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**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 VSZ Zweitaktoel Vollsynth.

Article No.:

1151100

**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 (Contract ID: RAV) , +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**

No data available

\* **2.2. Label elements**

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

Hazard components for labelling:

Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics

**Supplemental Hazard information (EU)**

EUH208	Contains Calcium, aqua 1,2-dihydroxy-9,10-anthracenedione oxo aluminum complexes. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Precautionary statements: -


**2.3. Other hazards**

No data available

## SECTION 3: Composition / information on ingredients

### 3.2. Mixtures

#### Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 64742-47-8 EC No.: 920-107-4 REACH No.: 01-2119453414-43-0000	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics Asp. Tox. 1  <b>Danger</b> H304	10 - < 20 Wt %
CAS No.: 94094-89-0 EC No.: 302-191-9	Calcium, aqua 1,2-dihydroxy-9,10-anthracenedione oxo aluminum complexes Eye Irrit. 2, Skin Irrit. 2, Skin Sens. 1 H315-H317-H319	0 - < 1 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.

#### 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

Contains Calcium, aqua 1,2-dihydroxy-9,10-anthracenedione oxo aluminum complexes. 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.

## 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

#### Hazardous combustion products:

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

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



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### 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 persons to safety.

#### 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

### 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:

Personal protection equipment: see 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.

##### Environmental precautions:

Shafts and sewers must be protected from entry of the product.

##### Advices on general occupational hygiene

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



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## 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

#### 8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
VLA (FR)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 1,000 mg/m <sup>3</sup> ② 1,500 mg/m <sup>3</sup> ⑤ (hydrocarbures C9-C12)
NO	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 50 ppm (275 mg/m <sup>3</sup> ) ⑤ (White Spirit (aromatinnhold < 22 %))
DFG (DE)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 5 mg/m <sup>3</sup> ② 20 mg/m <sup>3</sup> ⑤ (Aerosol, alveolengängige Fraktion)
BC (CA)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 200 mg/m <sup>3</sup> ⑤ (may be absorbed through the skin)
MAK (AT)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 200 mL/m <sup>3</sup> ② 400 mL/m <sup>3</sup> ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von weniger als 25 %)
MAK (AT)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 170 mL/m <sup>3</sup> ② 340 mL/m <sup>3</sup> ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von 25 % oder mehr)
WEL (GB)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 1,200 mg/m <sup>3</sup> ⑤ (> or = C7, Normal and branched chain alkanes)
WEL (GB)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 800 mg/m <sup>3</sup> ⑤ (> or = C7, Cycloalkanes)



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Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
DFG (DE)	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 50 ppm (350 mg/m <sup>3</sup> ) ② 100 ppm (700 mg/m <sup>3</sup> ) ⑤ Dampf
RU	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 100 mg/m <sup>3</sup> ③ 300 mg/m <sup>3</sup>
CH	Hydrocarbons, C12-C15, n-alkanes, iso-alkanes, cyclenes, <2% aromatics CAS No.: 64742-47-8	① 350 mg/m <sup>3</sup> ② 700 mg/m <sup>3</sup>

### 8.1.2. Biological limit values

No data available

### 8.1.3. DNEL-/PNEC-values

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

#### Respiratory protection:

Usually no personal respiratory 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:** brown

**Odour:** characteristic



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## 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	<i>not determined</i>			
Flash point	144 °C			
Evaporation rate	<i>not determined</i>			
Auto-ignition temperature	<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>			
Density	864 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	70.6 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, Oxidising agent, Reducing agent

### 10.6. Hazardous decomposition products

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

## SECTION 11: Toxicological information

### \* 11.1. Information on toxicological effects

#### Acute oral toxicity:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

#### Acute dermal toxicity:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

#### Acute inhalation toxicity:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

#### Skin corrosion/irritation:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

Frequently or prolonged contact with skin may cause dermal irritation.



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**Serious eye damage/irritation:**

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

**Respiratory or skin sensitisation:**

Contains Calcium, aqua 1,2-dihydroxy-9,10-anthracenedione oxo aluminum complexes. May produce an allergic reaction.

**Germ cell mutagenicity:**

No indications of human germ cell mutagenicity exist.

**Carcinogenicity:**

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

**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**

**Aquatic toxicity:**

The product has not been tested.

**Assessment/classification:**

The product has not been tested.

**12.2. Persistence and degradability**

**Biodegradation:**

Not readily biodegradable (according to OECD criteria)

\* **12.3. Bioaccumulative potential**

**Accumulation / Evaluation:**

The product has not been tested.

**12.4. Mobility in soil**

No data available

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

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

**12.6. Other adverse effects**

No data available

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

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.





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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN-No.</b>			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
<b>14.2. UN proper shipping name</b>			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
<b>14.3. Transport hazard class(es)</b>			
not relevant			
<b>14.4. Packing group</b>			
not relevant			
<b>14.5. Environmental hazards</b>			
not relevant			
<b>14.6. Special precautions for user</b>			
not relevant			

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No transport as bulk according to IBC Code.

## SECTION 15: Regulatory information

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

#### 15.1.1. EU legislation

##### Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

Safety data sheet available for professional user on request.

#### 15.1.2. National regulations

##### [DE] National regulations

##### Störfallverordnung

##### for substances contained in the product:

This product is not assigned to a hazard category.

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

##### Remark:

To follow: 5.2.5.

##### Water hazard class (WGK)

##### WGK:

2 - deutlich wassergefährdend

##### Source:

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

##### Technische Regeln für Gefahrstoffe

TRGS 510

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

##### Berufsgenossenschaftliche Vorschriften (BGV)

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

##### Other regulations, restrictions and prohibition regulations

Altöl-Verordnung (AltölV)





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## [DK] National regulations

### Other regulations, restrictions and prohibition regulations

Lister over stoffer og processer, der anses for at være kræftfremkaldende

## [FR] National regulations

### Other regulations, restrictions and prohibition regulations

Tableaux de maladies professionnelles

Nomenclature des installations classées pour la protection de l'environnement

## [NL] National regulations

### Other regulations, restrictions and prohibition regulations

Lijst van kankerverwekkende, mutagene, en voor de voortplanting giftige stoffen SZW

Algemeene beoordelingsmethodiek Water (ABM)

Nederlandse emissierichtlijn (NeR)

## [CH] National regulations

### Other regulations, restrictions and prohibition regulations

Mengenschwelle (Schweiz - StFV)

Gefahrencode

Brandverhütung, BVD (Schweiz)

## 15.2. Chemical Safety Assessment

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

## SECTION 16: Other information

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### 16.1. Indication of changes

1.3.	Details of the supplier of the safety data sheet
1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
6.1.	Personal precautions, protective equipment and emergency procedures
7.1.	Precautions for safe handling
8.1.	Control parameters
8.2.	Exposure controls
10.5.	Incompatible materials
11.1.	Information on toxicological effects
12.1.	Toxicity
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
14.1.	UN number
14.2.	UN proper shipping name
14.7.	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
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]

No data available

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

Hazard statements	
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

### 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