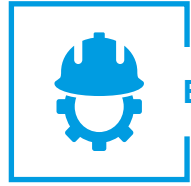




TECHNOLOGY LICENSING



ENGINEERING SERVICES



PLANT CONSTRUCTION

IDEAS INSIDE ^{EPC}



PXT Technology

For the Production of Biodegradable Polymers

CONTACT

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Fullfilling the needs of economy and environment

Worldwide more than 335 million tons of polymers are produced per year. However in 2018 less than one percent of the the polymers were biodegradable. The paradigm shift in todays society and economy regarding the attitude towards single-use 'throw-away' plastic products is driving a noticable and fast change of these numbers. The overall production and use of biodegradable polymers is predicted to rapidly increase.

To further drive this environmental trend and satisfy changes in market demand, EPC has developed a technology for the production of biodegradable polymers of high quality, which comply with DIN EN 13432 and ISO 17088.

A MEMBER OF
EPC GROUP



EPC Group is certified per DIN EN ISO 9001

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Seminal Technology for Sustainable Products

Biobased ≠ Biodegradable

Bioplastics and biopolymers can refer to plastics that are either produced from renewable raw materials such as maize, starch or wheat, or which are biodegradable. Biodegradable plastics can be produced from both renewable and fossil raw materials. In addition, even biobased plastics cannot always be biodegraded, since this decomposition process depends purely on the chemical structure and not on the raw material of a product.

Drawing from its long experience and vast knowledge in the polymer industry, EPC Engineering & Technologies GmbH has developed a technology to produce biodegradable plastic that fully decomposes. This process technology is able to produce biodegradable polymers, which comply with DIN EN 13432 and ISO 17088. PBAT (polybutylene adipate terephthalate) is an example of a biodegradable polymer based on synthetic raw materials, i.e. adipic and aromatic carboxylic acid.

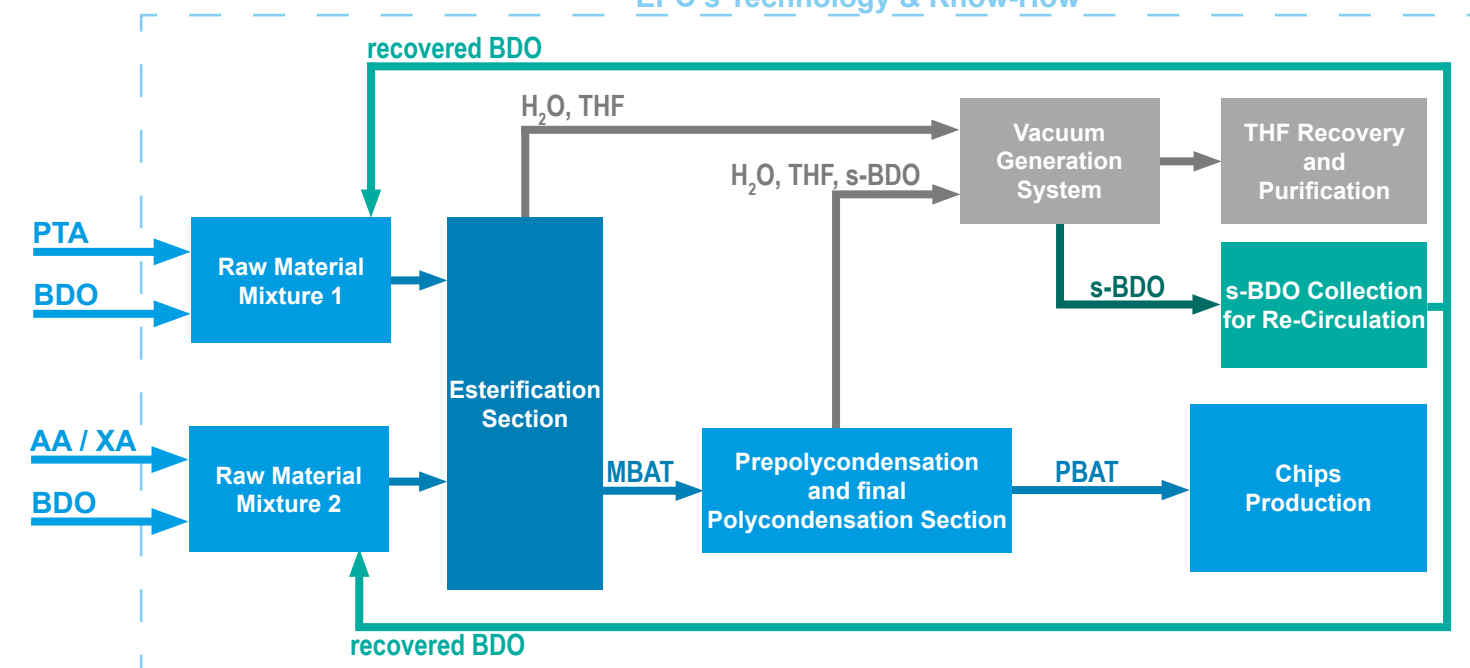


Key Advantages of PXT-Polymers

- ✓ Biodegradable according to DIN EN 13432 and ISO 17088
- ✓ Can be combined with other raw materials
- ✓ Cost-effective production from low cost synthetic raw materials
- ✓ High market acceptance

EXAMPLE: PRODUCTION PROCESS OF PBAT

EPC's Technology & Know-How



EPC's PBAT polycondensation process uses 1,4-butanediol and a combination of dicarboxylic acids as raw materials. One significant advantage is that the spent-BDO, THF and H₂O are collected, treated and reused; fulfilling EPC's **Circular Economy Standard**. While the liquid spent-BDO is recirculated into the process, the recovered THF can be sold to the global market as a highly valuable organic solvent.

EPC provides a state-of-the-art technology enabling a safe and environmentally-friendly plant operation and the production of a high-purity bio-degradable polyester. A special benefit is our process plant control system *insidePXT* which provides a fully automated plant operation and production quality assurance.

Applications for PXT:



* in combination with other raw materials



Our Services:

- ✓ Technology Licensing
- ✓ Process Design Package
- ✓ Key Equipment Delivery
- ✓ Training & Technical Assistance
- ✓ Supervision of Installation
- ✓ Supervision of Commissioning & Start-Up



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