

SAFETY DATA SHEET

MOL-LUB Ltd.

Trade name: **MOL Hydro HM 46 AL ashless hydraulic oil**

Version: 2

Latest revision: 29. 01. 2010

Date of issue: 20. 06. 2007

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

Product name:

MOL Hydro HM 46 AL

Product type / recommended uses:

preparation / ashless hydraulic oil

Manufacturer / Supplier identification:

MOL-LUB Lubricant Production Trade and Service Limited Liability Company

H-2931 Almásfüzitő, Fő út 21., Hungary

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

Request SDS of:

MOL-LUB Lubricant Production Trade 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 HSE and QOP

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

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Technical information:

MOL-LUB Ltd. Product Development and Technical Service

H-1117 Budapest, Október huszonharmadika utca 18., Hungary

Phone/Fax: +36 80 201 296 or +36 1 464 0236 / +36 1 464 0304

Emergency telephone (07-15²⁰ h): +36 34 526 210

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

Tel.: +36 1 476 6464, or +36 80 201 199

2. Hazards identification

Human health hazards: Danger symbol not required.

Note: Prolonged and/or repeated contact may cause irritation on skin or in eyes depending on individual sensitivity (See also Protective equipment).

Safety hazards: Danger symbol not required.

Environmental hazards: Danger symbol not required.

Note: Spills may form a film on water surfaces causing impaired oxygen transfer.

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3. Composition / information on ingredients

Chemical description: Mixture of refined mineral base oils containing additives.

Ingredients / Hazardous components:

| Name | EINECS number | CAS number | Hazard symbol | Risk phrase | Conc. %(m/m) |
|---|------------------|---------------|------------------|-------------|-----------------|
| Lubricating oils (petroleum), C17-C32* | 309-875-6 | 101316-70-5 | - (Note L) | - | max. 99 |

*: with exposure limit

The full text of each relevant R phrase see in Section 16.

4. 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. If rapid recovery does not occur, obtain medical attention.

Skin contact: Wash skin with large amounts of water, use soap. In case of persistent irritation, get medical attention.

Eye contact: Flush eyes with plenty of water for 10-15 minutes. In case of persistent irritation, get medical attention.

Ingestion: If swallowed, give water. Do not induce vomiting. Get medical attention.

Note to physician:

5. Fire-fighting measures

Fire hazards:

Moderately hazardous (see also Section 9 - flash point).

Suitable extinguishing media:

Foam, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media:

Water jet.

Hazardous decomposition products:

On burning, carbon monoxide, carbon dioxide, various hydrocarbons and soot can be formed.

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Special protective equipment:

According to the existing fire-fighting regulations.

Further information:

-

6. Accidental release measures

Personal precautions:

See Section 8.

Environmental precautions:

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

Clean-up procedures / recovery

On soil: Contain spilled liquid with sand, earth or other suitable absorbents. Recover free liquid by pumping. Dispose of according to local regulations.

On water: Confine the spillage. Remove from surface by skimming or suitable absorbents. Notify local authorities according to regulations.

7. Handling and storage

Handling:

Keep general measures applied for normal operations with lubricants.

Keep away from radiant heat and open flame.

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

Handling temperature:

Storage:

Store in dry, well ventilated place in original, closed containers.

Keep away from radiant heat, open flame and strong oxidizing agents.

Storage temperature: max. 40°C

Specific application:

See product sheet.

8. Exposure controls / personal protection

Engineering control measures:

Not required.

Exposure limits:

Mineral oil mist: TWA: **5 mg/m³**; STEL: 10 mg/m³, for oil mist, vapour excluded (ACGIH).

Method of testing, recommended: NIOSH 5026

Personal protection:

| | |
|-------------------------|--|
| Respiratory protection: | Breathing apparatus not required. |
| Hand protection: | Oil resistant gloves (EN 374, Breakthrough time 480 min; Permeation performance level: 6) (e.g. nitrile rubber – minimal thickness 0.33 mm). |
| Eye protection: | Protective goggles not required. |
| Skin protection: | Protective clothing (oil resistant). |
| Other special: | |

General protective measures / hygiene:

Avoid contact with skin and eyes. Avoid prolonged breathing of oil vapours or mists.
Ensure washing facilities after working hours and before breaks. Take off contaminated or oil-soaked clothing, wash with warm water and soap.

Environmental exposure controls:

Do not discharge into drains/surface waters/groundwater.

9. Physical and chemical properties

Appearance:

| | |
|-----------------|----------------|
| Physical state: | liquid |
| Colour: | yellow, clear |
| Odour: | characteristic |

Change in physical state:

| | |
|------------------------|------------|
| Pour point (ISO 3016): | typ. -27°C |
| Boiling point: | |

Others:

| | |
|---|-----------------------------------|
| Flash point (COC) (EN ISO 2592): | typ. 225°C |
| Ignition point (EN ISO 2592): | not available |
| Autoignition temperature: | not available |
| Explosive properties: | not explosive |
| Oxidizing properties: | |
| Vapour pressure at 20°C: | negligible |
| Density at 15°C (EN ISO 12185): | typ. 0.878 g/cm ³ |
| Solubility in water: | practically insoluble in water |
| Solubility in other solvents: | gasoline, kerosene, toluene, etc. |
| n-Octanol/water partition coefficient: | not available |
| Vapour density: | not available |
| Evaporation rate: | not available |
| Heating value: | inf. 38 000 kJ/kg |
| Kinematic viscosity at 40°C (EN ISO 3104): | typ. 46.9 mm ² /s |
| Kinematic viscosity at 100°C (EN ISO 3104): | typ. 6.85 mm ² /s |
| pH: | not applicable |

10. Stability and reactivity

| | |
|-----------------------------------|--|
| Stability: | No decomposition if stored and handled properly. |
| Conditions to avoid: | Direct heat or ignition sources. |
| Materials to avoid: | Strong oxidizing agents. |
| Hazardous decomposition products: | On burning, carbon monoxide, carbon dioxide, various hydrocarbons and soot can be formed. Under normal conditions no dangerous decomposition products are formed. |

Notes:

11. Toxicological information

Acute toxicity:

| | | | | |
|---------|---------------------------|--------|-------|-----------------------|
| Oral: | LD ₅₀ (rat) | > 2000 | mg/kg | (based on components) |
| Dermal: | LD ₅₀ (rabbit) | > 2000 | mg/kg | (based on components) |

Acute toxicity: irritation

| | |
|-------|--|
| Skin: | not irritant (based on components) |
| Eye: | not irritant (based on components) |
| Note: | Prolonged and/or repeated contact may cause irritation on skin or in eyes depending on individual sensitivity. |

Sensitization: not sensitising (based on components)

Chronic toxicity: not known

Other information, specific effects:

The product does not contain PCBs, PCTs, and other chlorine compounds, and heavy metals, barium compounds.

The base oil(s) contain(s) less than 3% DMSO extract (IP 346), therefore not classified as carcinogenic material according to 67/548/EEC NOTE L.

| | |
|-------------------------------|--|
| Carcinogen effect: | not known, resp. not carcinogen (based on components) |
| Mutagen effect: | not known, resp. not mutagen (based on components) |
| Reproduction-damaging effect: | not known, resp. no reproduction-damaging effect (based on components) |

12. Ecological information

| | |
|--|--|
| Mobility: | Floats on water. Absorbs on soil. |
| Degradability / persistence: | |
| Biodegradability: | |
| Bioaccumulative potential: | |
| Ecotoxicity: | Not available. |
| Aquatic organisms: | |
| Soil organisms: | |
| Plants: | |
| Biological oxygen demand: | |
| Chemical oxygen demand: | |
| Heavy metal content: | None. |
| PCT, PCB and other chlorinated hydrocarbons: | None. |
| Environmental effects: | Spills may form a film on water surfaces causing impaired oxygen transfer. |
| Water hazard class (German): | |

13. Disposal considerations

Product disposal:

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

EWC cod: 13 01 10* or 13 02 05*

Mineral based non-chlorinated hydraulic oils. or

Mineral-based non-chlorinated engine, gear and lubricating oils.

Disposal must be in compliance with national and local regulations.

Packaging disposal:

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

EWC cod: 15 01 10*

Packaging containing residues of or contaminated by dangerous substances.

Disposal must be in compliance with national and local regulations.

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.

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14. Transport information

Land transport:

Road/ Railway

ADR/RID:

Not classified.

Waterways:

Inland waterways/ Sea transport ADN/IMDG:

Not classified.

Air transport: ICAO / IATA:

Not classified.

15. Regulatory information

Classification and labelling according to EU directives [67/548/EEC and 88/379/EEC, 1999/45/EC (existing versions)] and to Hungarian regulation [44/2000. (XII. 27.) EüM rendelet (existing version)] for hazardous substances and hazardous preparations:

Danger symbol(s) and indication(s):

Not required.

Hazardous substance(s):

-

The packaging must bear the inscription:

-

R-phrases: Not required.

S-phrases:

S 60

This material and its container must be disposed of as hazardous waste

S 61

Avoid release to the environment. Refer to special instructions/Safety data sheets

Tactile warning of danger:

Not required.

16. Other information

Recommended application / restrictions:

See product sheets.

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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This safety data sheet has been prepared according to Regulation (EC) No 1907/2006, Directives 88/379/EEC and 1999/45/EC.

Source of data presented in this material safety data sheet:

Test results of this product

Material safety data sheets of product's components

Hungarian and EU lists of dangerous substances

Relevant Hungarian regulation and EU directives

CONCAWE database

The full text of each relevant R phrase in Section 3.:

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Revision Indicators:

| Section | Subject of change | Date | Version |
|---------|---|------------|---------|
| 1-16 | Revision modification according to REACH (1907/2006/EC), other correction | 29.01.2010 | 2 |