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

1.1. Product identifier

SRS ViVA 1 ecosynth

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

Use of the substance/mixture

- engine oil

Uses advised against

- none

1.3. Details of the supplier of the safety data sheet

Company name: SRS Schmierstoff Vertrieb GmbH
Street: Neuenkirchener Straße 8
Place: D-48497 Salzbergen
Telephone: 05976 - 945-0
Responsible Department: Abt. Produktsicherheit: info.reach@srs-oil.de

1.4. Emergency telephone number:
Gift-Informationszentrum Nord (Göttingen)
Telefon 0551-19240

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008
This mixture is not classified as hazardous in accordance with Regulation (EC) No. 1272/2008.

2.2. Label elements

Regulation (EC) No. 1272/2008
EUH208 Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts. May produce an allergic reaction.
EUH210 Safety data sheet available on request.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
This mixture contains no substances of very high concern (SVHC) (>0.1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>35 - &lt; 40 %</td>
</tr>
<tr>
<td>649-467-00-8</td>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>35 - &lt; 40 %</td>
</tr>
<tr>
<td>01-2119486452-34</td>
<td>Amine polyethylenepolyl reacion products with 1,3-dioxolan-2-one and succinic anhydride monopropylisobuteryl derivs.</td>
<td>1 - &lt; 5 %</td>
</tr>
<tr>
<td>68037-01-4</td>
<td>Asp. Tox. 1; H304</td>
<td></td>
</tr>
<tr>
<td>147880-09-9</td>
<td>Asp. Tox. 1; H304</td>
<td></td>
</tr>
</tbody>
</table>
Full text of H and EUH statements: see section 16.

**Further Information**

Note L : The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3% DMSO extract as measured by IP 346 'Determination of polycyclic aromatics in unused lubricating base oils and asphaltene free petroleum fractions — Dimethyl sulfoxide extraction refractive index method', Institute of Petroleum, London. This note applies only to certain complex oil-derived substances in Part 3.

**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).

**After inhalation**

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of allergic symptoms, especially in the breathing area, seek medical advice immediately.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. In case of skin irritation, consult a physician.

**After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

**After 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

If swallowed or in the event of vomiting, risk of entering the lungs.

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**


**Unsuitable extinguishing media**

High power water jet.
5.2. Special hazards arising from the substance or mixture

- Burning produces heavy smoke.
- Can be released in case of fire: Carbon monoxide Carbon dioxide (CO2) Sulphur dioxide (SO2) Nitrogen oxides (NOx) Phosphorus oxides

5.3. Advice for firefighters

- In case of fire and/or explosion do not breathe fumes. In case of fire: Wear self-contained breathing apparatus.

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

- Wear personal protection equipment (refer to section 8).
- Ventilate affected area.
- Special danger of slipping by leaking/spilling product.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

- Absorb with liquid-binding material (e.g. 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

- No information available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Advice on safe handling
  - Wear suitable protective clothing. (See section 8.)
  - Avoid formation of oil dust.

- Advice on protection against fire and explosion
  - Usual measures for fire prevention. Keep away from sources of ignition - No smoking.
  - Fire class B

- Further information on handling
  - Do not breathe vapour/aerosol.
  - Avoid contact with eyes and skin.
  - Advices on general occupational hygiene: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

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

- Hints on joint storage

- Further information on storage conditions
  - Temperature control required. Protect from light. Keep container tightly closed. Do not allow contact with air.

7.3. Specific end use(s)

- See section 1.
### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

**DNEL/DMEL values**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>DNEL type</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>36878-20-3</td>
<td>Bis(nonylphenyl)amine</td>
<td>Worker DNEL, acute</td>
<td>dermal</td>
<td>systemic</td>
<td>5 mg/kg bw/day</td>
</tr>
<tr>
<td>68784-26-9</td>
<td>Phenol, 2,2'-polythiobi(4-C8-30-alkyl derivs., calcium salts, overbased</td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>3.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>133.6 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>0.5 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, acute</td>
<td>dermal</td>
<td>systemic</td>
<td>80 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>0.87 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>0.067 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>40 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>0.25 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>oral</td>
<td>systemic</td>
<td>50 mg/kg bw/day</td>
</tr>
<tr>
<td>68784-31-6</td>
<td>Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts</td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>2.93 mg/m³</td>
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<td></td>
<td></td>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>496.4 mg/m³</td>
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<tr>
<td></td>
<td></td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>10.42 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Worker DNEL, acute</td>
<td>dermal</td>
<td>systemic</td>
<td>100 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>11.75 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>198.6 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>2.1 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>dermal</td>
<td>systemic</td>
<td>50 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>0.21 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, acute</td>
<td>oral</td>
<td>systemic</td>
<td>29 mg/kg bw/day</td>
</tr>
</tbody>
</table>

**PNEC values**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>Secondary poisoning</td>
<td>9.33 mg/kg</td>
</tr>
<tr>
<td>36878-20-3</td>
<td>Bis(nonylphenyl)amine</td>
<td>Freshwater</td>
<td>0.1 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater (intermittent releases)</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water (intermittent releases)</td>
<td>13200 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>132000 mg/kg</td>
</tr>
<tr>
<td>Substance Description</td>
<td>Limit Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>1 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>263000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenol, 2,2'-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater</td>
<td>0,5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater (intermittent releases)</td>
<td>5 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0,04 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater sediment</td>
<td>43500 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine sediment</td>
<td>3480 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary poisoning</td>
<td>13,333 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>100 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>8850 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater</td>
<td>0,04 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine water</td>
<td>0,0046 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater sediment</td>
<td>0,07 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marine sediment</td>
<td>0,007 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary poisoning</td>
<td>8,33 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>3,8 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil</td>
<td>0,055 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Additional advice on limit values**
- **Air limit values:**
  - Possibility of exposure to Aerosol
  - Limit value = 5 mg/m³ - Source: ACGIH

**8.2. Exposure controls**

**Appropriate engineering controls**
- Provide adequate ventilation.

**Protective and hygiene measures**
- Clean skin thoroughly after working.
- Do not put any product-impregnated cleaning rags into your trouser pockets.
- Contaminated work clothing should not be allowed out of the workplace.
- Wash contaminated clothing before reuse.

**Eye/face protection**
- Safety goggles with side protection. In case of increased risk add protective face shield. DIN EN 166

**Hand protection**
- Use safety gloves of following materials: NBR (nitrile) / neopren / viton (permeationslevel 5 - 6), Cat. II according to norm EN 347/EN 388.
- 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.

**Skin protection**
- Oil-resistant and hardly inflammable protective clothing.
Respiratory protection
With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
- aerosol or mist formation
- exceeding exposure limit values
Suitable respiratory protection apparatus: Respiratory equipment in case of nebulosity or aerosol: Use a mask with a filter type A2, A2/P2 or 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.

Environmental exposure controls
No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>liquidxxxxx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour:</td>
<td>clear</td>
</tr>
<tr>
<td>Odour:</td>
<td>characteristic</td>
</tr>
</tbody>
</table>

Test method

pH-Value: No information available.

Changes in the physical state

<table>
<thead>
<tr>
<th>Melting point:</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>No information available.</td>
</tr>
<tr>
<td>Sublimation point:</td>
<td>No information available.</td>
</tr>
<tr>
<td>Softening point:</td>
<td>No information available.</td>
</tr>
<tr>
<td>Pour point:</td>
<td>-48 °C ISO 3016</td>
</tr>
<tr>
<td>Flash point:</td>
<td>240 °C COC</td>
</tr>
</tbody>
</table>

Sustaining combustion: No data available

Flammability

<table>
<thead>
<tr>
<th>Solid:</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

Explosive properties

| None |

Lower explosion limits: No information available. DIN 51649
Upper explosion limits: No information available. DIN 51649
Ignition temperature: No information available.

Auto-ignition temperature

<table>
<thead>
<tr>
<th>Solid:</th>
<th>No information available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas:</td>
<td>No information available.</td>
</tr>
</tbody>
</table>

Decomposition temperature: No information available.

Oxidizing properties

| None |

Vapour pressure: No information available.
(at 20 °C)

Vapour pressure: No information available.
(at 50 °C)

Density (at 15 °C): 0,845 g/cm³ DIN 51757
Bulk density: No information available.
Water solubility: Immiscible

Solubility in other solvents
No information available.

Partition coefficient: No information available.
Viscosity / dynamic: No information available.
Viscosity / kinematic: 81.62 mm²/s DIN EN ISO 3104 (at 40 °C)
Flow time: No information available.
Vapour density: No information available.
Evaporation rate: No information available.
Solvent separation test: No information available.
Solvent content: No information available.

9.2. Other information
Solid content: No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No information available.

10.2. Chemical stability
Stable at ambient temperature.

10.3. Possibility of hazardous reactions
No hazardous reactions known.

10.4. Conditions to avoid
No information available.

10.5. Incompatible materials
Oxidising agent, strong

10.6. Hazardous decomposition products
No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicocinetics, metabolism and distribution
No information available.

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

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>Rat (OECD 401        )</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Rabbit (OECD 402      )</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td>68037-01-4</td>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>Rat</td>
<td>ECHA Dossier</td>
</tr>
</tbody>
</table>
Irritation and corrosivity
Based on available data, the classification criteria are not met.
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
Irritant effect on the eye: Not an irritant. By analogy. Raw material classification

Sensitising effects
Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts. May produce an allergic reaction.
May cause sensitisation especially in sensitive humans.

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic:
In vitro mutagenicity/genotoxicity Method: OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test); Result: negative. Literature information: ECHA Dossier; Carcinogenicity: Method: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies); Species: Mouse.; Results: Non-carcinogenic if DMSO extract as measured by IP346 is less than 3% m/m. Literature information: ECHA Dossier; Reproductive toxicity: Species: Rat (Sprague-Dawley); Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test); Results: NOAEL > 1000 mg/kg Literature information: ECHA Dossier; Developmental toxicity/teratogenicity: Species: Rat (Sprague-Dawley); Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study); Results: NOAEL >= 2000 mg/kg Literature information: ECHA Dossier
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated:
In vitro mutagenicity/genotoxicity: Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay); Result: negative. Literature information: ECHA Dossier; Reproductive toxicity: Species: Rat; Method: OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test); Result: NOAEL > 1000 mg/kg; Literature information: ECHA Dossier
Phenol, 2,2'-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased:
Developmental toxicity/teratogenicity: Species: Rat (Wistar); Method: OECD Guideline 414 (Prenatal Developmental Toxicity Study); Result: NOAEL >= 500 mg/kg; Literature information: ECHA Dossier
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
Developmental toxicity/teratogenicity: Species: Rat (Wistar); Method: OECD Guideline 416 (Two-Generation Reproduction Toxicity Study). Species: Rat.; Result: NOAEL = 50 mg/kg. Literature information: ECHA Dossier
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
Subacute oral toxicity:
Method: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents); Species: Rat; Exposure
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.

Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic:
Subacute inhalative toxicity: Method: -; Exposure time: 28d; Species: Rat; Results: NOAEL >980 mg/m3;
Literature information: ECHA Dossier; Subacute dermal toxicity: Method: OECD Guideline 410 (Repeated Dose
dermal toxicity: 21/28-Day Study); Exposure time: 28d; Species: Rabbit; Results: 1000 mg/kg; Literature
information: ECHA Dossier
Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated:
Subchronic oral toxicity: Method: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents);
Species: Rat; Results: NOAEL 1000 mg/kg; Literature information: ECHA Dossier
Bis(nonylphenyl)amine:
Subchronic oral toxicity: Exposure time: 90d; Species: Han Wistar Rat.; Method: OECD Guideline 408; Result:
LOAEL = 100 mg/kg; Literature information: ECHA Dossier
Phenol, 2,2′-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased:
Subacute oral toxicity: Method: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study);
Species: Dog.; Exposure duration: 28 d. Results: NOAEL >250 mg/kg(bw)/day ; Literature information: ECHA
Dossier
Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts:
In-vitro mutagenicity:
Method: OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Result: negative. ; Literature information: ECHA Dossier

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

Practical experience
Other observations
Frequent contact specially if dried out may cause skin and eye irritations.

SECTION 12: Ecological information

12.1. Toxicity
If this product contains phenol, dodecyl, branched (EC No. 310-154-3), this product is not to be classified as
dangerous for the environment (H410, H411, H412) . Raw materials containing this substance have not been
classified by our suppliers as hazardous to the environment (H410, H411) on the basis of test data, expert
judgement or analogy assessments.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
</tr>
<tr>
<td></td>
<td>Crustacea toxicity</td>
</tr>
<tr>
<td></td>
<td>NOEC 10 mg/l; 21 d; Specie: Daphnia magna (OECD 211); Source: ECHA Dossier</td>
</tr>
<tr>
<td>68037-01-4</td>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
</tr>
<tr>
<td></td>
<td>LC50 &gt;750 mg/l; 96 h; Species: Pimephales promelas (new name: Danio rerio);</td>
</tr>
<tr>
<td></td>
<td>Method: MSDS extern</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
</tr>
<tr>
<td></td>
<td>EC50 190 mg/l; 48 h; Species: Daphnia magna (OECD 202); Source: MSDS extern</td>
</tr>
<tr>
<td>36878-20-3</td>
<td>Bis(nonylphenyl)amine</td>
</tr>
<tr>
<td></td>
<td>Acute fish toxicity</td>
</tr>
<tr>
<td></td>
<td>LC50 &gt;100 mg/l; 96 h; Species: Brachydanio rerio (new name: Danio rerio) (OECD</td>
</tr>
<tr>
<td></td>
<td>20); Source: ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
</tr>
<tr>
<td></td>
<td>EC50 &gt;100 mg/l; 48 h; Species: Daphnia magna (OECD 202); Source: ECHA Dossier</td>
</tr>
<tr>
<td>68784-26-9</td>
<td>Phenol, 2,2′-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased</td>
</tr>
</tbody>
</table>
12.2. Persistence and degradability

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

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Method</th>
<th>Value</th>
<th>d</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>OECD 301F / ISO 9408 / EEC 92/69 annex V, C.4-D</td>
<td>31%</td>
<td>28</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not easily bio-degradable (according to OECD-criteria).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64742-54-7</td>
<td>Baseoil - unspecified, Distillates (petroleum), hydrotreated heavy paraffinic</td>
<td>OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C</td>
<td>2-4%</td>
<td>28</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not easily bio-degradable (according to OECD-criteria).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68037-01-4</td>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>OECD 301D / EEC 92/69 annex V, C.4-E</td>
<td>2 %</td>
<td>28</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not easily bio-degradable (according to OECD-criteria).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36878-20-3</td>
<td>Bis(1-nonylphenyl)amine</td>
<td>OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C</td>
<td>1%</td>
<td>28</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not easily bio-degradable (according to OECD-criteria).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68784-26-9</td>
<td>Phenol, 2,2’-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased</td>
<td>OECD 301B / ISO 9439 / EEC 92/69 annex V, C.4-C (READ ACROSS)</td>
<td>13,4 %</td>
<td>28</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not easily bio-degradable (according to OECD-criteria).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68784-31-6</td>
<td>Phosphorodithioic acid, mixed O,O-bis(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts</td>
<td>EU Method C.6</td>
<td>&lt; 5%</td>
<td>27</td>
<td>ECHA Dossier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Easily biodegradable (concerning to the criteria of the OECD).</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

**Partition coefficient n-octanol/water**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>68037-01-4</td>
<td>Dec-1-ene, homopolymer, hydrogenated Dec-1-ene, oligomers, hydrogenated</td>
<td>&gt;6,5</td>
</tr>
<tr>
<td>68784-26-9</td>
<td>Phenol, 2,2’-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased</td>
<td>9,5</td>
</tr>
</tbody>
</table>

**BCF**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>BCF</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>68784-26-9</td>
<td>Phenol, 2,2’-polythiobis[4-C8-30-alkyl derivs., calcium salts, overbased</td>
<td>2,2</td>
<td>lipid triolein</td>
<td>ECHA Dossier</td>
</tr>
</tbody>
</table>
12.4. Mobility in soil

No information 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 information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Waste disposal number of contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es): No dangerous good in sense of this transport regulation.
14.4. Packing group: No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

Informations for safe handling see chapter 7.
**SECTION 15: Regulatory information**

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

**EU regulatory information**
- 2010/75/EU (VOC): No information available.
- 2004/42/EC (VOC): No information available.
- Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

**Additional information**
- Observe in addition any national regulations!

**National regulatory information**

**Additional information**
- Water hazard class (WGK) = 2

15.2 Chemical Safety Assessment
- not applicable.

**SECTION 16: Other information**

**Changes**
- This data sheet contains changes from the previous version in section(s): 9.
- Rev. : 1,0 - 16.04.2015
- Rev. : 1,11 - 24.05.2016
- Rev. : 2,0 - 12.06.2017
- Rev. : 3,0 - 28.06.2018

**Abbreviations and acronyms**
- ADR: Accord européen sur le transport des marchandises dangereuses par Route
- 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
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- NOAEL: No observed adverse effect level
- NOAEC: No observed adverse effect level
- NTP: National Toxicology Program
- N/A: not applicable
- OSHA: Occupational Safety and Health Administration
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
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
SVHC: substance of very high concern
TRGS Technische Regeln fuerGefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VvVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe
WGK: Wassergefaehrdungsklasse

Relevant H and EUH statements (number and full text)
H304 May be fatal if swallowed and enters airways.
H318 Causes serious eye damage.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.
EUH208 Contains Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts. May produce an allergic reaction.
EUH210 Safety data sheet available on request.

Further Information
Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data.

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.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)