Pressinformation

BINE Informationsdienst

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Converting waste plastics into gas

New method utilises carbon-containing sorting residues and waste

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Until now, plastics such as PVC have created problems during waste treatment. Although they have a high calorific value, their combustion produces harmful compounds that can escape into the environment. The BINE-Projektinfo brochure "Generating syngas from plastic wastes" (05/2016) presents a new gasification process for this waste fraction. In this process, waste plastics, carbon-containing sorting residues and rubber parts as well as shredded materials from the automotive sector are treated in a shaft kiln. Here lime plays a decisive role.

With this method, the residual materials are mixed with coarse-ground lime and, using the counter flow principle, converted thermally and chemically in several stages, including gasification and pyrolysis. The lime is used as a carrier medium for the plastics, as a catalyst for the process and as a binder for pollutants. No flue gas emissions are produced during the conversion. The method is also suitable for problematic waste such as chlorine-containing plastics, contaminated soils and plastic-containing electrical scrap. Lime binds not only halogens and other harmful substances but also valuable materials contained in waste materials such as metals from electrical scrap. These can later be separated and recycled. The new procedure is designed to supplement existing waste treatment systems.

The process produces a purified synthesis gas that can be utilised materially for producing basic chemical products or in engines. The first large-scale plant can recycle up to 50,000 tonnes of waste plastic per year. Ecoloop GmbH in Bad Harzburg, Germany, has developed the Ecoloop method in collaboration with other partners.

The BINE Projektinfo brochure, which can be obtained free of charge from the BINE Information Service at FIZ Karlsruhe, is available online at www.bine.info or by calling +49 (0)228 92379-0. The brochure cover and an additional image can also be downloaded from the press section in this web portal.

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