Fraunhofer CBP

Fraunhofer Center for Chemical Biotechnological Processes CBP

Organosolv lignin

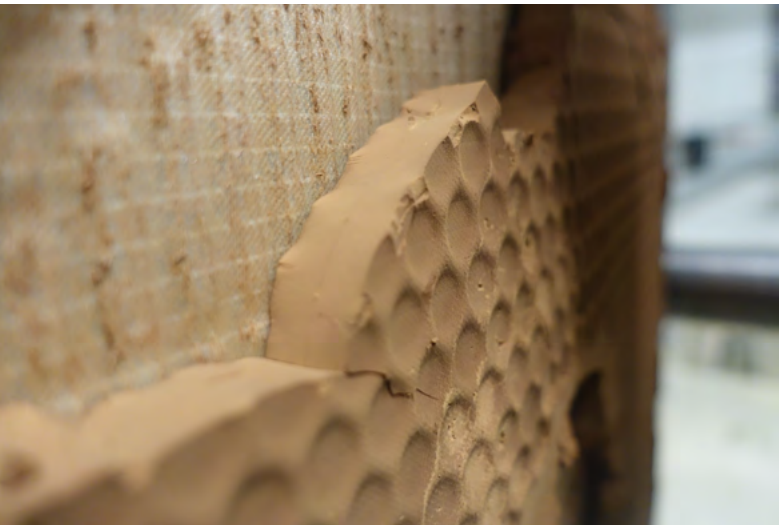
Top quality for your high-end applications

Fast Facts

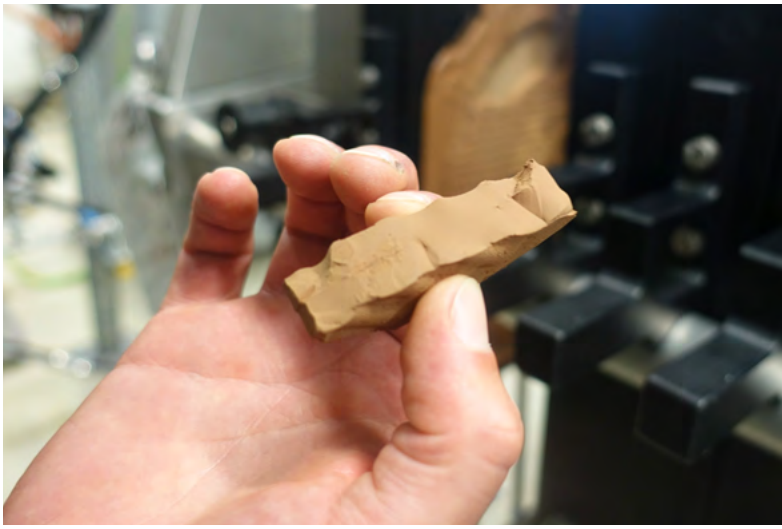
1. Continuous lignin precipitation process
2. Simultaneous solvent recovery
3. Controlled agglomeration of lignin
4. Improved filterability of the produced lignin dispersion
5. Reduced water consumption

Process

Organosolv lignin is of high quality and purity, which makes it ideal for both direct use and upgrading into high-value chemicals. It is obtained from wood by a potential aqueous pre-extraction, followed by ethanol-water fractionation. The spent liquor is heated under reduced pressure to remove ethanol and precipitate the lignin. After filtration, the lignin is dried under reduced pressure.



Filter press for lignin separation



Organosolv lignin press cake before drying

Specifications

Lignin can be delivered based on customer needs in a reproducible quality. We are able to work with various feedstocks such as beech, wheat straw or spruce.

Specification	Typical value (beech wood)
Dry content	~ 95 %
Residual sugar content	< 20 mg/g
Particle size	Diameter at 10 % 10 µm
	Diameter at 50 % 105 µm
	Diameter at 90 % 350 µm
Molecular weight	M_n ~1100 g/mol
	M_w ~2800 g/mol
Glass transition temperature	120 – 125 °C
Content of methoxyl groups	~ 7,5 mmol/g
Content of aliphatic OH	~ 1,7 mmol/g
Content of phenolic OH	~ 3,9 mmol/g
Content of COOH	~ 0,1 mmol/g
S/G ratio	~ 2
Sum heavy metals	< 1g/kg
Most common allergens*	< 1 mg/kg
Microbial load*	< 10 CFU/g

* More details particularly on analysis of heavy metals, allergens and microbial load are available upon request.

Availability

Organosolv lignin is available in kg scale from Fraunhofer's pilot plant. Please also contact us for larger amounts and specific quality requirements, such as GMP-grade.

Contact

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