



AIMPLAS-coordinated PHOENIX Project Aims to Develop Halogen-free Flame-resistant Plastics

SpecialChem - Jun 19, 2013

VALENCIA, Spain -- PHOENIX, a Collaborative project from the 7th Framework Programme, aims to develop a new generation of **fire-resistant plastics** refraining from the traditional halogenated additives. PHOENIX, with a 4 years duration and coordinated by AIMPLAS in Spain, is composed of 15 partners from 8 European countries.

Currently, fire-resistant halogenated additives are used in a wide range of commercial items such as electrical and electronic equipment, low-voltage cables or electrical appliances. The elimination of such additives from the composition of these products is important because they are substances hazardous to public health and to the environment and, in fact, its use and recycling are addressed by several European directives such as WEEE and RoHS.

The limitation with non-halogenated additives, currently used in the market as an alternative to the traditional ones, is that they are far less efficient. This means that polymers should contain between 30% and 60% of [flame-retardant](#) substances to achieve a better fire performance, while the halogenated polymers are efficient when containing only 15% of additives. However, by incorporating such high filler content in the polymer matrix, the processability and final product properties are significantly reduced whilst the cost of the parts is considerably increased. This severely limiting the range of applications and hindering non-halogenated [flame retardant](#) market introduction to replace dangerous halogenated [flame retardants](#).

Maximum efficiency thanks to nanotechnology

PHOENIX aims to develop highly efficient flame-retardant non-halogenated additives that display an excellent fire performance while at the same time maintaining a low amount of additives in the final product (15%). For this, nanostructured materials will be developed based on the combination of different types of nanoparticles, among each other or in combination with biobased additives, so that each will provide functionality to the whole. Graphene, modified lignins, nanohydroxides and encapsulated phosphorus based [flame retardants](#) in hollow particles, will be combined and united by the self-assembling technology. All flame retarders will be produced with sustainable methods of production from the viewpoint of safety at work, consumer safety and environmental impact.

The research leading to these results has received funding from the European Union Seventh Framework Programme (FP7/2007-2013) under Grant Agreement n° 310187.

About AIMPLAS

AIMPLAS is a Center of innovation and technology (CIT) recognized by the Interministerial Commission on Science and technology and is located in Valencia (Spain). It was founded in 1990 as Research Association of national and international non-profit. Since then our goal focuses on enhancing the direct contact with the companies in all sectors linked to plastic to identify their needs and offer solutions to meet these needs.

Source: AIMPLAS

This document was provided by SpecialChem's editor. If you want to share your press release, please send it to chief-editor-pa@specialchem.com. SpecialChem reserves the right to refuse any article or news item.

.newsletter

Plastics & Elastomers
 Formulation Bulletin (bimonthly)
 Polymer Formulation Insight
 (weekly)



click2vote

Which family of
 additives has been most
 innovative last year?

- Plasticizers
- Antioxidants and UV Stabilizers
- Scratch resistant additive
- Mineral fillers
- Nano-fillers
- Anti-statics
- Others

vote

CONTACT US to benefit
 from our marketing services



.latest

- R&D Highlight - Dynamic Mechanical Analysis of Biocomposites Compared to ...
- R&D Highlight - Thermoplastic Composition Containing a Laser Direct Structuring ...
- R&D Highlight - Influence of Glycerol on Morphology & Properties of ...
- R&D Highlight - Bioplastics from Waste Materials and Low-value Byproducts
- R&D Highlight - Novel Renewable Resource-based Biocomposites from Biofuel ...

.stay connected

- [Newsletters](#)
- [RSS](#)
- [Twitter](#)

