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

1.1 Product identifier:
MOL Dynamic Tornado 5W-30 synthetic diesel engine oil

1.2 Relevant identified uses of the mixture and uses advised against
Relevant identified uses: synthetic diesel engine oil
Uses advised against: no data

1.3 Details of the supplier of the safety data sheet:
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 SD and HSE
Phone: +36 34 526 343; Mobile: +36 20 474 2644
e-mail: csahorvath@mol.hu

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

1.4 Emergency telephone number
Emergency telephone (07-15\textsuperscript{20} h): +36 34 526 210 (CET) on workdays
Health Toxicological Information Service (ETTSZ 1096 Budapest, Nagyvárad tér 2.)
Tel.: +36 1 476 6464, or +36 80 201 199
National Health Toxicological Information Service:
2. Hazards identification

2.1 Classification of the mixture

2.1.1 Classification of the mixture according to regulation 1272/2008/EC

Hazard Class and Category: Hazard statement:
Eye Irrit. 2  H319  Causes serious eye irritation.

2.1.2 Classification of the mixture according to regulation 1999/45/EC

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.

2.2 Label elements 1272/2008/EC

Product identification: Trade name: **MOL Dynamic Tornado 5W-30 synthetic diesel engine oil**

GHS Pictogram: ![](warning_icon.png)

Signal word: **Warning**

Hazard statement: **H319** Causes serious eye irritation.

Precautionary statements – Prevention:
- **P280** Wear eye/face protection.
- **P273** Avoid release to the environment.

Precautionary statements – Response:
- **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 – 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
no data available

### 3. Composition/information on ingredients

3.1 Mixtures

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

Component(s) / Hazardous component(s):

<table>
<thead>
<tr>
<th>Name</th>
<th>EU number</th>
<th>CAS number</th>
<th>Hazard symbol / Hazard classes and cat.</th>
<th>Risk phrase / Hazard statements</th>
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(Note L)
## Name

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<th>Risk phrase / Hazard statements</th>
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<td>94733-15-0</td>
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<td>101316-72-7</td>
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<td>68649-42-3</td>
<td>67/548/EEC: Xi, N 1272/2008/EC: Skin Irrit. 2 Eye Dam. 1 Aquatic Chronic. 2</td>
<td>R 38, R 41, R 51/53 H315 H318 H411</td>
<td>max. 2</td>
</tr>
</tbody>
</table>

*: with exposure limit

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

### 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.
4.2 Most important symptoms and effects, both acute and delayed
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment need
Not required.

5. Fire-fighting measures

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

5.1 Extinguishing media
Suitable extinguishing media:
Foam, carbon dioxide, dry chemical powder.

Unsuitable extinguishing media:
Water jet.

5.2 Special hazards arising from the mixture
Hazardous combustion products:
On burning, carbon dioxide, carbon monoxide, sulphur oxides, phosphor oxides, various hydrocarbons and soot can be formed.

5.3 Advice for fire-fighters
Special protective equipment:
According to the existing fire-fighting regulations. Respiratory protection.
Further information:
Collect contaminated fire fighting water separately. It must not enter the sewage system. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions: see Section 8.

6.2 Environmental precautions:
Confine spills to prevent material from entering sewers, watercourses, drains and into soil. Notify relevant authority.

6.3 Methods and material for containment and cleaning up
On soil: All kind of ignition sources should be remove. Recover free liquid by pumping. Contain the rest or small quantities with sand, earth or other suitable absorbents. 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.

6.4 Reference to other sections
Personal precautions: see section 8.
Waste treatment methods: see section 13.

7. Handling and storage

7.1 Precautions for safe handling
Keep general measures applied for normal operations with lubricants and flammable liquids.
Keep away from radiant heat and open flame.
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.
When using do not eat, drink or smoke. Avoid splashing the product.
Handling temperature: not known
7.2 Conditions for safe storage, including any incompatibilities

Storage facilities must comply with regulations for storing of flammable liquids.
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

7.3 Specific end use(s)

Synthetic diesel engine oil.

8. Exposure controls / personal protection

Engineering control measures:
Not required.

8.1 Control parameters:

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

Method of testing, recommended: NIOSH 5026

8.2 Exposure controls

Personal protection:
Respiratory protection: Breathing apparatus not required.
Hand protection: Oil resistant gloves (EN 374, Breakthrough time 480 min) (e.g. nitrile rubber – minimal thickness 0.33 mm).
Note: Manufacturer’s directions for use and the conditions of application should be observed.
Eye protection: Tightly fitting safety goggles.
Skin protection: Protective clothing (oil resistant).
Other special: no data

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

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:
Physical state: liquid
Colour: brown, clear
Odour: characteristic
### Change in physical state:
- **Pour point (ISO 3016):** typ. -40°C
- **Boiling point:** not available

### Others:
- **Flash point (COC) (EN ISO 2592):** typ. 230°C
- **Ignition point (EN ISO 2592):** not available
- **Autoignition temperature:** not available
- **Explosive properties:** not explosive
- **Oxidizing properties:** not oxidize
- **Vapour pressure at 20°C:** negligible
- **Density at 15°C (EN ISO 12185):** 0.850 – 0.870 g/cm³
- **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
- **Heating value:** inf. 38 000 kJ/kg
- **Kinematic viscosity at 40°C (EN ISO 3104):** typ. 7.16 mm²/s
- **Kinematic viscosity at 100°C (EN ISO 3104):** typ. 12.1 mm²/s
- **pH:** not applicable

#### 9.2 Other information
no data available

### 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:
Not known.

#### 10.4 Conditions to avoid:
Direct heat or ignition sources.

#### 10.5 Incompatible materials:
Strong oxidizing agents.

#### 10.6 Hazardous decomposition products:
No dangerous decomposition products are formed under normal conditions. Hazardous combustion products: See Section 5.
11. Toxicological information

11.1 Information on toxicological effects

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)
- Note: Prolonged and/or repeated contact may cause irritation on skin depending on individual sensitivity.
- Eye: irritant (based on components), causes serious eye irritation

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

Other information, specific effects:
- The product does not contain PCBs, PCTs, and other chlorine compounds, and heavy metals, barium compounds.

Note L: The classification as a carcinogen need not apply according to 1272/2008/EC, because it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

- 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 known
- STOT-repeated exposure: not known
- Aspiration hazard: not known

12. Ecological information

12.1 Toxicity

- No data for the product.

Aquatic organisms:
Soil organisms:
Plants:
### 12.2 Persistence and degradability

| Biodegradability: | No data available. |

### 12.3 Bioaccumulative potential

| No data available. |

### 12.4 Mobility

| Mobility in soil | Absorbs in soil. |
| Mobility in water: | Floats on water. |

### 12.5 Results of PBT and vPvB assessment

| Not required. |

### 12.6 Other adverse effects

| 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 |

#### 13.1 Waste treatment methods

**Product disposal:**

- Wastes of the product or used oil should be treated as hazardous waste.
- EWC cod: 13 02 06*
- Synthetic engine, gear and lubricating oils.
- EWC cod: 13 02 05*
- Mineral-based non-chlorinated engine, gear and lubricating oils.

Disposal must be in compliance with national and local regulations.

Recommended waste treatment method: incineration

**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.

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

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.: 453/2010/EC) and to Regulation (EC) 1272/2008.

15.2 Chemical safety assessment.
   not available

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.
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

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

Eye Irrit. 2 H319 calculation method

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

| R 38 | Irritating to skin. |
| R 41 | Risk of serious damage to eyes. |
| R 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R 65 | Harmful: may cause lung damage if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H411 | Toxic to aquatic life with long lasting effects. |
| Asp.Tox.1 | Aspiration hazard Category 1 |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| Eye Dam. 1 | Serious eye damage/eye irritation Category 1 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment, Chronic 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 Oxigen Demand |
| Bw | Body Weight |
| C&L | Classification and Labeling |
| CAS | Chemical Abstracts Service |
| CLP | Classification, Labelling and Packaging |
| CMR | Carcigenic, Mutagenic or toxic to Reproduction |
| COD | Chemical Oxygen Demand |
| CSA | Chemical Safety Assessment |
| CSR | Chemical Safety Report |
SAFETY DATA SHEET
MOL-LUB Ltd.
according to regulation 1907/2006/EC (REACH) and 1272/2008/EC

Trade name:  **MOL Dynamic Tornado 5W-30 synthetic diesel engine oil**

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<th>Derived Minimal Effect Level</th>
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<td>substance of unknown or variable composition, complex reaction products or biological materials</td>
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**Revision Indicators:**

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