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| 1. Identification of the substance/preparation and of the company  |
| Trade name / Use of the product:<br><b>bioFila® - Filament</b><br><b>biodegradable biopolymer for 3D printing</b>  |
| Supplier:<br>twoBEars GbR<br>Benno Besler & Eva Dreyer<br>Hufe 11<br>19303 Tewswoods<br>Tel.: +49 3875 9339874<br>e-mail: <a href="mailto:info@two-bears.eu">info@two-bears.eu</a>   |
| 2. Hazards identification:<br>Not dangerous  |
| 3. Composition / information on ingredients<br>chemical characteristics:<br>I) Polymere based on renewable raw-material<br>II) if necessary: filler<br>III) if necessary: additives<br>IV) if necessary: pigments  |
| 4. First-ais measures<br>If swallowed drink 2-3 cups of water and if necessary seek medical advice.  |
| 5. Fire-fighting measures<br>Suitable fire extinguishing media: Water, CO <sub>2</sub> , dry chemical extinguisher, foam<br>Special exposure hazards: SO <sub>2</sub> , CO, CO <sub>2</sub> and volatile, organic substances<br>Protective equipment: breathing protection, protective clothes |
| 6. Accidental release measures<br>see 8. Exposure controls / personal protection and 13. Disposal considerations<br>collect the material and pack in carton or sacks.  |
| 7. Handling and storage<br>handling: no special handling instructions<br>storage: proper package, store cool and dry   |

#### 8. Exposure controls / personal protection equipment (PSP)

No risk known, to pretend any risk, flow the general handling instructions:  
technical safety measures: suitable ventilation, to pretend any threshold limits. Avoid electrostatic charge by use of grounding cables  
PSP: use adequate safety equipment, e.g. protections clothes, eye protection glasses, heat protection gloves. In case of dust, use mask with particle filter  
work hygiene: no eating or drinking during working. avoid contact with hot material, avoid breathing dust and vapours.

#### 9. Physical-chemical properties

form: filament / plastic wire  
odor: none or weak sweet, like wood  
pH-value (with 100g/l H<sub>2</sub>O, 20°C): 6-7  
melting point / range: 120-200°C  
ignition temperature: not tested  
decomposition temperature: 205-210°C  
density: 1,1-1,3 g/m<sup>3</sup>  
solubility in H<sub>2</sub>O, 20°C: insoluble

#### 10. Stability and reactivity

Under normal conditions the processing and compounding is stable and there are no observable hazardous reactions nor products of decomposition.

#### 11. Toxicologic Information

No toxicologic short-term or long-term effects are known.

#### 12. Environmental Information

The material is only composed of eco-friendly components. So the material can be count as eco-friendly.

#### 13. Information about disposal

The best way of disposal is  
I.) Recycling, i.e. recovery of the material or  
II.) brun, with due regard to the local laws and regulations

#### 14. Information about transport

No separate regulations for transport. The material has to be proper packed and dry during transport. The Material is not hazardous goods in the meaning of the transport regulations.

#### 15. Legal provisions

No separate regulations.

#### 16. Other Information

bioFila ® has to be properly handled and only for the appropriate use. Therefore the user has to ensure the apply of the safety guidelines.

#### Comments

**All information based on the current knowledge and experience, out of this information any legally binding warranty of defined features can not be deduced.**