

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 2 Mar 2023

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## Mabanol Radon Gear Syn GL 5 80W-140

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

#### \* 1.1. Product identifier

Trade name/designation:

Mabanol Radon Gear Syn GL 5 80W-140

UFI:

KQJ1-4F2X-VC4U-H9CX

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

Use of the substance/mixture:

Gear oil

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

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

Mabanol GmbH & Co. KG

Koreastraße 7

20457 Hamburg

Germany

Telephone: 0049 (0) 40 36809988

E-mail: info@mabanol.com

Website: www.mabanol.com

E-mail (competent person): giznord@giz-nord.de

#### 1.4. Emergency telephone number

Giftinformationszentrale Göttingen , 24h: 0049 (0) 551 1 92 40

### 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
Hazardous to the aquatic environment (Aquatic Chronic 3)	H412: Harmful to aquatic life with long lasting effects.	
Respiratory or skin sensitisation (Skin Sens. 1)	H317: May cause an allergic skin reaction.	

#### \* 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:

Polysulfides, di-tert-Bu; Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched); C16-18-(even numbered,

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saturated and unsaturated)-alkylamines; Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic

### Hazard statements for health hazards

H317 May cause an allergic skin reaction.

### Hazard statements for environmental hazards

H412 Harmful to aquatic life with long lasting effects.

### Supplemental hazard information

EUH208 Contains Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched). May produce an allergic reaction.

### Precautionary statements Prevention

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing and eye/face protection.

### Precautionary statements Response

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

### Precautionary statements Disposal

P501 Dispose of contents/container to Dispose of waste according to applicable legislation..

## 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.: 64742-54-7 EC No.: 265-157-1 REACH No.: 01-2119484627-25	<b>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</b> Asp. Tox. 1 (H304) Danger	43 - < 72 weight-%
CAS No.: 68937-96-2 EC No.: 273-103-3 REACH No.: 01-2119540515-43	<b>Polysulfides, di-tert-Bu</b> Aquatic Chronic 4 (H413), Skin Sens. 1 (H317) Warning	2 - < 5 weight-%
EC No.: 931-384-6 REACH No.: 01-2119493620-38	<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> Acute Tox. 4 (H302), Aquatic Chronic 2 (H411), Eye Dam. 1 (H318), Skin Sens. 1 (H317) Danger	< 0.5 weight-%
CAS No.: 1213789-63-9 EC No.: 627-034-4 REACH No.: 01-2119473797-19	<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> Acute Tox. 4 (H302), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Asp. Tox. 1 (H304), Eye Dam. 1 (H318), STOT RE 2 (H373), STOT SE 3 (H335), Skin Corr. 1B (H314) Danger M-factor (acute): 10 M-factor (chronic): 10	< 0.25 weight-%

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

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### 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 but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

##### Following inhalation:

Provide fresh air. In case of respiratory tract irritation, consult a physician.

##### In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.

##### 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.

##### Following ingestion:

Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

#### 4.2. Most important symptoms and effects, both acute and delayed

Observe risk of aspiration if vomiting occurs.

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

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media:

Carbon dioxide (CO<sub>2</sub>). Extinguishing powder. Foam. Sand.  
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

Burning produces heavy smoke.

##### Hazardous combustion products:

In case of fire: Gases/vapours, toxic. In case of fire may be liberated: Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).

#### 5.3. Advice for firefighters

Do not inhale explosion and combustion gases. Wear a self-contained breathing apparatus and chemical protective clothing.

#### 5.4. Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

### 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. Ventilate affected area. Special danger of slipping by leaking/spilling product.

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### 6.1.2. For emergency responders

#### Personal protection equipment:

Personal protection equipment: see section 8.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Prevent spread over a wide area (e.g. by containment or oil barriers).

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

#### For cleaning up:

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

### 6.4. Reference to other sections

Personal protection equipment: see section 8

Disposal: see section 13

## 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). Avoid: Generation/formation of mist. generation/formation of aerosols.

#### Fire prevent measures:

Usual measures for fire prevention. Keep away from sources of ignition - No smoking.

Fire class: B (Fires of liquids or liquid turning substances)

#### Advices on general occupational hygiene

When using do not eat, drink or smoke. Avoid contact with eyes and skin. Wash hands before breaks and after work. Apply skin care products after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Used working clothes should not be worn outside the work area. Wash contaminated clothing before reuse.

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

#### Technical measures and storage conditions:

Keep container tightly closed in a cool, well-ventilated place. Only use containers specifically approved for the substance/product.

#### Hints on storage assembly:

Do not store together with: Oxidizing agent. Food and feedingstuffs.

**Storage class (TRGS 510, Germany):** 10 - Combustible liquids that cannot be assigned to any of the above storage classes

#### Further information on storage conditions:

Protect against: Water. Light. UV-radiation/sunlight. Air.

Temperature control required.

### 7.3. Specific end use(s)

No data available

## SECTION 8: Exposure controls/personal protection

### \* 8.1. Control parameters

#### 8.1.1. Occupational exposure limit values

No data available

#### 8.1.2. Biological limit values

No data available

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### 8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	3.29 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, systemic effects
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.58 mg/m <sup>3</sup>	① DNEL Consumer ② Long-term - inhalation, systemic effects
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	4.68 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	1.67 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.167 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	4.28 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, systemic effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	1.09 mg/m <sup>3</sup>	① DNEL Consumer ② Long-term - inhalation, systemic effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	12.5 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	6.25 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.024 mg/cm <sup>2</sup>	① DNEL Consumer ② Acute - dermal, local effects
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.25 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.38 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, systemic effects
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.035 mg/m <sup>3</sup>	① DNEL Consumer ② Long-term - inhalation, systemic effects

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Substance name	DNEL value	① DNEL type ② Exposure route
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	1 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, local effects
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	1 mg/cm <sup>2</sup>	① DNEL worker ② Acute - inhalation, local effects
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.04 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects

Substance name	PNEC Value	① PNEC type
<b>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</b> CAS No.: 64742-54-7 EC No.: 265-157-1	9.33 mg/kg	① PNEC secondary poisoning
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.00024 mg/L	① PNEC aquatic, freshwater
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.000024 mg/L	① PNEC aquatic, marine water
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	4.51 mg/L	① PNEC sewage treatment plant
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.94 mg/kg	① PNEC sediment, freshwater
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.094 mg/kg	① PNEC sediment, marine water
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	0.0181 mg/kg	① PNEC soil
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3	6.66 mg/kg	① PNEC secondary poisoning
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.0024 mg/L	① PNEC aquatic, freshwater
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.00024 mg/L	① PNEC aquatic, marine water
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	24.33 mg/L	① PNEC sewage treatment plant

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Substance name	PNEC Value	① PNEC type
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.0129 mg/kg	① PNEC sediment, freshwater
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.00129 mg/kg	① PNEC sediment, marine water
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	0.00117 mg/kg	① PNEC soil
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6	10 mg/kg	① PNEC secondary poisoning
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.26 µg/L	① PNEC aquatic, freshwater
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.026 µg/L	① PNEC aquatic, marine water
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.55 mg/L	① PNEC sewage treatment plant
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	3.76 mg/kg	① PNEC sediment, freshwater
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	0.376 mg/kg	① PNEC sediment, marine water
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4	10 mg/kg	① PNEC soil

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

Provide adequate ventilation.

### 8.2.2. Personal protection equipment

#### Eye/face protection:

Eye glasses with side protection (EN 166).

#### Skin protection:

Tested protective gloves must be worn (EN ISO 374).

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

Thickness of the glove material  $\geq$  0,4mm. Breakthrough time:  $>$ 480 min.

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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.

Suitable protective clothing: flame-resistant.

### Respiratory protection:

Usually no personal respirative protection necessary.

Respiratory protection necessary at: exceeding exposure limit values. aerosol or mist formation. Suitable respiratory protection apparatus: Filtering device (full mask or mouthpiece) with filter: A2, A2/P2, ABEK.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

### 8.2.3. Environmental exposure controls

No data available

### 8.3. Additional information

air limit values:

Possibility of exposure to Aerosols (Mineral oil)

Limit value = 5 mg/m<sup>3</sup> (US-OSHA PEL)

Limit value = 10 mg/m<sup>3</sup> (ACGIH-STEL)

## SECTION 9: Physical and chemical properties

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

#### Appearance

Physical state: Liquid

Colour: yellow

Odour: not determined

#### Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	not determined		
Melting point	not determined		
Freezing point	not determined		
Initial boiling point and boiling range	not determined		
Decomposition temperature	not determined		
Flash point	202 °C		
Evaporation rate	not determined		
Auto-ignition temperature	not determined		
Upper/lower flammability or explosive limits	not determined		
Vapour pressure	not determined		
Vapour density	not determined		
Density	0.852 g/cm <sup>3</sup>	15 °C	
Relative density	not determined		
Bulk density	not determined		
Water solubility	practically insoluble		
Partition coefficient: n-octanol/water	not determined		
Dynamic viscosity	not determined		
Kinematic viscosity	179 mm <sup>2</sup> /s	40 °C	
Pour point	-36 °C		

### 9.2. Other information

No data available



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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

No information available.

#### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

#### 10.3. Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4. Conditions to avoid

No information available.

#### 10.5. Incompatible materials

Oxidizing agent. Reducing agent. Acid.

#### 10.6. Hazardous decomposition products

Hazardous combustion products: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

### SECTION 11: Toxicological information

#### \* 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

<b>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</b> CAS No.: 64742-54-7 EC No.: 265-157-1
<b>LD<sub>50</sub> oral:</b> >5,000 mg/kg (Rat) OECD 401
<b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (Rabbit) OECD 402
<b>LC<sub>50</sub> Acute inhalation toxicity (dust/mist):</b> 5.53 mg/L 4 h (Rat) OECD 403
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3
<b>LD<sub>50</sub> oral:</b> >2,000 mg/kg (Rat)
<b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (Rat)
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6
<b>LD<sub>50</sub> oral:</b> 2,000 mg/kg (Rat) OECD 401
<b>LD<sub>50</sub> dermal:</b> 2,201 mg/kg
<b>LC<sub>50</sub> Acute inhalation toxicity (vapour):</b> 20.1 mg/L 4 h (Rat)
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4
<b>LD<sub>50</sub> oral:</b> >1,200 mg/kg (Rat) OECD 401
<b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (Rat) OECD 402

#### Acute oral toxicity:

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

#### Acute dermal toxicity:

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

#### Acute inhalation toxicity:

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

#### 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.

#### Germ cell mutagenicity:

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

#### Carcinogenicity:

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

#### Reproductive toxicity:

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

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### STOT-single exposure:

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

### STOT-repeated exposure:

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

### Aspiration hazard:

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

### Additional information:

Frequently or prolonged contact with skin may cause dermal irritation.

### \* 11.2. Information on other hazards

#### Endocrine disrupting properties:

No information available.

## SECTION 12: Ecological information

### \* 12.1. Toxicity

<b>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</b> CAS No.: 64742-54-7 EC No.: 265-157-1
<b>LC<sub>50</sub>:</b> 100 mg/L 4 d (fish)
<b>NOEC:</b> 100 mg/L 4 d (fish)
<b>EC<sub>50</sub>:</b> 10,000 mg/L 2 d (crustaceans)
<b>LC<sub>50</sub>:</b> 10,000 mg/L 4 d (crustaceans)
<b>NOEC:</b> 100 mg/L 3 d (Algae/water plant)
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3
<b>LC<sub>50</sub>:</b> 0.088 mg/L 4 d (fish, Danio rerio (zebrafish)) OECD 203
<b>EC<sub>50</sub>:</b> 63 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202
<b>EC<sub>50</sub>:</b> 0.24 mg/L 2 d (crustaceans)
<b>ErC<sub>50</sub>:</b> 0.838 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6
<b>LC<sub>50</sub>:</b> ≈24 mg/L 4 d (fish, Oncorhynchus mykiss (Rainbow trout)) OECD 203
<b>EC<sub>50</sub>:</b> ≈91.4 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))
<b>ErC<sub>50</sub>:</b> 6.4 mg/L 4 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
<b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4
<b>LC<sub>50</sub>:</b> 0.06 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
<b>EC<sub>50</sub>:</b> 0.98 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202
<b>NOEC:</b> 0.013 mg/L 21 d (crustaceans, Daphnia magna (Big water flea)) OECD 211
<b>ErC<sub>50</sub>:</b> 0.38 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus) OECD 201

### Aquatic toxicity:

Harmful to aquatic life with long lasting effects.

### \* 12.2. Persistence and degradability

<b>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</b> CAS No.: 64742-54-7 EC No.: 265-157-1
<b>Biodegradation:</b> —
<b>Remark:</b> Not readily biodegradable (according to OECD criteria).
<b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3
<b>Biodegradation:</b> —
<b>Remark:</b> Not readily biodegradable (according to OECD criteria)
<b>Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6
<b>Biodegradation:</b> —
<b>Remark:</b> Not readily biodegradable (according to OECD criteria)

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**C16-18-(even numbered, saturated and unsaturated)-alkylamines** CAS No.: 1213789-63-9 EC No.: 627-034-4

**Biodegradation:** —

**Remark:** Readily biodegradable (according to OECD criteria).

### Additional information:

The product is slightly soluble in water. It can be largely eliminated from the water by abiotic processes, e.g. mechanical separation.

### \* 12.3. Bioaccumulative potential

**Polysulfides, di-tert-Bu** CAS No.: 68937-96-2 EC No.: 273-103-3

**Log K<sub>OW</sub>:** 5.6

**Bioconcentration factor (BCF):** 0.006 Species: Lepomis macrochirus (Bluegill)

**Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)** EC No.: 931-384-6

**Log K<sub>OW</sub>:** < 0.3

**Bioconcentration factor (BCF):** 436 Species: Oncorhynchus mykiss (Rainbow trout)

**C16-18-(even numbered, saturated and unsaturated)-alkylamines** CAS No.: 1213789-63-9 EC No.: 627-034-4

**Log K<sub>OW</sub>:** 5.16

**Bioconcentration factor (BCF):** 173

### 12.4. Mobility in soil

No information available.

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

**Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic** CAS No.: 64742-54-7  
EC No.: 265-157-1

**Results of PBT and vPvB assessment:** This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

**Polysulfides, di-tert-Bu** CAS No.: 68937-96-2 EC No.: 273-103-3

**Results of PBT and vPvB assessment:** This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

**Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)** EC No.: 931-384-6

**Results of PBT and vPvB assessment:** This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

**C16-18-(even numbered, saturated and unsaturated)-alkylamines** CAS No.: 1213789-63-9 EC No.: 627-034-4

**Results of PBT and vPvB assessment:** This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

### \* 12.6. Endocrine disrupting properties

No information available.

### \* 12.7. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Dispose of waste according to applicable legislation. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

#### Waste treatment options

##### Appropriate disposal / Product:

Consult the appropriate local waste disposal expert about waste disposal.

##### Appropriate disposal / Package:

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

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### SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN number or ID number</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	not relevant	not relevant	not relevant
<b>14.4. Packing group</b>			
not relevant	not relevant	not relevant	not relevant
<b>14.5. Environmental hazards</b>			
not relevant	not relevant	not relevant	not relevant
<b>14.6. Special precautions for user</b>			
not relevant	not relevant	not relevant	not relevant

#### 14.7. Maritime transport in bulk according to IMO instruments

not relevant.

### 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.

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]: No information available.

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds: No information available.

Observe in addition any national regulations!

##### 15.1.2. National regulations

###### [DE] National regulations

###### Störfallverordnung (12. BImSchV)

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

This product is not assigned to a hazard category.

###### Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

###### Remark:

To follow: 5.2.5.

###### Water hazard class

###### WGK:

2 - deutlich wassergefährdend

###### Remark:

Self-classification (mixture; calculation rule).

###### Technische Regeln für Gefahrstoffe

TRGS 510

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

###### Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868

Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195.

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### Other regulations, restrictions and prohibition regulations

Observe mixture permissions according to "Altölverordnung (Waste oil directive)".

### 15.2. Chemical Safety Assessment

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

### \* 15.3. Additional information

Water hazard class (WGK): 2 (obviously hazardous to water).

## SECTION 16: Other information

### \* 16.1. Indication of changes

1.1.	Product identifier
2.1.	Classification of the substance or mixture
2.2.	Label elements
3.2.	Mixtures
8.1.	Control parameters
9.1.	Information on basic physical and chemical properties
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
12.6.	Endocrine disrupting properties
12.7.	Other adverse effects
15.3.	Additional information
16.1.	Indication of changes
16.4.	Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

### 16.2. Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: Accord européen sur le transport des marchandises dangereuses par Route (International Carriage of Dangerous Goods by Road)

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC<sub>50</sub>: Lethal concentration, 50 percent

LD<sub>50</sub>: Lethal dose, 50 percent

NIOSH: National Institute of Occupational Safety and Health

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect level

NTP: National Toxicology Program

N/A: not applicable

OEL: Occupational Exposure limit (Arbeitsplatzgrenzwert)

OSHA: Occupational Safety and Health Administration

PEL: permissible exposure limit (Zulässiger Expositionsgrenzwert)

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PBT: persistent bioaccumulative toxic  
PNEC: predicted no effect concentration  
REL: Recommended exposure limit (Empfohlene Expositionsgrenze)  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit (Kurzzeitgrenzwert) (15 min)  
SVHC: substance of very high concern  
TLV: Threshold Limit Values (Schwellwert Grenzwerte)  
TRGS Technische Regeln für Gefahrstoffe  
TSCA: Toxic Substances Control Act  
TWA: Time Weighted Average (Zeitlich gewichteter Mittelwert) (8 h)  
VOC: Volatile Organic Compounds  
vPvB: very persistent and very bioaccumulative  
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe  
WGK: Wassergefährdungsklasse

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

No data available

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Hazardous to the aquatic environment ( <i>Aquatic Chronic 3</i> )	H412: Harmful to aquatic life with long lasting effects.	
Respiratory or skin sensitisation ( <i>Skin Sens. 1</i> )	H317: May cause an allergic skin reaction.	

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

Hazard statements	
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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.