

# Safety Data Sheet

## Bio-Oil

Issued: 10/06/2021  
Version: 1.0.0

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

#### 1.1. Product identifier

**Trade name:** Bio-Oil

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

**Recommended uses:** Surface treatment.

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

##### Supplier

**Company:** Guardian Protection Products A/S  
**Address:** Knudevejen 22  
**Zip code:** 6600  
**City:** Vejen  
**Country:** DENMARK  
**E-mail:** guardian@guardian.dk  
**Phone:** +45 75471767  
**Fax:** +45 75471787

#### 1.4. Emergency Telephone Number

Members of the public: 111 (NHS 111 (Scotland: NHS 24))

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

**CLP-classification:** The product shall not be classified as hazardous according to the classification and labeling rules for substance and mixtures.

**Most serious harmful effects:** May cause slight irritation to the skin and eyes. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.

#### 2.2. Label elements

**VOC:** This product contains a maximum of 451 g VOC/L. The limit value is 500 g VOC/L (cat. A/i)

#### 2.3. Other hazards

Assessment to determine PBT and vPvB has not been made.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

| Substance | CAS No | EC No | REACH Reg. No. | Concentration | Notes | CLP-classification |
|-----------|--------|-------|----------------|---------------|-------|--------------------|
|           |        |       |                |               |       |                    |

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|   |            |           |                  |           |   |                  |
|---|------------|-----------|------------------|-----------|---|------------------|
| Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics |            | 918-481-9 | 01-2119457273-39 | 50 - 100% | 4 | Asp. Tox. 1;H304 |
| 2-ethylhexanoic acid, zirconium salt                                  | 22464-99-9 | 245-018-1 | 01-2119979088-21 | < 0.2%    |   | Repr. 2;H361d    |

Please see section 16 for the full text of H-phrases.

4 = H304 is not applicable due to the high viscosity of the product.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

|                      |   |
|----------------------|---|
| <b>Inhalation:</b>   | Seek fresh air. Seek medical advice in case of persistent discomfort.   |
| <b>Ingestion:</b>    | Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice in case of persistent discomfort. |
| <b>Skin contact:</b> | Remove contaminated clothing. Wash skin with soap and water.  |
| <b>Eye contact:</b>  | Flush with water (preferably using eye wash equipment) until irritation subsides. Seek medical advice if symptoms persist.    |
| <b>General:</b>      | When obtaining medical advice, show the safety data sheet or label.   |

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

Degreases and dries the skin. Repeated exposure may cause skin dryness or cracking. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.

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

Treat symptoms. No special immediate treatment required.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

|  |  |
|--|--|
| <b>Suitable extinguishing media:</b>   | Extinguish with powder, foam or water mist. Use water or water mist to cool non-ignited stock. |
| <b>Unsuitable extinguishing media:</b> | Do not use water stream, as it may spread the fire.  |

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

The product decomposes when combusted and the following toxic gases can be formed: Carbon monoxide and carbon dioxide.

#### 5.3. Advice for firefighters

Wear Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves.

### SECTION 6: Accidental release measures

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

**For non-emergency personnel:** Stay upwind/keep distance from source. Stop leak if this can be done without risk. Wear gloves. Wear safety goggles if there is a risk of eye splash. Wear respiratory protective equipment.

**For emergency responders:** In addition to the above: Normal protective clothing equivalent to EN 469 is recommended.

### 6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

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

Contain and absorb spill with sand or other absorbent, non-combustible material and transfer to suitable waste containers. Wipe up minor spills with a cloth.

### 6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Running water and eye wash equipment must be available. Wash hands before breaks, before using restroom facilities, and at the end of work. Work under effective process ventilation (e.g. local exhaust ventilation).

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

Keep in tightly closed original packaging. Store in a dry, cool, well-ventilated area. The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Do not store with the following: Oxidisers/ Strong acids/ Strong alkalis.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limit

| Substance name                       | Time period | ppm | mg/m <sup>3</sup> | fiber/cm <sup>3</sup> | Comments                                  | Remarks |
|--------------------------------------|-------------|-----|-------------------|-----------------------|---|---------|
| 2-ethylhexanoic acid, zirconium salt | 8h          |     | 5                 |                       | As Zr. OEL value for: Zirconium compounds |         |
| 2-ethylhexanoic acid, zirconium salt | 15m         |     | 10                |                       | As Zr. OEL value for: Zirconium compounds |         |

**Measuring methods:** Compliance with the stated occupational exposure limits may be checked by occupational hygiene measurements.

**Legal basis:** EH40/2005 Workplace exposure limits. Last amended January 2020.

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### PNEC

| 2-ethylhexanoic acid, zirconium salt, cas-no 22464-99-9 |             |                   |                      |      |
|---|-------------|-------------------|----------------------|------|
| Exposure  | Value       | Assessment Factor | Extrapolation Method | Note |
| PNEC aqua (freshwater)                                  | 0,36 mg/l   |                   |                      |      |
| PNEC aqua (marine water)                                | 0,036 mg/l  |                   |                      |      |
| PNEC sediment (freshwater)                              | 6,37 mg/kg  |                   |                      |      |
| PNEC sediment (marine water)                            | 0,637 mg/kg |                   |                      |      |
| PNEC soil   | 1,06 mg/kg  |                   |                      |      |

### DNEL - workers

| 2-ethylhexanoic acid, zirconium salt, cas-no 22464-99-9 |                         |                   |                 |                       |      |
|---|-------------------------|-------------------|-----------------|-----------------------|------|
| Exposure  | Value                   | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
| Inhalation DNEL (long-term exposure - systemic effects) | 32,97 mg/m <sup>3</sup> |                   |                 |                       |      |
| Dermal DNEL (long-term exposure - systemic effects)     | 6,49 mg/kg              |                   |                 |                       |      |

### DNEL - general population

| 2-ethylhexanoic acid, zirconium salt, cas-no 22464-99-9 |                        |                   |                 |                       |      |
|---|------------------------|-------------------|-----------------|-----------------------|------|
| Exposure  | Value                  | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
| Oral DNEL (long-term exposure - systemic effects)       | 4,51 mg/kg bw/day      |                   |                 |                       |      |
| Inhalation DNEL (long-term exposure - systemic effects) | 8,13 mg/m <sup>3</sup> |                   |                 |                       |      |
| Dermal DNEL (long-term exposure - systemic effects)     | 3,25 mg/kg bw/day      |                   |                 |                       |      |

## 8.2. Exposure controls

#### Appropriate engineering controls:

Wear the personal protective equipment specified below.

#### Personal protective equipment, eye/face protection:

Wear safety goggles if there is a risk of eye splash. Eye protection must conform to EN 166.

#### Personal protective equipment, skin protection:

Wear coveralls.

#### Personal protective equipment, hand protection:

Wear gloves. Type of material and thickness: Nitrile rubber. 0,38 mm. Penetration time: >8 hours. Gloves must conform to EN 374. The suitability and durability of a glove is dependant on usage, e.g. frequency and duration of contact, glove material thickness, functionality and chemical resistance. Always seek advice from the glove supplier.

#### Personal protective equipment, respiratory protection:

The product contains liquids with a low boiling point which are poorly adsorbed on charcoal filters. The use of fresh air respiratory protective equipment is thus required.

#### Environmental exposure controls:

Ensure compliance with local regulations for emissions.

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### SECTION 9: Physical and chemical properties

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

| Parameter            | Value/unit                              |
|----------------------|---|
| State                | Liquid                                  |
| Colour               | Colourless                              |
| Odour                | Solvent                                 |
| Solubility           | Not miscible with the following: Water. |
| Explosive properties | No data                                 |
| Oxidising properties | No data                                 |

| Parameter                               | Value/unit   | Remarks       |
|---|--------------|---------------|
| pH (solution for use)                   | No data      |               |
| pH (concentrate)                        | No data      |               |
| Melting point                           | No data      |               |
| Freezing point                          | No data      |               |
| Initial boiling point and boiling range | No data      |               |
| Flash Point                             | > 62 °C      |               |
| Evaporation rate                        | No data      |               |
| Flammability (solid, gas)               | No data      |               |
| Flammability limits                     | No data      |               |
| Explosion limits                        | 0.6 - 7 vol% |               |
| Vapour pressure                         | No data      |               |
| Vapour density                          | No data      |               |
| Relative density                        | No data      |               |
| Partition coefficient n-octanol/water   | No data      |               |
| Auto-ignition temperature               | No data      |               |
| Decomposition temperature               | No data      |               |
| Viscosity                               | 28           | sec. 4 mm cup |
| Odour threshold                         | No data      |               |

#### 9.2. Other information

| Parameter                         | Value/unit   | Remarks |
|-----------------------------------|--------------|---------|
| Density                           | 0,88 g/ml    |         |
| VOC (Volatile organic compounds): | 451 g/l      |         |
| Organic solvents.                 | 51,3 % (w/w) |         |

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts with the following: Oxidisers/ Strong acids/ Strong alkalis.

#### 10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

#### 10.3. Possibility of hazardous reactions

Product vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

#### 10.4. Conditions to avoid

Do not expose to heat (e.g. sunlight). Avoid direct sunlight.

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### 10.5. Incompatible materials

Avoid contact with the following: Oxidisers/ Strong acids/ Strong alkalis.

### 10.6. Hazardous decomposition products

The product decomposes when combusted or heated to high temperatures and the following toxic gases can be formed:  
Carbon monoxide and carbon dioxide.

## SECTION 11: Toxicological information

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

#### Acute toxicity - oral

##### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, EC-no 918-481-9

| Organism | Test Type | Exposure time | Value          | Conclusion | Test method | Source |
|----------|-----------|---------------|----------------|------------|-------------|--------|
| Rat      | LD50      |               | > 5000mg/kg bw |            |             |        |

Ingestion may cause discomfort. The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

#### Acute toxicity - dermal

##### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, EC-no 918-481-9

| Organism | Test Type | Exposure time | Value          | Conclusion | Test method | Source |
|----------|-----------|---------------|----------------|------------|-------------|--------|
| Rabbit   | LD50      |               | > 5000mg/kg bw |            |             |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

#### Acute toxicity - inhalation

##### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, EC-no 918-481-9

| Organism | Test Type | Exposure time | Value       | Conclusion | Test method | Source |
|----------|-----------|---------------|-------------|------------|-------------|--------|
| Rat      | LC50      | 4h            | > 4.951mg/l |            |             |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

#### Skin corrosion/irritation:

Degreases and dries the skin. Repeated exposure may cause skin dryness or cracking.  
The product does not have to be classified. Test data are not available.

#### Serious eye damage/eye irritation:

Temporary irritation. The product does not have to be classified. Test data are not available.

#### Respiratory sensitisation or skin sensitisation:

The product does not have to be classified. Test data are not available.

#### Germ cell mutagenicity:

The product does not have to be classified. Test data are not available.

#### Carcinogenic properties:

The product does not have to be classified. Test data are not available.

#### Reproductive toxicity:

The product contains at least one substance which is a suspected reproductive hazard.  
The product does not have to be classified. Test data are not available.

#### Single STOT exposure:

The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. The product does not have to be classified. Test data are not available.

#### Repeated STOT exposure:

Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system. The product does not have to be classified. Test data are not available.

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**Aspiration hazard:** The product does not have to be classified. Test data are not available.

**Other toxicological effects:** None known.

### SECTION 12: Ecological information

#### 12.1. Toxicity

##### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, EC-no 918-481-9

| Organism  | Species                         | Exposure time | Test Type | Value    | Conclusion | Test method | Source |
|-----------|---------------------------------|---------------|-----------|----------|------------|-------------|--------|
| Fish      | Oncorhynchus mykiss             |               | 96hLL0    | 1000mg/l |            |             |        |
| Algae     | Pseudokirchneriella subcapitata |               | 72hEL0    | 1000mg/l |            |             |        |
| Crustacea | Daphnia magna                   |               | 48hEL0    | 1000mg/l |            |             |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

#### 12.2. Persistence and degradability

##### Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics, EC-no 918-481-9

| Organism | Species | Exposure time | Test Type | Value | Conclusion | Test method | Source |
|----------|---------|---------------|-----------|-------|------------|-------------|--------|
|          |         | 28d           |           | 80%   |            |             |        |

The product contains at least one biodegradable substance.

#### 12.3. Bioaccumulative potential

Test data are not available.

#### 12.4. Mobility in soil

Test data are not available.

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

The product does not contain any PBT or vPvB substances.

#### 12.6. Other adverse effects

None known.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Avoid discharge to drain or surface water.

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste (Dir. 2008/98/EU). Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Empty, cleansed packaging should be disposed of for recycling. Uncleansed packaging is to be disposed of via the local waste-removal scheme.

#### Category of waste:

EWC code: Depends on line of business and use, for instance 08 01 12 waste paint and varnish other than those mentioned in 08 01 11  
Absorbent/cloth contaminated with the product: EWC code: 15 02 03 Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02.

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### SECTION 14: Transport information

|  |   |
|--|---|
| <p><b>14.1. UN number or ID number:</b> Not applicable.</p> <p><b>14.2. UN proper shipping name:</b> Not applicable.</p> <p><b>14.3. Transport hazard class(es):</b> Not applicable.</p> | <p><b>14.4. Packing group:</b> Not applicable.</p> <p><b>14.5. Environmental hazards:</b> Not applicable.</p> |
|--|---|

**14.6. Special precautions for user**

None.

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

Not applicable.

### SECTION 15: Regulatory information

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

**Special Provisions:** None.

**15.2. Chemical Safety Assessment**

| REACH Reg. No.   | Substance name  |
|------------------|---|
| 01-2119457273-39 | Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2% aromatics |
| 01-2119979088-21 | 2-ethylhexanoic acid, zirconium salt                                  |

### SECTION 16: Other information

**Version history and indication of changes**

| Version | Revision date | Responsible            | Changes |
|---------|---------------|------------------------|---------|
| 1.0.0   | 10/06/2021    | Bureau Veritas HSE/KSV | -       |

**Abbreviations:**

- DNEL: Derived No Effect Level
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity
- vPvB: Very Persistent and Very Bioaccumulative

**Other Information:** This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with 1907/2006/EC (REACH) as subsequently changed.

**Training advice:** A thorough knowledge of this safety data sheet should be a prerequisite condition.

**Classification method:** Calculation based on the hazards of the known components.

**List of relevant H-statements**



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H304  
H361d

May be fatal if swallowed and enters airways.  
Suspected of damaging the unborn child.

### SDS is prepared by

Company: Bureau Veritas HSE Denmark A/S  
Address: Oldenborggade 25-31  
Zip code: 7000  
City: Fredericia  
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