Section 8.

Prevent unnecessary personnel entering area of spillage.

Avoid contact with eyes, skin, and clothing.

Danger of slipping on leaked out/spilled product.

Adequate ventilation required.

### 6.2 Environmental precautions:

Prevent spills from entering into natural water, soil and drains by containing the liquid.

Notify relevant authority.

### 6.3 Methods and material for containment and cleaning up

On soil:      Contain spilled liquid with sand, earth or other suitable absorbents. Dispose of according to local regulations. Small spillages can be absorbed using rags or absorbent granules. Flush contaminated area with plenty of water.

On water:      Confine the spillage. Notify local authorities according to regulations.

### 6.4 Reference to other sections

Personal precautions: see section 8.

Waste treatment methods: see section 13.

## SECTION 7 Handling and storage

### 7.1 Precautions for safe handling

Keep general measures applied for normal operations with metalworking fluids.

Use in a well-ventilated area.

Avoid contact with skin and eyes. Avoid vapor or aerosol formation.

Keep containers closed when not in use (brake fluid absorbs water from the atmosphere).

Ensure washing facilities after working hours and before breaks. Take off contaminated clothing and wash it before reuse.

When using do not eat, drink or smoke. Avoid splashing the product.

Handling temperature: no data

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## 7.2 Conditions for safe storage, including any incompatibilities

Storage facilities must comply with regulations for storing of chemicals and metalworking fluids.

Store in well-ventilated area, protected from moisture, strong oxidants and mineral oils, in original, tightly closed containers.

Material of storage tank are recommended: soft steel, stainless steel.

Do not storage in a coated container.

Storage temperature: Keep away from freezing.

## 7.3 Specific end use(s)

Evaporating plastic deformation excipients.

## SECTION 8 Exposure controls / personal protection

Engineering control measures:

Adequate ventilation (general or local exhaust).

### 8.1 Control parameters:

EU limits

*2-(2-Methoxyethoxy) ethanol:*      TWA (Time weighted average):      50,1 mg/m<sup>3</sup>      EU2  
CAS: 111-77-3

*2-(2-butoxyethoxy) ethanol:*      10 ppm      15 ppm  
CAS: 112-34-5      670 mg/m<sup>3</sup>      101,2 mg/m<sup>3</sup>

### 8.2 Exposure controls

Personal protection:

Respiratory protection: Under normal conditions not required.

Self-contained breathing apparatus or Organic vapour respirators (A-P2) may be used where product is being heated or atomised and engineering control measures are not practical.

Hand protection: Protective gloves (chemical resistant) (EN 374). Breakthrough time 480 min, e.g. Butyl rubber, Natural rubber, Nitrile rubber and PVC.

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Note: Manufacturer's directions for use and the conditions of application should be observed.

Eye protection: Where splashing is possible, safety glasses with side-shields or face shield (EN 166). Acrylic or PVC.

Skin protection: Protective clothing.

Other special: It is recommended that showers are provided at locations where accidental exposure may occur.

Environmental exposure controls:  
Do not discharge into drains/surface waters/groundwater.

## SECTION 9 Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:

Physical state:	liquid
Colour:	colourless to amber
Odour:	mild

Change in physical state:

Initial boiling point / boiling range (SAE J 1703):	>260°C
Melting Point (SAE J 1703):	<-50°C

Others:

Flash point (IP 35):	>100°C
Ignition temperature:	no data
Decomposition Temperature:	>300°C
Autoignition temperature (ASTM D 286):	>300°C
Explosive properties:	not explosive
Oxidizing properties:	not oxidising
Vapour pressure at 20°C:	<2 mbar
Evaporation Rate:	negligible
Density at 20°C (DIN 51757):	1.020 – 1.070 g/cm <sup>3</sup>
Solubility in water:	miscible in any ratio
Solubility in polar solvents:	In ethanol: miscible in any ratio
n-Octanol/water partition coefficient (OECD 117):	<2.0 (each main component)
Kinematic viscosity (ASTM D 445):	approx. 5-10 cSt
pH at 20°C: (SAE J 1703):	7.0 – 11.5
Solvent content:	no data

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9.2 Other information  
no data available

## SECTION 10 Stability and reactivity

- |  |  |
|--|--|
| 10.1 Reactivity:                         | Dangerous reactivity not known.  |
| 10.2 Chemical stability:                 | No decomposition if stored and handled properly.   |
| 10.3 Possibility of hazardous reactions: | Glycol ethers can react with light metals with the evolution of hydrogen.                  |
| 10.4 Conditions to avoid:                | Contact with light metals.   |
| 10.5 Incompatible materials:             | Light metals, strong oxidizing agents.   |
| 10.6 Hazardous decomposition products:   | Glycol Ethers can form peroxides on storage. Hazardous combustion products: See Section 5. |

## SECTION 11 Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:

Oral:	LD <sub>50</sub> (rat)	≥5000	mg/kg
Dermal:	LD <sub>50</sub> (rabbit)	≥3000	mg/kg

Acute toxicity: irritation

Skin:	not irritant (Test Method OECD 404)
Eye:	irritant (Test Method OECD 405)

Respiratory or skin sensitisation: not sensitising (based on components)

Other information, specific effects:

Germ cell mutagenicity:	not known, resp. not mutagen (based on components)
Carcinogenicity:	not known, resp. not carcinogen (based on components)
Reproductive toxicity:	not known, resp. no reproduction-damaging effect (based on components)
STOT-single exposure:	not classified
STOT-repeated exposure:	not classified
Aspiration hazard:	not classified



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## SECTION 12 Ecological information

- 12.1 Toxicity  
Fish (*Oncorhynchus mykiss*)       $LC_{50} > 100$  mg/l/96 h
- 12.2 Persistence and degradability  
Biodegradability:      100 % (OECD 302B, 21 day)
- 12.3 Bioaccumulative potential      Log Pow:  $\leq 2.0$  (each main component)
- 12.4 Mobility  
Mobility in soil:      Mobile in soil until degraded.  
Mobility in water:      Soluble in water and will partition to aqueous phase.
- 12.5 Results of PBT and vPvB assessment      The product contains no PBT (persistent / bioakkumu-  
relative / toxic) and vPvB right (very persistent / very  
bioaccumulative) criteria material.
- 12.6 Other adverse effects  
Environmental effects:      Large spills may be hazardous to the environment.  
Water hazard class (German):      WGK 1 (self-assessment): Slight hazard to water.

## SECTION 13 Disposal considerations

### 13.1 Waste treatment methods

#### Product disposal:

Wastes of the product or used oil should be treated as hazardous waste.

Waste Identification Code: 16 01 13\*

Brake fluids.

Recommended waste treatment method: must be handed over to a licensed waste management company. Combustion or recycling is possible.

#### Packaging disposal:

Containers with product residue should also be treated as hazardous waste according to national and local disposal regulations.

Waste Identification Code: 15 01 10\*

Packaging containing residues of or contaminated by dangerous substances.

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Recommended waste treatment method: incineration or recycling after cleaning.

Wastewater:

Quality of wastewater emitted to natural water must comply with national and local regulations.

Care should be taken in any case to ensure compliance with EC, national and local regulations. It is the responsibility of the user to know all relevant national and local regulations.

## SECTION 14      Transport information

Land transport:

Road/ Railway      ADR/RID:      Not classified.

- |       |                               |   |
|-------|-------------------------------|---|
| 14.1. | UN number:                    | - |
| 14.2. | UN proper shipping name:      | - |
| 14.3. | Transport hazard class(es):   | - |
| 14.4. | Packing group:                | - |
| 14.5. | Environmental hazards:        | - |
| 14.6. | Special precautions for user: | - |

Waterways:

Inland waterways/ Sea transport      ADN/IMDG:      Not apply to the product.

Air transport:      ICAO / IATA:      Not apply to the product.

## SECTION 15      Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the mixture.  
This safety data sheet has been prepared according to Regulation (EC) No 1907/2006 (mod.: 2015/830/EU) and to Regulation (EC) 1272/2008.

- 15.2 Chemical safety assessment.  
not available

## SECTION 16      Other information

The information given in this data sheet is based on our best knowledge at the time of publication. The information is related only to this product and is intended to assist its safe transport, handling and use. The given physical and chemical parameters describe the product only for the purpose of safety requirements and therefore should not be construed as guaranteeing any specific property of the product or as being part of a product specification or any contract.

The manufacturer or supplier shall not take responsibility for any damages from the use other than recommended or other misuse of the product. It is the responsibility of the user to keep regulatory precautions and observe recommendations for safe use of the product.

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Source of data presented in this material safety data sheet:

- Test results of this product
- Material safety data sheets of product's components
- 1272/2008/EC regulation, Annex XVII. of REACH
- Relevant Hungarian and EU regulations

Classification for mixtures and used evaluation method according to regulation 1272/2008/EC (CLP)

Eye Irrit. 2                      H319                      (based on test results)

*The full text of each relevant H- phrase and Hazard classes and cat. in Section 3.:*

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to kidneys through prolonged or repeated exposure if swallowed.
Acute Tox. 4	Acute toxicity Category 4
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Repr. 2	Reproductive toxicity Category 2
STOT RE 2	Specific target organ toxicity – repeated exposure Category 2

Legend:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
BOD	Biological Oxygen Demand
Bw	Body Weight
C&L	Classification and Labelling
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
CMR	Carcinogenic, Mutagenic or toxic to Reproduction
COD	Chemical Oxygen Demand

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CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
DMEL	Derived Minimal Effect Level
DNEL	Derived No Effect Level
ECHA	European Chemicals Agency
Ec <sub>x</sub>	Effective Concentration x%
Ed <sub>x</sub>	Effective Dose x%
ELINCS	European List of Notified Chemical Substances
ErC50	EC50 in terms of reduction of growth rate;
ES	Exposure Scenario
ESIS	European Chemical Substances Information System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC <sub>x</sub>	Lethal Concentration x%
LD <sub>x</sub>	Lethal Dose x%
LOAEC	Lowest Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level
LOEC	Lowest Observed Effect Concentration
LOEL	Lowest Observed Effect Level
NOEC	No observed effect concentration
NOEL	No observed effect level
NLP	No-Longer Polymer
NOAEL	No Observed Adverse Effect Level
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SVHC	Substance of Very High Concern
UVCB	substance of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bio-accumulative

## Revision Indicators:

Section	Subject of change	Date	Version
1	Responsible for SDS	10.04.2015	2
2	Other hazards		
5	Fire hazards		
14	Transport information		
1-16	Full revision due to change in composition	01. 10. 2018	3