Joint news release

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Institute cyclos-HTP certifies the recyclability of multilayer films with polyamide 6

- **Multilayer films based on Polyethylene/Polyamide 6 (PE/PA6) are certified to be recyclable for the PE film stream**
- **Basis for a review of the classification of PA 6 in the minimum standard of the German Central Packaging Registry**

Institute cyclos-HTP GmbH has completed the series of tests commissioned by BASF SE to reassess the recyclability of polyamide 6 (PA6) in coextruded polyethylene (PE) / PA6-multilayer film structures in post-consumer packaging waste. The main result: Multilayer films based on PE/PA6 are certified to be recycling compatible for the PE film stream. This was analyzed for PA6 concentrations of up to 30 percent in original packaging films. This result is intended to form the basis for a review of the classification of PA6 in the “Minimum standard for determining the recyclability of packaging subject to system participation pursuant to section 21 (3) VerpackG (Verpackungsgesetz – German Packaging Act)” of the Stiftung Zentrale Stelle Verpackungsregister (Central Agency Packaging Register). In the Annex 3 to this standard, PA6 is to date listed as an “incompatible” component, for example, in the waste stream of the packaging group “film and PE-LD.” “We are pleased that cyclos-HTP has been able to develop a scientifically sound basis for reassessment. It is time to correct the categorization of polyamide 6 and also the related PA6/6.6 co-polyamides as ‘incompatible’ contaminants and to put it on a solidly updated basis,” says Dr. Rolf-Egbert

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Grützner, Senior Manager Technical Support for Ultramid® extrusion polyamides and responsible on behalf of BASF for the cooperation with cyclos-HTP as an independent testing and evaluation institution.

In addition to confirming the recycling compatibility of PA6 in the waste stream of flexible polyethylene packaging, cyclos-HTP has also classified PE/PA6 multilayer films as fully recyclable materials under certain conditions. This is the case while using so-called compatibilizers in PA6-containing film structures additionally to the PA6 content of up to 30 percent in original packaging films. This secures the homogeneous mixing of the polymers which are incompatible in these concentrations, although this is not absolutely necessary due to the dilution of PA6 in the real waste stream.

The certified compatibility of the examined PE/PA6 systems in the waste stream of flexible packaging applies to both new injection molding and blown film applications. “For us, it was surprising what positive contribution the PA6 content in the analyzed concentrations has shown to the property level of the industrial polyethylene recyclate used as a reference,” confirms Dr. Roland Bothor, responsible for ecodesign and development projects at Institute cyclos-HTP GmbH.

Further information can be found at:
https://chemicals.basf.com/global/en/Monomers/polyamide_intermediates/mechanical-recycling.html

About BASF

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About Institute cyclos-HTP GmbH

Founded in Mai 2014 with its head office in Aachen, Institute cyclos-HTP GmbH is a company specialized in the classification, assessment, and certification of recyclability of

packaging and goods as well as in research and development in this area. As early as 2011, the first ever recognized and practicable standard for certification in these areas was developed based on sound expert knowledge. Managing directors of the Institute cyclos-HTP are Sandra Beckamp und Dr Joachim Christiani. Further information at www.cyclos-htp.de.