



Intermediates from industrial spent coffee grounds

Coffee grounds as a source of raw materials

The production of instant coffee creates wet spent coffee grounds as a major by-product, which up to now has only been used as a source for energy on industrial scale. For the production of one kilogram of instant coffee two kilogram of wet coffee grounds are created. In the EU alone, available spent coffee grounds amounts to about one million tons per year.

Within the project "InKa-Intermediates from industrial spent coffee grounds" Fraunhofer UMSICHT develops together with partners recycling opportunities for industrial spent coffee grounds.

In order to achieve this, the coffee ground is proceeded to high-quality intermediates in a first step, from which then additives for plastics and various sorts of paper can be created.

The interdisciplinary researchers team is dedicated to develop and evaluate an industrially scalable approach for converting commercially available spent coffee grounds into high-quality intermediates.

The aim of the "InKa" project is to develop an industry-oriented approach for converting commercially available coffee grounds into high-quality intermediates.

Technological specifications

- Fractioning of the spent coffee grounds
- Purification and high-quality use of the produced intermediates
- Process intensified in-situ transesterification of coffee grounds
- Chemical modification of the isolated intermediates
- Development of low-migration impact modifier
- Production of building-blocks

Our service

- Process development and application tests
- Scale-up from laboratory to industrial production
- Material flow analyses
- Cost indication for new process engineering concepts
- Analysis of the raw materials supply in the market through the newly developed processes

Your benefit

Fraunhofer UMSICHT develops resource saving processes that make an important contribution to the utilization of bio-based raw materials within the range of bioeconomy. With these processes alternative raw materials sources can be opened up in order to cushion raw material bottlenecks.

The de-oiled coffee grounds can be deployed as a raw material for the paper and cardboard industry and can improve the quality of various end products.

Several recyclable materials like glycerine, fatty acids, polysaccharides, aromatics and diverse minerals can be developed from the spent coffee grounds.

We would like to further develop our results with you in cooperation projects.

Further information

The best reference for our work are the projects:

www.umsicht.fraunhofer.de/en/projects/inka-coffee-grounds.html

Keywords

- Spent coffee grounds as a raw materials source
- High-quality intermediates
- Process intensified methods
- Transesterification of coffee oil
- Bioeconomy

Industrial sectors

- Chemical technology
- Plant engineering
- Production, processing and trade of oils and fats, plastics and plastics additives, papers and paperboards

In cooperation with



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