



Monomerfactory of Dyneon GmbH in Gendorf & #169; 2012 3M Company



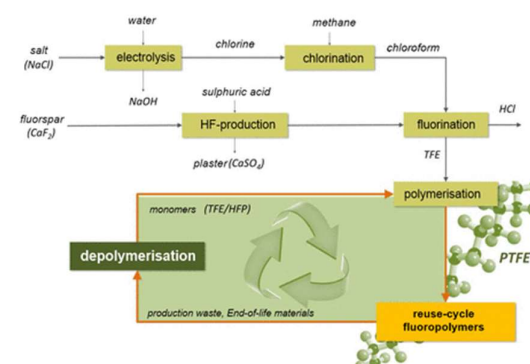
Pure PTFE-granulate

Pilot project: Recycling of fluoropolymers (PTFE)

Fluoropolymers are used in a variety of technical applications because of their extraordinary characteristics and material properties. At the end of a product's life cycle these high-quality materials are usually deposited or thermally recycled.

Within the framework of a federally supported project, the University of Bayreuth has developed a depolymerization process in cooperation with InVerTec and the 3M Dyneon company. Fluoropolymers can be converted into their monomers with 90% efficiency. Up till now, these monomers have been produced on an industrial scale from freon 22 (R22) with high energy consumption.

This new process not only has the potential to significantly reduce the energy consumption and minimize the production of unwanted byproducts, but can also close the cycle of fluorine materials for the first time.



Process chain for the primary production and recycling of fluoropolymers. The monomers can be recovered directly from the new depolymerization process.

PTFE is a chemical and thermally highly resistant specialized polymer. Among other things, Polytetrafluoroethylene is used as anti-adhesive coating for sealings and surfaces.

Project time: 2005-2014

Project goals: Research & Development, plant construction (demonstration plant at industrial scale)

Project partners: 3M Dyneon GmbH, Deutsche Bundesstiftung Umwelt

Publications/Patents:

- [Patent CN000102216246A](#)
- [Mitteilung der Universität Bayreuth](#)
- [Woche der Umwelt \(Flyer\)](#)