DITF | Koerschtalstrasse 26 | 73770 Denkendorf | Germany

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Competence Center Biopolymer Materials
Contact:
Dr. Antje Ota
P +49 711 93 40-173
F +49 711 93 40-185
E Antje.Ota@ditf.de

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Biopolymer Fibers derived by HighPerCell® process

Antje Ota[1], Marc P. Vocht[1,2], Frank Hermanutz[1], Michael R. Buchmeiser[1,2]

[1]German Institutes of Textile and Fiber research, Körschtalstr. 26, 73770 Denkendorf, Germany
[2]Institute of Polymer Chemistry, University of Stuttgart, Pfaffenwaldring 55, D-70569 Stuttgart, Germany

The processing of biopolymers, such as cellulose and chitin, using ionic Liquids as solvents is a promising research field with great potential for industrial applications.[1],[2] With the HighPerCell® process it is possible to produce cellulose and cellulose/chitin endless fibers by wet and air-gap spinning for various applications.
Spinning cellulosic fibers based on the HighPerCell® technology is close to pilot production and ongoing pressure to develop environmentally friendly technology will rapidly increase the interest in this technology as there are no additives needed for spinning and a complete recycling of these materials is possible. Based on the flexibility of the IL-based processing of cellulose, there is more interest in developing cellulose-based materials, like all cellulose composites [3] and super-microfibers. Likewise, ACCs can be used in lightweight construction and as a replacement for glass fiber reinforced plastics. In addition to this, the exploration of a new class of cellulose-based carbon fibers is made possible by IL-derived cellulosic fibers.[4] Thereof, PAN-based carbon fibers could be substituted stepwise by this ecologically and economically amended alternative.

References:

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