

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

Trade name: MOL Dynamic Star VL 0W-20 synthetic motor oil

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

- 1.1 Product identifier: **MOL Dynamic Star VL 0W-20 synthetic motor oil** UFI: CRH0-60AX-900E-UVQ1
- 1.2 Relevant identified uses of the substance or mixture and uses advised against Relevant identified uses: synthetic motor oil. Uses advised against: application other than the above.
- 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 E-mail: kenoanyag@mol.hu

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 Kft. Tel: +36 80 201 296 E-mail: EBKHelpdesk@MOL.hu

1.4 Emergency telephone number Emergency telephone (07-15²⁰ h): +36 34 526 210 (CET) on workdays Health Toxicological Information Service (ETTSZ 1097 Budapest, Albert Flórián st. 2-6.) Tel.: +36 80 201 199 (0-24 h, free number, can only be called from Hungary).
+36 1 476 6464 (0-24 h, can be called for a normal fee - also from abroad) National Health Toxicological Information Service:

SECTION 2 Hazards identification

2.1	Classification of the substance or mixture			
	Hazard Class and Category:	Hazard states	ment:	
	Skin Sens. 1	H317	May cause an allergic skin reaction.	

	SETY DATA S		41272/2008/EC	MOLI	UB Ltd.	
		No 1907/2006 (REACH) an Oynamic Star VL 0				
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2.2	Label elements					
	Product identification	on: Trade name: M	OL Dynamic Star	· VL 0W-20 s	ynthetic motor oil	
	Hazardous compone	ents: C14-16-18 Alk	yl phenol			
	GHS Pictogram:	<u><!--</u-->></u>				
	Signal word:	Warning				
	Hazard statement: H317	May cause an allerg	c skin reaction.			
	Supplemental hazard information: -					
Precautionary statements – General:P101If medical advice is needed, have productP102Keep out of reach of children.			uct container	or label at hand.		
	Precautionary stater	nents – Prevention:				
	P273	Avoid release to the	environment.			
	P280	Wear protective glov	ves.			
	Precautionary stater P302 + P352 P333 + P313	nents – Response: IF ON SKIN: Wash If skin irritation or ra			attention	
	Precautionary stater					
	Precautionary stater	-				
	P501	Dispose of contents,	container in accor	dance with na	tional regulation.	
	Other liabilities for l Tactile warning of d Transport classifica	anger: not required	1.			
2.3	(EC) 1907/2006, at	t contain any PBT or vP a concentration of 0.1% not contain any subst % or more.	or more.	-	-	



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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	EC	CAS	Hazard classes and	Hazard	Conc.
	number	number	cat.	statements	%(m/m)
Distillates (petroleum), hydrotreated heavy paraffinic REACH Registr. Nr.: 01-2119484627-25	265-157-1	64742-54-7	Asp. Tox. 1 (Note L)	H304	max.60
1-Decene, tetramer, mixed with 1-decene trimer, hydrogenated REACH Registr. Nr.: no data	614-695-9	68649-12-7	Asp. Tox. 1 (Note L)	H304	max.25
1-Decene Homopolymer Hydrogenated REACH Registr. Nr.: 01-2119486452-34	500-183-1	68037-01-4	Asp. Tox. 1 (Note L)	H304	max.5.0
Distillates (petroleum), solvent-dewaxed heavy paraffinic* REACH Registr. Nr.: 01-2119471299-27	265-169-7	64742-65-0	(Note L)	-	max.5.0
Bis(nonylphenyl)amine REACH Registr. Nr.: 01-2119488911-28	253-249-4	36878-20-3	Aquatic Chronic 4	H413	max.1.3
C14-16-18 Alkylphenol REACH Registr. Nr.: 01-2119498288-19	931-468-2	-	Skin Sens. 1B Aquatic Chronic 4	H317 H413	max.1.3

*: with exposure limit

Note L:

The harmonised classification as a carcinogen applies unless it can be shown that the substance contains less than 3 % of dimethyl sulphoxide extract as measured by IP 346 ("Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions – Dimethyl sulphoxide extraction refractive index method" Institute of Petroleum, London), in which case a classification in accordance with Title II of this Regulation shall be performed also for that hazard class.

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. In case of complaints, call medical attention.
 - Skin contact: 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 May cause an allergic skin reaction. 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 needed Not required.

SECTION 5 Fire-fighting measures

Fire hazards: Combustible.

 5.1 Extinguishing media
 Suitable extinguishing media: Foam, carbon dioxide, dry chemical powder, water fog (trained personnel only).

Unsuitable extinguishing media: Full water jet.

 5.2 Special hazards arising from the substance or mixture Hazardous combustion products: On burning, carbon monoxide, carbon dioxide, sulphur oxides, phosphor oxides, 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 removed. 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.

Keep away from radiant heat and open flame.

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

Wash hands before breaks and at end of work.

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



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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

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

Engineering control measures: Not required.

Personal protection:

(a)	Eye/face protection	Where splashing is possible, wear safety glasses (EN 166).
(b)	Skin protection	
	(i) 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.
	(ii) Other	Protective clothing (oil resistant).
(c)	Respiratory protection	Under normal conditions not required. In case of exceeded exposure-limits respiratory protection with particle-filter is recommended.
(d)	Thermal hazards	No data.

Environmental exposure controls:

Do not discharge into drains/surface waters/groundwater.

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SECTION 9 Physical and chemical properties

9.1	1 Information on basic physical and chemical properties				
		Physical state:	liquid		
	b)	Colour:	bright, clear		
	c)	Odour:	characteristic		
	d)	Melting point/freezing point (Pour point) (ISO 3016):	typ42°C		
	e)	Boiling point or initial boiling point and boiling range	op. 12 c		
	•)	(DIN 51356):	not available		
	f)	Flammability:	combustible		
	g)	Lower and upper explosion limit:	not explosive		
	b)	Flash point (COC) (EN ISO 2592):	typ. 230°C		
	i)	Auto-ignition temperature:	not available		
	j)	Decomposition temperature:	not available		
	k)	pH:	not applicable		
	1)	Kinematic viscosity (EN ISO 3104)	I I I I I I I I I I I I I I I I I I I		
	/	at 40°C:	typ. 45.8 mm ² /s		
		at 100°C:	typ. 8.8 mm ² /s		
	m)	Solubility			
		Solubility in water:	practically insoluble in water		
		Solubility in other solvents:	gasoline, kerosene, toluene, etc.		
	n)	Partition coefficient n-octanol/water (log value):	not available		
	o)	Vapour pressure at 20°C:	negligible		
	p)	Density and/or relative density at 15°C (EN ISO 12185):			
	q)	Relative vapour density:	not available		
	r)	Particle characteristics:	not available		
9.2	Oth	erinformation			
	<i>–</i> 41	Oxidizing properties:	not oxidize		
		Heating value:	inf. 38 000 kJ/kg		
		···· 6 · · · · ·			

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:	Notknown
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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity: Based on available data, the classification criteria are not met.

Components:

Distillates (petroleum), hydrotreated heavy paraffinic (CAS: 64742-54-7)

Oral:	LD_{50} (rat)	>2000 mg/kg	(OECD 401)
Dermal:	LD ₅₀ (rabbit)	>2000 mg/kg	(OECD 402)
Inhalation:	LC_{50} (rat)	$> 5000 mg/m^3$	(OECD 403)

1-Decene Homopolymer Hydrogenated (CAS: 68037-01-4)

Oral:	LD_{50} (rat)	>5000 mg/kg
Dermal:	LD_{50} (rat)	>2000 mg/kg
Inhalation:	LC_{50} (rat)	> 5.2 mg/L

Distillates (petroleum), solvent-dewaxed heavy paraffinic (CAS: 64742-65-0)

Oral:	LD_{50} (rat)	> 5000 mg/kg	(literature data)		
Dermal:	LD ₅₀ (rabbit)	>2000 mg/kg	(literature data)		
Inhalation:	LC_{50} (rat)	> 5.53 mg/L (4 h)) (literature data)		
Bis(nonylphenyl)amine (CAS: 36878-20-3)					

ns(nonyipnenyi)ana	mc (CIID: 50070 20	, 5)	
Oral:	LD_{50} (rat)	> 5000 mg/kg	(OECD 401)
Dermal:	LD_{50} (rat)	> 2000 mg/kg	(OECD 402)

Skin corrosion/irritation:BaSerious eye damage/irritation:BaRespiratory or skin sensitisation:MaGerm cell mutagenicity:BaCarcinogenicity:BaReproductive toxicity:BaSTOT-single exposure:BaSTOT-repeated exposure:BaAspiration hazard:Ba

Skin corrosion/irritation:Based on available data, the classification criteria are not met.Serious eye damage/irritation:Based on available data, the classification criteria are not met.Respiratory or skin sensitisation:May cause an allergic skin reaction.

Based on available data, the classification criteria are not met.
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11.2 Information on other hazards

The mixture does not contain any substance with endocrine disrupting properties, at a concentration of 0.1% or more.



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SECTION 12 Ecological information

12.1	Toxicity				
	Components: Distillates (petroleum), hydrotreated he Fishes: Daphnia: Algae:	avy paraffinic	e (CAS: 64) > 1000 > 100 > 100	mg/L mg/L	96 h (OECD 203) 48 h (OECD 202) 72 h (OECD 201)
	1-Decene Homopolymer Hydrogenated Fish (Oncorhynchus mykiss): Daphnia (Daphnia magna): Daphnia (Daphnia magna): Daphnia (Daphnia magna): Algae (Scenedesmus quadricauda):	(CAS: 68037- LC ₅₀ EC ₅₀ EC ₅₀ NOEC LC ₅₀	> 1000 > 1000 > 125 125	mg/L mg/L mg/L	4 h 48 h 21 days 21 days 3 h
	Algae (Scenedesmus quadricauda):	NOEC	>1000	mg/L	3 h
	Distillates (petroleum), solvent-dewaxed Fish: Daphnia: Other aquatic organisms: Algae: Other living beings: Bis(nonylphenyl)amine (CAS: 36878-20 Fishes (Danio rerio):	$\begin{array}{c} LC_{50} \\ EC_{50} \\ EC_{50} \\ ErC_{50} \\ TLM \end{array}$	> 100 > 100 > 100 > 100 > 100	mg/L mg/L mg/L mg/L mg/L	5-0) (literature data) (literature data) (literature data) (literature data) (literature data) 96 h (OECD 203)
	Daphnia (Daphnia magna): Algae (Desmodesmus subspicatus):	EC_{50} EC_{50}	> 100 > 100 > 100	mg/L	48 h (OECD 202) 72 h (OECD 201)
12.2	Persistence and degradability Biodegradability: Bis(nonylphenyl)amine (CAS: 36878- 20-3) 1-Decene Homopolymer Hydrogenated	Hydrocarbo 1.0% (28 da biodegradab	ys, active s		
	(CAS: 68037-01-4)	2% (28 days) (OECD]	FG 301 D9	9)
12.3	Bioaccumulative potential 1-Decene Homopolymer Hydrogenated (CAS: 68037-01-4)	No data avai		red value)
12.4	Mobility in soil: Mobility in water:	Absorbs in s Floats on wa	oil.		,



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12.5 Results of PBT and vPvB assessment	Does not contain PBT and vPvB substances, at a concentration of 0.1% or more.
12.6 Endocrine disrupting properties	The mixture does not contain any substance with endocrine disrupting properties, at a concentration of 0.1% or more.
12.7 Other adverse effects Heavy metal content: PCT, PCB and other chlorinated	Harmful to aquatic life with long lasting effects. None.
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)

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*

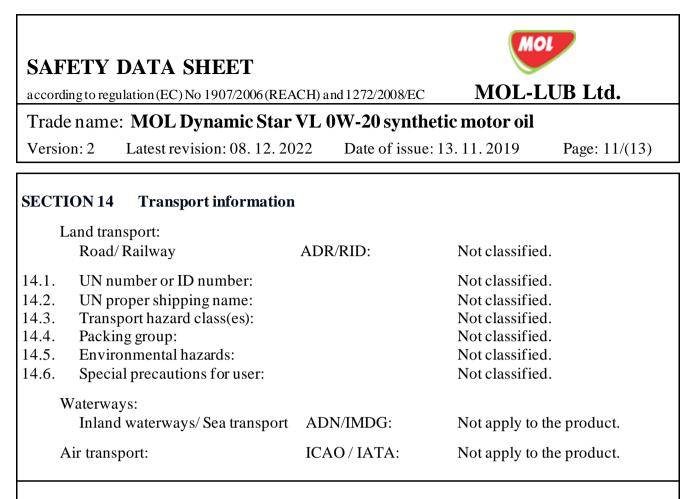
Packaging containing residues of or contaminated by dangerous substances.

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 15 Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture This safety data sheet has been prepared according to Regulation (EC) No 1907/2006 (mod.: 2020/878/EU) and to Regulation (EC) 1272/2008. Seveso category: not classified.
- 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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Classification for mixtures and used evaluation method according to regulation (EC)1272/2008 (CLP)Skin Sens. 1H317calculation 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.
H317	May cause an allergic skin reaction
H413	May cause long lasting harmful effects to aquatic life.
Asp. Tox. 1	Aspiration hazard Category 1
Skin Sens. 1B	Skin Sensitisation, Hazard Category 1B

Aquatic Chronic 4 Hazardous to the aquatic environment — Chronic Hazard, Category 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	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%
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

Other corrections



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ES	Exposure Scenario				
IARC	International Agency for Research on Cancer				
IATA	International Air Transport Association				
IMDO					
LCx	Lethal Concentration x%				
LDx	Lethal Dose x%				
LOAE	C Lowest Observed Adverse Effect Concentration				
LOAE	L Lowest Observed Adverse Effect Level				
LOEC	Lowest Observed Effect Concentration				
LOEL	Lowest Observed Effect Level				
NOEC	No observed effect concentration	No observed effect concentration			
NOEL	No observed effect level	No observed effect level			
NLP	No-Longer Polymer	No-Longer Polymer			
NOAE	L No Observed Adverse Effect Level	No Observed Adverse Effect Level			
OECE	Organisation for Economic Cooperation and Development	Organisation for Economic Cooperation and Development			
PBT	Persistent Bioaccumulative and Toxic	Persistent Bioaccumulative and Toxic			
PNEC	Predicted No-Effect Concentration	Predicted No-Effect Concentration			
ppm	parts/million	parts/million			
REAC	'H Registration, Evaluation, Authorisation and Restriction of	Registration, Evaluation, Authorisation and Restriction of Chemicals			
RID	Regulations concerning the International carriage of Dang	Regulations concerning the International carriage of Dangerous Goods by Rail			
SVHC	Substance of Very High Concern				
UVCE					
	materials				
VOC	VOC Volatile organic compounds				
vPvB	Very Persistent and very Bio-accumulative	Very Persistent and very Bio-accumulative			
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Revision Indicators:					
Section	Subject of change	Date	Version		
1-16	Revision modification according to 2020/878/EU	08.12.2022	2		