

according to regulation (EC) No 1907/2006 (REACH) and 1272/2008/EC

MOL-LUB Ltd.

Trade name: MOL Dynamic Star PC 0W-30 synthetic motor oil

Version: 2 Latest revision: 13. 03. 2019 Date of issue: 17. 05. 2016 Page: 1/(14)

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

1.1 Product identifier:

MOL Dynamic Star PC 0W-30 synthetic motor oil

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

Relevant identified uses: synthetic motor 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 (on workdays: 07-15²⁰ h (CET)): +36 34 526 210

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:

Aquatic Chronic 3. H412 Harmful to aquatic life with long lasting

effects.



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2.2 Label elements

Product identification: Trade name: MOL Dynamic Star PC 0W-30 synthetic motor

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.



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SECTION 3 Composition/information on ingredients

3.2 Mixtures

Chemical description: Mixture of refined mineral base oils and hydrotreated neutral oil

containing additives.

Component(s) / Hazardous component(s):

Name	EU	CAS	Hazard classes	Hazard	Conc.
Ivallic	number	number	and cat.	statements	% (m/m)
Dec-1-ene, trimers,	500-393-3	157707-86-3	Asp. Tox. 1	H304	max. 40
hydrogenated					
REACH Registr.Nr.:					
01-2119493949-12					
Distillates (petroleum)	265-157-1	64742-54-7	Asp. Tox. 1	H304	max. 30
hydrotreated heavy			(Note L)		
paraffinic,					
C20-C50*					
REACH Registr.Nr.:					
01-2119484627-25					
1-Decene Homopolymer	500-183-1	68037-01-4	-	-	max. 25
Hydrogenated					
REACH Registr.Nr.:					
01-2119486452-34	252 240 4	26070.20.2	4	XX.110	2.0
Long-chain alkyl amine	253-249-4	36878-20-3	Aquatic Chronic 4	H413	max. 2.0
C7-9-alkyl 3-(3,5-di-tert-	406-040-9	125643-61-0	Aquatic Chronic 4	H413	max. 2.0
butyl-4- hydroxyphenyl)					
propionate					
REACH Registr.Nr.:					
01-0000015551-76	500 221 5		F 5 1	11210	0.2
Alcohols, C12-16,	500-221-7	-	Eye Dam. 1	H318	max. 0.2
ethoxylated			Aquatic Acute 1	H400 (M=1)	
DI 1 1 1 1	210 154 2	101150 50 5	Aquatic Chronic 3	H412	0.1
Phenol, dodecyl-,	310-154-3	121158-58-5	Skin Corr. 1C	H314	< 0.1
branched			Eye Dam. 1	H318	
REACH Registr.Nr.:			Repr. 1B	H360F	
01-2119513207-49			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.



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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. If rapid recovery does not occur,

obtain medical attention.

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

soap. In the event of a complaint, get medical attention.

Eye contact: Flush eyes with plenty of water for 10-15 minutes. In the event of a complaint,

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 mixture or substance

Hazardous combustion products:

On burning, carbon monoxide, carbon dioxide, sulphur oxides, phosphor oxides, zinc oxide, various hydrocarbons and soot 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:

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. 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.

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.

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 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 motor 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 not required. When the exposure limit

value is exceeded recommended to use a half face filter mask.

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: Where splashing is possible, wear safety glasses (EN 166).

Skin protection: Protective clothing (oil resistant).

Other special: no data

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: brown, clear Odour: characteristic



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Change in physical state:

Pour point (ISO 3016): typ. -48°C Boiling point (ISO 2176): not available

Others:

Flash point (COC) (EN ISO 2592): typ. 220°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): $0.835 - 0.855 \text{ g/cm}^3$

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. 54.3 mm²/s
typ. 54.3 mm²/s
typ. 9.7 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.

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.



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SECTION 11 Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

Oral: LD_{50} (rat) > 2000mg/kg (based on components) Dermal: LD₅₀ (rabbit) > 2000 mg/kg (based on components)

Components:

Dec-1-ene, trimers, hydrogenated

Oral: LD₅₀ (rat) > 2000 mg/kg

1-Decene Homopolymer, hydrogenated

Oral: > 5000 mg/kgLD₅₀ (rat)

Inhalation: LC₅₀ (rat) >5.2 mg/L 4 h (dust / mist)

Distillates (petroleum) hydrotreated heavy paraffinic, C20-C50

Oral: LD₅₀ (rat) > 5000 mg/kg> 2000 mg/kgDermal: LD₅₀ (rabbit) Inhalation: LC_{50} (rat) > 5.53 mg/L

Acute toxicity: irritation

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

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

Other information, specific effects:

NOTE L: The base oil(s) contain(s) less than 3% DMSO extract (IP 346), therefore not classified as carcinogenic material according to 1272/2008/EC.

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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CTION 12 Ecologic	cal information				
Toxicity		Not availab	ole.		
Components:					
Dec-1-ene, trimers, hydrogenated (based on da			data of similar material)		
Fish:		LL_{50}	> 1000	mg/L	96 h
Daphnia:		EL_{50}	> 1000	mg/L	48 h
Daphnia:		NOELR	125	mg/L	21 day
Microorganism:		NOEC	2.0	mg/L	28 day
Aquatic plants:		NOELR	1000	mg/L	72 h
1-Decene Homopoly	mer, hydrogenated				
Fish:		LL_{50}	> 1000	mg/L	96 h
Daphnia:		EL_{50}	> 1000	mg/L	48 h
Daphnia:		NOELR	125	mg/L	21 day
Microorganism:		NOEC	2.0	mg/L	28 day
Aquatic plants:		NOELR	1000	mg/L	72 h
Distillates (petroleun	n) hydrotreated hea	vy paraffinic, C	220-C50		
Fish:	•	LC_{50}	> 100	mg/L	
Daphnia:		EC_{50}	> 100	mg/L	
Other aquatic organi	isms:	EC_{50}	> 100	mg/L	
Other living beings:		TLM	>1	mg/L	
Long-chain alkyl am	ine				
Fish (zebrafish):		LC_{50}	> 100	mg/L	96 h
Daphnia:		EC_{50}	> 100	mg/L	48 h
Green Algae:		EC_{50}	600	mg/L	72 h
Microorganisms (act	tivated sludge):	EC_{50}	>1000	mg/L	0.1 day
Alcohols, C12-16, et	hoxylated				
Fish:		LC_{50}	> 1.0-10	mg/L	96 h
Daphnia:		EC_{50}	> 0.1-1.0	mg/L	48 h
Daphnia:		NOEC	> 0.1-1.0	mg/L	21 day
Green Algae:		EC_{50}	> 0.1-1.0	mg/L	72 h



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Phenol, dodecyl-, branched

Fish (Fat-headed carp): LC_{50} 96 h 40 mg/L Daphnia: EC_{50} 0.037 mg/L48 h Shrimp (Mysidopsis Bahia): EC_{50} >0.58 mg/L 96 h Daphnia: EC_{50} 0.0079 mg/L 21 day Daphnia: **NOEC** 0.0037 mg/L21 day Algae: 0.36 mg/L72 h EC_{50} 0.1 day Microorganisms (activated sludge): EC_{50} >1000 mg/L

12.2 Persistence and degradability

Biodegradability: No data available.

Dec-1-ene, trimers, hydrogenated not readily degradable

1-Decene Homopolymer, hydrogenated not readily degradable

Distillates (petroleum), C20-C50 cca. 30 % (28 day, OECD 301 F). Not easily, but

inherently degradable.

Long-chain alkyl amine 0,0 % (28 day, OECD TG 301 B) Alcohols, C12-16, ethoxylated 60 % (28 day, OECD TG 301 F) Phenol, dodecyl-, branched 25 % (28 day, OECD TG 301 B)

12.3 Bioaccumulative potential No data available.

Dec-1-ene, trimers, hydrogenated LogPow: >10 (low) Long-chain alkyl amine BCF: 1584.89;

Alcohols, C12-16, ethoxylated

Phenol, dodecyl-, branched BCF: 794.33; LogKow: 7.14

12.4 Mobility

Mobility in water: Floats on water.

Mobility in soil: Absorbs in soil.

12.5 Results of PBT and vPvB Does not contain PBT and vPvB substances.

assessment

12.6 Other adverse effects

Heavy metal content: None. PCT, PCB and other chlorinated None.

hydrocarbons:

Environmental effects: Harmful to aquatic life with long lasting effects.

Water hazard class (German): WGK 2 (Classification by VwVwS)



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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.

Waste Identification Code: 13 02 06* Synthetic 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.

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
- 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.



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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.

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 calculated

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.
H360F	May damage fertility.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life



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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
Aquatic. Chronic 3 Hazardous to the aquatic environment, Chronic Category 3
Aquatic. Chronic 4

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 (1272/2008/EC)
CMR Carcinogenic, Mutagenic or toxic to Reproduction

COD Chamical 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%

ErC50 EC50 in terms of reduction of growth rate

Edx Effective Dose x% EC European Community

EC number European Community number

ELINCS European List of Notified Chemical Substances

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



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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
ppm	parts/million
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 biologica materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bio-accumulative

Revision Indicators:

Section	Subject of change	Date	Version	
3	Composition/information on ingredients	13.03.2019	2	
9	Physical and chemical properties			
11	Toxicological information			
12	Ecological information			
1-16	Other corrections			