



Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 1/(15)

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

1.1 Product identifier:

MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

1.2 Relevant identified uses of the <u>mixture</u> or substance and uses advised against

Relevant identified uses: multigrade diesel engine oil.

Uses advised against: no data.

1.3 Details of the supplier of the safety data sheet:

MOL-LUB Lubricant Production Distribution and Service Ltd.

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 Ltd.

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 (07-15²⁰ 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 <u>mixture</u> or substance

Hazard Class and Category: Hazard statement:

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting

effects.

SAFETY DATA SHEET



according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/EC $\,$ MOL-LUB Ltd.

Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 2/(15)

2.2 Label elements

Product identification: Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel

engine oil

Hazardous components: -

GHS Pictogram: not required Signal word: not required

Hazard statement:

H412 Harmful to aquatic life with long lasting effects.

Supplemental hazard information:

Precautionary statements - General: -

Precautionary statements – Prevention:

P273 Avoid release to the environment.

Precautionary statements – Response: -

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.

SAFETY DATA SHEET



according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/EC $\,$ MOL-LUB Ltd.

Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 3/(15)

SECTION 3 Composition/information on ingredients

3.2 Mixtures

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

Component(s) / Hazardous component(s):

Name	EU	CAS	Hazard classes	Hazard	Conc.
Name	number	number	and cat.	statements	%(m/m)
Lubricating oils	309-877-7	101316-72-7	-	-	max. 90
(petroleum), C24-C50			(Note L)		
solvent-extd., dewaxed,					
hydrogenated*					
REACH Registr. Nr.:					
01-2119489969-06					
Lubricating oils	305-594-8	94733-15-0	-	-	max. 80
(petroleum), C18-C40			(Note L)		
solvent-dewaxed					
hydrocracked distillate-					
based*					
REACH Registr. Nr.:					
01-2119486987-11					
Distillates (petroleum),	295-301-9	91995-40-3	Asp. Tox. 1	H304	max. 12
dewaxed light			(Note L)		
paraffinic, hydrotreated					
REACH Registr. Nr.:					
01-2119488517-24					
Distillates (petroleum),	265-157-1	64742-54-7	-	-	max. 5,0
hydrotreated heavy			(Note L)		
paraffinic*					
REACH Registr. Nr.:					
01-2119484627-25					
Phenol, (tetrapropenyl)	616-100-8	74499-35-7	Skin Corr. 1C	H314	<0,04
derivatives			Eye Dam. 1	H318	
REACH Registr. Nr.:			Repr. 1B	H360F	
no data			Aquatic Acute 1	H400 (M=10)	
			Aquatic Chronic 1	H410 (M=10)	

^{*:} with exposure limit

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





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 4/(15)

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. In case of complaints, call medical

attention.

Skin contact: Remove contaminated clothing. Wash skin with large amounts of water, use

soap. In case of complaints, get medical attention.

Skin contact: Remove contaminated clothing. Wash skin with large amounts of water, use

soap. In case of complaints, get medical attention.

Eye contact: Flush eyes with plenty of water for 10-15 minutes. In case of complaints,

get medical attention.

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

Protection of first-aid person: No individual specifications.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged and/or repeated contact may cause irritation on skin or in eyes depending on individual sensitivity.

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

SECTION 5 Fire-fighting measures

Fire hazards:

Combustible

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 <u>mixture</u> or substance

Hazardous combustion products:

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

SAFETY DATA SHEET



according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/EC MOL-LUB Ltd.

Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 5/(15)

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.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: see Section 8.

Danger of slipping on leaked out/spilled product.

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.

SECTION 7 Handling and storage

7.1 Precautions for safe handling

Keep general measures applied for normal operations with lubricants and flammable materials.

Keep away from radiant heat and open flame.

Avoid contact with skin and eyes. Avoid prolonged breathing of oil vapours or mists.





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 6/(15)

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: 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)

Multigrade diesel engine oil.

SECTION 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: Under normal conditions it is not necessary. In case of

exceeded exposure-limits respiratory protection with particle-

filter is recommended.

Hand protection: Oil resistant gloves (EN 374, Breakthrough time > 480 min,

PK power level: 6; PR flow rate: 0).

Note: Manufacturer's directions for use and the conditions of

application should be observed.

Eye protection: Protective goggles, if splashes may occur (EN 166).

Skin protection: Protective clothing (oil resistant).

Other special: no data

Environmental exposure controls:

Do not discharge into drains/surface waters/groundwater.





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 7/(15)

SECTION 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. -33°C Boiling point (DIN 51356): 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): $0,870 - 0,890 \text{ g/cm}^3$

Solubility in water: practically insoluble in water Solubility in other solvents: gasoline, kerosene, toluene, etc.

n-Octanol/water partition coefficient:

Vapour density:

Heating value:

Kinematic viscosity at 40°C (EN ISO 3104):

Kinematic viscosity at 100°C (EN ISO 3104):

pH:

not available

not available

typ. 107.5 mm²/s

typ. 14.6 mm²/s

not applicable

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: Not known.

10.4 Conditions to avoid: Direct heat or ignition sources.





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 8/(15)

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.

SECTION 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)

Components:

Lubricating oils (petroleum), C24-C50 solvent-extd., dewaxed, hydrogenated

Oral: LD_{50} (rat) > 5000 mg/kg OECD 401 Dermal: LD_{50} (rat) > 5000 mg/kg OECD 402 Inhalation: LC_{50} (rat) > 5,0 mg/L (4h) OECD 403

Lubricating oils (petroleum), C18-40 solvent-dewaxed hydrocracked distillate-based

Oral: LD_{50} (rat) > 5000 mg/kg Dermal: LD_{50} (rabbit) > 2000 mg/kg Inhalation: LC_{50} (rat) > 5.53 mg/L

Distillates (petroleum), dewaxed light paraffinic, hydrotreated

Distillates (petroleum), hydrotreated heavy paraffinic

 $\begin{array}{lll} \text{Oral:} & \text{LD}_{50} \ (\text{rat}) & > 5000 \ \text{mg/kg} \\ \text{Dermal:} & \text{LD}_{50} \ (\text{rabbit}) & > 5000 \ \text{mg/kg} \\ \text{Inhalation:} & \text{LC}_{50} \ (\text{rat}) & > 5.00 \ \text{mg/L} \ (4 \ \text{h}) \end{array}$

Phenol, (tetrapropenyl) derivatives

Oral: LD_{50} (rat) 2200 mg/kg (OECD 401) Dermal: LD_{50} (rabbit) 15 000 mg/kg (OECD 402)





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 9/(15)

Acute toxicity: irritation

Skin: not irritant (based on components)
Eye: not irritant (based on components)

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

Other information, specific effects:

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 classified STOT-repeated exposure: not classified not classified not classified

SECTION 12 Ecological information

12.1 Toxicity No data for the product.

Lubricating oils (petroleum), C24-C50 solvent-extd., dewaxed, hydrogenated Fish: $LC_{50} > 100 \text{ mg/L}$ (LL50)

Daphnia: $EC_{50} > 10\,000 \text{ mg/L}$ (WAF, 48 h,

OECD 202)

Lubricating oils (petroleum), C18-40 solvent-dewaxed hydrocracked distillate-based

Fish: LC_{50} > 100 mg/L Daphnia: EC_{50} > 100 mg/L Other aquatic organisms: EC_{50} > 100 mg/L Other living beings: EC_{50} > 100 mg/L > 1 mg/L

Distillates (petroleum), dewaxed light paraffinic, hydrotreated:





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 10/(15)

Distillates (petroleum), hydrotreated heavy paraffinic

Fish (Pimephales promelas): NOEL $\geq 100 \text{ mg/L}$ 96 h Fish (Oncorhynchus mykiss): NOEL >1000 mg/L28 days Daphnia (Daphnia magna): NOEL > 10000 mg/L 48 h Daphnia (Daphnia magna): NOEL > 100 mg/L21 days

Algae

(Pseudokirchinella subcapitata): NOEL ≥100 mg/L 72 h

Phenol, (tetrapropenyl) derivatives:

Fish (Fat-headed carp): LC_{50} 40 mg/L 96 h Daphnia: EC_{50} 0.037 mg/L48 h Crustacea (Mysidopsis Bahia): EC_{50} >0.58 mg/L 96 h Daphnia: EC_{50} $0.0079 \, \text{mg/L}$ 21 days Daphnia: NOEC $0.0037 \, \text{mg/L}$ 21 days Algae: 0.36 mg/L72 h EC_{50} Microorganisms (activated sludge): EC_{50} >1000 mg/L0.1 day

12.2 Persistence and degradability

Biodegradability: Hydrocarbons are inherently degradable.

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 Does not contain PBT and vPvB substances.

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): WGK 1 (Classification by AwSV)





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 11/(15)

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: 13 02 05*

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

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.

Waste Identification Code: 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.

SECTION 14 Transport information

Land transport:

Road/ Railway ADR/RID: Not classified.

14.1 UN number: not classified.

14.2 UN proper shipping name: not classified.14.3 Transport hazard class(es): not classified.

14.4 Packing group: not classified.

14.5 Environmental hazards: not classified.14.6 Special precautions for user: not classified.

Waterways:

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

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





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 12/(15)

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.

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.

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)

Aquatic Chronic 3 H412 calculation method

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

H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
***	3.6

H360F May damage fertility. H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 13/(15)

Asp. Tox. 1 Aspiration hazard Category 1

Skin Corr. 1C Skin corrosion/irritation Category 1C

Eye Dam. 1 Serious eye damage/eye irritation Category 1

Repr. 1B Reproductive toxicity Category 1B

Aquatic Acute 1 Hazardous to the aquatic environment, Acute Category 1 Aquatic Chronic 1 Hazardous to the aquatic environment, Chronic Category 1

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 and Labelling

CMR Carcinogenic, Mutagenic or toxic to Reproduction

COD Chemical Oxygen Demand
CSA Chemical Safety Assessment
CSR Chemical Safety Report
DMEL Derived Minimal Effect Level
DNEL Derived No Effect Level
ECHA European Chemicals Agency
Ecx Effective Concentration x%

Edx 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

LCx Lethal Concentration x%

LDx 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





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 14/(15)

NOEL No observed effect level **NLP** No-Longer Polymer **NOAEL** No Observed Adverse Effect Level Organisation for Economic Cooperation and Development OECD **PBT** Persistent Bioaccumulative and Toxic Predicted No-Effect Concentration **PNEC REACH** Registration, Evaluation, Authorisation and Restriction of Chemicals Regulations concerning the International Carriage of Dangerous Goods by Rail RID **SVHC** Substance of Very High Concern **UVCB** substance of unknown or variable composition, complex reaction products or biological

materials
Volatile organic compounds

vPvB Very Persistent and very Bio-accumulative

Revision Indicators:

VOC

Section	Subject of change	Date	Version
3	Composition / information on ingredients	26.02.2008	2
1-16	Revision modification according to REACH		
	(1907/2006/EC)		
1	Product name	08.02.2010	3
3	Composition / information on ingredients		
	Other corrections		
3	Composition/information on ingredients	13.05.2011	4
1-16	Revision modification according to 453/2010/EC		
2	Hazards identification	27.05.2013	5
3	Composition/information on ingredients		
9	Physical and chemical properties		
11	Toxicological information		
1-16	Revision modification according to 1272/2008/EC		
1	Details of the supplier of the safety data sheet,	14.09.2015	6
	Responsible for SDS		
3	Composition/information on ingredients		
9	Physical and chemical properties		
1-16	Other corrections, revision modification according to		
	2015/830 /EU		





Trade name: MOL Dynamic MK 9 15W-40 multigrade diesel engine oil

Version: 8 Latest revision: 31.01.2020. Date of issue: 20. 06. 2007 Page: 15/(15)

Section	Subject of change	Date	Version
2.2	Label elements	12.06.2018	7
3	Composition/information on ingredients		
9	Physical and chemical properties		
1-16	Other corrections		
2	Hazards identification	31.01.2020	8
3.	Composition/information on ingredients		
4.2	Most important symptoms and effects, both acute and		
	delayed		
9	Physical and chemical properties		
11.	Toxicological information		
12.	Ecological information		
16	Other corrections		