



## RAVENOL MARINEOIL DIESEL SHPD 10W-40



ART.-NR. 1162100

1 L I 1162100-001  
4 L I 1162100-004  
10 L I 1162100-010  
20 L I 1162100-020  
20 L I 1162100-B20  
1000 L I 1162100-700

**VISKOSITÄT** 10W-40

**SPEZIFIKATIONEN** API CI-4 IACEA E7 IACEA B4 IAPI CF

**HERSTELLUNGSART** TEILSYNTHETISCH

**EMPFEHLUNGEN** DETROIT DIESEL I MAN M 3289 I MERCUISER I MTU I NANNI DIESEL I PERKINS I SKL I STEYR I SULZER I VETUS DEUTZ I YANMAR I SCANIA LDF-2

**RAVENOL MARINEOIL DIESEL SHPD 10W-40** ist ein Leichtlaufmotorenöl für den Einsatz in Marine-Diesel-Motoren.

**RAVENOL MARINEOIL DIESEL SHPD 10W-40** ist konzipiert mit unkonventionellen und HC Grundölen, synthetischen Komponenten und zeitgemäßen Additiven.

**RAVENOL MARINEOIL DIESEL SHPD 10W-40** garantiert längste Ölwechselintervalle und hohen Verschleißschutz bei geringem Öl- und Kraftstoffverbrauch.

## Eigenschaften

**RAVENOL MARINEOIL DIESEL SHPD 10W-40** bietet:

- Hervorragende Detergent- und Dispersanteigenschaften
- Geringe Verdampfungsneigung
- Hohe Alterungsstabilität
- Schutz vor Spiegelflächenbildung
- Sehr gute Kaltstarteigenschaften
- Vermindert Öl- und Kraftstoffverbrauch

Eigenschaften	Einheit	Daten	Prüfung nach
Dichte bei 20°C	kg/m <sup>3</sup>	866,0	EN ISO 12185
Farbe		blau	visuell
Viskosität bei 100°C	mm <sup>2</sup> /s	13,7	DIN 51 562
Viskosität bei 40°C	mm <sup>2</sup> /s	92,0	DIN 51 562
Viskosität bei -25°C	mPa.s	<7000	ASTM D5293



Eigenschaften	Einheit	Daten	Prüfung nach
Viskositätsindex VI		151	DIN ISO 2909
Pourpoint	°C	-36	DIN ISO 3016
Flammpunkt (COC)	°C	214	DIN ISO 2592
TBN	mg KOH/g	11	ASTM D2896
Sulfatasche	%wt.	1,3	-

Alle Angaben entsprechen nach bestem Wissen dem derzeitigen Stand der Erkenntnisse und unserer Entwicklung. Änderungen bleiben vorbehalten. Alle Bezugnahme auf DIN-Normen dienen nur der Warenbeschreibung und stellen keine Garantie dar. Bei vorliegenden Problemfällen technische Beratung anfordern.

Stand: 15. Juni 2020



Revision date: 03-Jul-2018 Version: 2 Print date: 09-Aug-2018

**Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)**

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

**1.1. Product identifier**

Trade name/designation:

RAVENOL MARINEOIL DIESEL SHPD SAE 10W-40

Article No.:

1162100

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

Use of the substance/mixture:

Lubricant

**1.3. Details of the supplier of the safety data sheet**

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH

Jöllenbecker Str. 2

33824 Werther

D

Telephone: +49 5203 9719 0

Telefax: +49 5203 9719 40

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): technik@ravenol.de

\* **1.4. Emergency telephone number**

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Company ID: RAV) (outside USA/Canada)  
011 49 700 24 112 112 (Company ID: RAV) (inside USA/Canada), +49 5203 9719 0 (Mo-Do 7.30 Uhr -  
16.30 Uhr, Fr 7.30 Uhr - 13.15 Uhr) (Only available during office hours.)

**SECTION 2: Hazards identification**

\* **2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Serious eye damage/eye irritation (Eye Irrit. 2)	H319: Causes serious eye irritation.	Calculation method.

\* **2.2. Label elements**

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:



**GHS07**

Exclamation mark

Signal word: Warning

Hazard components for labelling:

zinc dialkyldithiophosphate

**hazard statements for health hazards**

H319 Causes serious eye irritation.

Supplemental Hazard information (EU): -



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**Precautionary statements Prevention**

P264.1	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

**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**

P501.2	Dispose of contents/container to an appropriate recycling or disposal facility.
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\* **2.3. Other hazards**

**Other adverse effects:**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**SECTION 3: Composition / information on ingredients**

\* **3.2. Mixtures**

**Additional information:**

The base oil / mineral oil used has a value of less than 3% DMSO, so it is not classified as a carcinogen.

**Hazardous ingredients / Hazardous impurities / Stabilisers:**

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CL P]	Concentration
	<b>Polymere</b> Aquatic Chronic 4 H413	< 5 Wt %
<b>CAS No.:</b> 68649-42-3 <b>EC No.:</b> 272-028-3 <b>REACH No.:</b> 01-2120742271-64	<b>zinc dialkyldithiophosphate</b> Eye Dam. 1, Aquatic Chronic 2 H318-H411	< 2 Wt %

Full text of H- and EUH-phrases: see section 16.

**SECTION 4: First aid measures**

\* **4.1. Description of first aid measures**

**General information:**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended.

**Following inhalation:**

Provide fresh air. Consult a doctor immediately.

**In case of skin contact:**

After contact with skin, wash immediately with plenty of water and soap. Consult a doctor immediately.

**After eye contact:**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Causes serious eye irritation.

**After ingestion:**

Rinse mouth thoroughly with water. Do NOT induce vomiting. Consult a doctor immediately.

**Self-protection of the first aider:**

Use personal protection equipment. No direct artificial respiration to be given by first aider.

\* **4.2. Most important symptoms and effects, both acute and delayed**

May produce an allergic reaction.

\* **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically. Observe risk of aspiration if vomiting occurs. Causes serious eye irritation.



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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media:

Co-ordinate fire-fighting measures to the fire surroundings.

Carbon dioxide (CO<sub>2</sub>)

Extinguishing powder

alcohol resistant foam

Use water spray jet to protect personnel and to cool endangered containers.

#### Unsuitable extinguishing media:

Full water jet

### 5.2. Special hazards arising from the substance or mixture

During heating or in case of fire, toxic gases is possible.

The formation of combustible vapours is possible at temperatures above: Flash point

When hot, product develops flammable vapours.

#### Hazardous combustion products:

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>), Gases/vapours, toxic

During heating or in case of fire, toxic gases is possible.

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Protective clothing.

### 5.4. Additional information

Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

### \* 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

##### Personal precautions:

Use personal protection equipment. Special danger of slipping by leaking/spilling product. Remove persons to safety.

##### Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

##### Emergency procedures:

Remove all sources of ignition. Remove persons to safety. Provide adequate ventilation.

#### 6.1.2. For emergency responders

##### Personal protection equipment:

Use personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

### \* 6.3. Methods and material for containment and cleaning up

#### For containment:

Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids

Prevent spread over a wide area (e.g. by containment or oil barriers).

#### For cleaning up:

Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

#### Other information:

Treat the recovered material as prescribed in the section on waste disposal.

### 6.4. Reference to other sections

Safe handling: see section 7

Disposal: see section 13

Personal protection equipment: see section 8



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## 6.5. Additional information

Clear spills immediately. Use appropriate container to avoid environmental contamination.

## SECTION 7: Handling and storage

### \* 7.1. Precautions for safe handling

#### Protective measures

##### Advices on safe handling:

Wear personal protection equipment (refer to section 8).

When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

##### Fire prevent measures:

No special fire protection measures are necessary.

##### Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place.

#### Requirements for storage rooms and vessels:

Suitable container/equipment material: Floors should be impervious, resistant to liquids and easy to clean. Shafts and sewers must be protected from entry of the product.

Keep/Store only in original container.

#### Hints on storage assembly:

not required

**Storage class:** 10 - Combustible liquids that cannot be assigned to any of the above storage classes

#### Further information on storage conditions:

Store in a cool dry place. Keep away from heat.

### 7.3. Specific end use(s)

#### Recommendation:

Observe technical data sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No data available

### \* 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

#### 8.2.2. Personal protection equipment

##### Eye/face protection:

During transfer: Eye glasses with side protection

Wear eye/face protection. DIN EN 166

##### Skin protection:

Hand protection

Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)

Thickness of the glove material:  $\geq 0,4$  mm

Breakthrough time (maximum wearing time) 480 min

Breakthrough times and swelling properties of the material must be taken into consideration.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing



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**Respiratory protection:**

Usually no personal respirative protection necessary.

**8.2.3. Environmental exposure controls**

See section 7. No additional measures necessary.

**8.3. Additional information**

Mineral oil mist limits:

OSHA PEL - value 5 mg / m<sup>3</sup>, ACGIH STEL - value of 10 mg / m<sup>3</sup>

**SECTION 9: Physical and chemical properties**

\* **9.1. Information on basic physical and chemical properties**

**Appearance**

**Physical state:** Liquid

**Colour:** blue

**Odour:** characteristic

**Safety relevant basis data**

parameter		at °C	Method	Remark
pH	<i>not determined</i>			
Melting point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	<i>not determined</i>			
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	214 °C			
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	<i>not determined</i>			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>not determined</i>			
Vapour density	<i>not determined</i>			
Relative density	868 kg/m <sup>3</sup>	20 °C		
Bulk density	<i>not determined</i>			
Water solubility	The study does not need to be conducted because the substance is known to be insoluble in water.			
Partition coefficient: n-octanol/water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	92 mm <sup>2</sup> /s	40 °C		

**9.2. Other information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No known hazardous reactions. Risk of explosion if heated under confinement.

**10.2. Chemical stability**

The mixture is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

No hazardous reaction when handled and stored according to provisions.

**10.4. Conditions to avoid**

To avoid thermal decomposition do not overheat.

\* **10.5. Incompatible materials**

Materials to avoid: Acid, Reducing agent

**10.6. Hazardous decomposition products**

Hazardous combustion products: Carbon dioxide Carbon monoxide Nitrogen oxides (NOx)



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## SECTION 11: Toxicological information

### \* 11.1. Information on toxicological effects

#### Acute oral toxicity:

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

#### Acute dermal toxicity:

No information available for acute dermal and inhalative toxicity.

#### Acute inhalation toxicity:

There are no data available on the preparation/mixture itself.

#### Skin corrosion/irritation:

Frequently or prolonged contact with skin may cause dermal irritation.

#### Serious eye damage/irritation:

Causes serious eye irritation.

#### Respiratory or skin sensitisation:

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

#### Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

#### Carcinogenicity:

No indication of human carcinogenicity.

#### Reproductive toxicity:

No indications of human reproductive toxicity exist.

#### STOT-single exposure:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

#### STOT-repeated exposure:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

#### Aspiration hazard:

Observe risk of aspiration if vomiting occurs.

## SECTION 12: Ecological information

### \* 12.1. Toxicity

#### Assessment/classification:

The substance/mixture does not fulfill the criteria of the acute aquatic toxicity according to Regulation (EC) No 1272/2008 [CLP], Annex I.

#### Additional ecotoxicological information:

Do not allow uncontrolled discharge of product into the environment.

### 12.2. Persistence and degradability

#### Additional information:

The product has not been tested.

### 12.3. Bioaccumulative potential

#### Accumulation / Evaluation:

The product has not been tested.

### 12.4. Mobility in soil

The product has not been tested.

### \* 12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
	Polymere	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
68649-42-3	zinc dialkyldithiophosphate	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### \* 13.1. Waste treatment methods

Dispose of waste according to applicable legislation.





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### 13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

#### Waste code packaging:

#### Remark:

Dispose of waste according to applicable legislation.

#### Waste treatment options

##### Appropriate disposal / Product:

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

##### Appropriate disposal / Package:

Non-contaminated packages may be recycled.

- \* **13.2. Additional information**  
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

## SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

### 14.1. UN-No.

not relevant

### 14.2. UN proper shipping name

not relevant

### 14.3. Transport hazard class(es)

not relevant

### 14.4. Packing group

not relevant

### 14.5. Environmental hazards

not relevant

### 14.6. Special precautions for user

not relevant

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

## SECTION 15: Regulatory information

- \* **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

### 15.1.1. EU legislation

No data available

### 15.1.2. National regulations

#### [DE] National regulations

#### Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### Störfallverordnung

#### for substances contained in the product:

E2 Hazardous to the aquatic environment in Category Chronic 2

#### Technische Anleitung Luft (TA-Luft)

#### Remark:

To follow: 5.2.5.



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### Water hazard class (WGK)

**WGK:**

2 - deutlich wassergefährdend

**Source:**

Self-classification (mixture; calculation rule).  
Identification number 436

### Technische Regeln für Gefahrstoffe

TRGS 510  
TRGS 500

### Berufsgenossenschaftliche Vorschriften (BGV)

Berufsgenossenschaftliche Informationen (BGI) 868  
Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

### Other regulations, restrictions and prohibition regulations

Altöl-Verordnung (AltöIV)

### 15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

### 15.3. Additional information

No data available

## SECTION 16: Other information

### \* 16.1. Indication of changes

1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
2.3.	Other hazards
3.2.	Mixtures
4.1.	Description of first aid measures
4.2.	Most important symptoms and effects, both acute and delayed
4.3.	Indication of any immediate medical attention and special treatment needed
6.1.	Personal precautions, protective equipment and emergency procedures
6.3.	Methods and material for containment and cleaning up
7.1.	Precautions for safe handling
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
10.5.	Incompatible materials
11.1.	Information on toxicological effects
12.1.	Toxicity
12.5.	Results of PBT and vPvB assessment
13.1.	Waste treatment methods
13.2.	Additional information
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes

### 16.2. Abbreviations and acronyms

See overview table at [www.euphrac.eu](http://www.euphrac.eu)

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).



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### 16.3. Key literature references and sources for data

67/548/EEC - Dangerous Substances Directive  
 1999/45/EEC - Dangerous Preparations Directive  
 EC 1907/2006 - REACH Regulation  
 1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006  
 Regulation (EC) No 1907/2006 (REACH), Annex II  
 European Chemicals Agency (ECHA), C & L classification and labeling inventory  
 European Chemicals Agency (ECHA), ECHA CHEM Registered substances  
 OECD The Global Portal to Information on Chemical Substances (ChemPortal)  
 Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances  
 Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

### 16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

#### Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Serious eye damage/eye irritation ( <i>Eye Irrit. 2</i> )	H319: Causes serious eye irritation.	Calculation method.

### 16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

### 16.6. Training advice

No data available

### 16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

\* Data changed compared with the previous version