

Declaration Sustainable biopulp Clean biofuel for biogas plants

nr. 70999-24 jan. 2022



Biopulp from source-sorted organic residual materials (waste) from public, private, retail and industry.

Produced by:

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Approval number:

DK-06-03-intp-051 to handling of animal by-products

in category 3 material for organic biomass.

Product description:

Biopulp is an energy source for use in biogas plants for the production of biogas.

The product is produced from source-sorted household waste and other organic materials from both retail and food industries in cat. 3 in accordance with the animal by-products regulation.

The product is characterized by the majority of the organic particles being very small, most of which are less than 0,1 mm, and is easily marketable to biogas plants.

Biopulp is a very homogeneous product with a very low level of impurities like plastic, glass, stone and metal.

Biopulp is produced on Gemidan Holsted's Ecogi plant that uses wet-pulping technology with subsequent effective separation of rejection of undersired substances.

Danish legislation applicable:

Biopulp must be declared after Requirements described in order No. 1001 from 27.06.2018 on the use of waste for agriculture purposes.

The frequency of analysis is for contaminants every month. The other parameters every 3 months.

Physical impurities are analyzed monthly.

Certification:

ISO 14001:2015 environment, ISO 9001:2015 Quality.

ISCC EU (International Sustainability and Carbon Certification)



| Purity of biopulp | Unit | Limits value | Latets analysis 22-03747 | Average monthly from aug. 2018 |
|-----------------------------------|-------------------------|--|--------------------------|--------------------------------|
| Area covered in plastic | cm ² pr.% TS | 1 cm ² per% TS measured in one liter of biopulp | 0,27 | 0,29 |
| Plastic in dry matter | % i TS | Plastic > 2 mm is 0.15% by weight per dry matter | 0,006 | 0,014 |
| Physical impurities in dry matter | % i TS | Plastic, glass and composite materials > 2 mm is 0.5% by weight / dry matter | 0,043 | 0,100 |

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| Parametre | Unit | Latets analysis 22-03748 | Average quarterly from aug. 2018 | Unit | Latets analysis 22-03748 |
|----------------------|----------|--------------------------|----------------------------------|-------------------|--------------------------|
| Dry matter (TS) | % | 24,4 | 19,0 | % | 24,4 |
| Total N | mg/kg TS | 24400 | 28813 | kg/ton dry matter | 5,95 |
| Total Phosphorus (P) | mg/kg TS | 2660 | 3781 | kg/ton dry matter | 0,65 |
| Pottassium (K) | mg/kg TS | 7240 | 8713 | kg/ton dry matter | 1,77 |
| Magnesium (Mg) | mg/kg TS | 1000 | 2861 | kg/ton dry matter | 0,24 |
| Sulfur (S) | mg/kg TS | 1890 | 2747 | kg/ton dry matter | 0,46 |

| | | |
|--|------------|-----|
| Average theoretical biogas potential (Methan) | Parameters | 490 |
|--|------------|-----|

| Parameters | Unit | Limits value | Limit value ecology | Latets analysis 22-03748 | Average quarterly from aug. 2018 |
|--------------------------|------------------|--------------|---------------------|--------------------------|----------------------------------|
| Lead (Pb) | mg/kg dry matter | 120 | 45 | 0,7 | 2,3 |
| Cadmium (Cd) | mg/kg dry matter | 0,8 | 0,7 | 0** | 0,05 |
| Chrome (Cr) | mg/kg dry matter | 100 | 70 | 1,3 | 2,9 |
| Copper (Cu) | mg/kg dry matter | 1000 | 70 | 9,8 | 72,1 |
| Nickel (Ni) | mg/kg dry matter | 30 | 25 | 0,9 | 3,0 |
| Zinc (Zn) | mg/kg dry matter | 4000 | 200 | 29 | 357 |
| Mercury (Hg) | mg/kg dry matter | 0,8 | 0,4 | 0,1 | 0,01 |
| Chrome 6 (Cr) | mg/kg dry matter | | ** | 0** | 0* |
| Environmental substances | Unit | Limits value | | Latets analysis 22-03748 | Average annual from jan. 2018 |
| LAS | mg/kg TS | 1300 | | 190 | 87,5 |
| PAH | mg/kg TS | 3 | | 0,03 | 0,4 |
| NPE | mg/kg TS | 10 | | 0** | 0,45 |
| DEPH | mg/kg TS | 50 | | 0** | 0,43 |

**Concentration 0 are values "non-measurable"

by. 28.02.22

* Avarage is calculation values "non measurable" where concentration is set to 0