

Bio cellulose: Efficient pulp production from biomass*

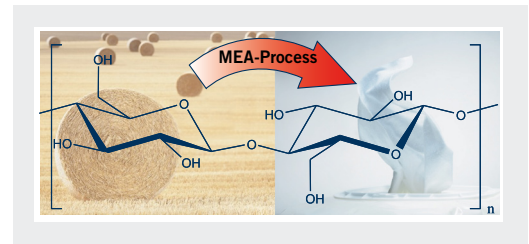
The innovation

The innovation describes a new, effective industrial process for the production of cellulose from annual plants such as straw, rice straw, bagasse and annual plant litter. The process is based on a highly cost-effective extraction method with monoethanolamine (MEA), which is a widely available standard chemical. The complete recycling of MEA via distillation is a highly environmentally friendly process.

Compared with other state-of-the-art techniques, separating the plant components

cellulose, hemicellulose and lignin is more effective and higher yields (60-70 %) can be obtained. This offers the possibility of producing cellulose for various applications (e.g. high-quality paper with high-tensile strength). Furthermore, the components can be sold separately, which leads to higher revenues.

It is possible to integrate the new process into existing pulping plants with minor adaptations and an additional distillation unit for MEA recycling.



Advantages at a glance

- Very efficient production process
- The process can be integrated into existing pulping plants with minor adaptations and an additional distillation unit
- High environmental compatibility due to a closed circuit
- High pulp yields
- Superior quality of pulped cellulose
- In addition to cellulose, other components such as hemicellulose and lignin can also be effectively separated for re-sale

Keywords

- Pulp
- Cellulose
- Monoethanolamine
- MEA
- Pulping
- Extraction process
- Lignin
- Hemicellulose
- Paper industry
- Pulp industry
- Paper
- Annual plants

To acquire a licence for this new technology, please don't hesitate to contact us!

Areas of application

- Pulp production

Patent status

The invention is filed internationally and partially granted. It is owned by ZYLUM Beteiligungsgesellschaft mbH & Co. Patente II KG. The application was filed in April 1999.



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