

Axion Recycling Newsletter

WELCOME to the latest edition of the Axion Newsletter. In this issue, find out about Axion Polymers' new flame retardant polymer formulation, how EA & WRAP's new quality protocol will boost plastic recycling and interest in Pla.to & Axion's shared stand at this year's K Show in Dusseldorf.

BREAKTHROUGH FOR AXION'S FIRE RETARDANT POLYMER

Axion Polymers has developed a new flame retardant impact styrene formulation with high recycled content following successful laboratory trials.

With up to 70% recycled content, the new material demonstrates the feasibility of making a highly flame retardant polymer, branded Axpoly PS01 FR, from Axion's Axpoly PS01 halogen-free recycled plastic. The material potentially offers manufacturers a variety of new high value applications, particularly where offering a recycled content provides a marketing advantage or reduces production costs.

"We have proved that a V0-performance material can be made in the laboratory and this has been independently tested by a major petro-chemical company. We believe the future market potential is excellent as flame retardant plastics make a major contribution to safety and saving lives. We are now working with our customers to tailor the formulation further to meet the needs of their specific applications" comments Axion's Technical Director Keith Freegard.

Achieving the "yellow card" (UL 94 accreditation) for the formulation and scaling up production is our next target, according to Axion's Technical Consultant, Robin Hilder. "Axpoly PS01 FR is an excellent raw material and in plentiful supply from recycled electrical appliances. This development means suppliers of flame retardant grades can benefit from using a base resin with a high recycled content, rather than virgin polymer; with obvious economic and environmental benefits."

"Using high quality recycled polymers in new electrical and electronic equipment offers benefits to

manufacturers in terms of reducing raw material costs, cutting CO2 emissions, as well as boosting their 'green' credentials in the market. The recycled component of Axion's new formulation generates around 10% of the amount of CO2 that is made in the production of virgin polymer."



Axion's Keith Wells producing the trial FR formulation

Axion's new formulation was developed at the firm's state-of-the-art processing facility at Salford. It is one of the most advanced recycling facilities in Europe for handling the polymer waste stream produced by the primary treatment of WEEE (Waste Electrical and Electronic Equipment).

In addition to the new FR formulation, Axion Polymers offers a range of Axpoly branded non-FR injection-grade materials. These are derived from fridges, televisions and smaller electrical appliances.

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EA & WRAP'S NEW QUALITY PROTOCOL FOR NON-PACKAGING PLASTIC WASTE

The Environment agency and WRAP are proposing a new quality protocol which will allow recycled non-packaging plastic to be treated as a product and not waste. Over a third of all plastics could be covered by the new protocol, significantly boosting the volumes of recycled plastic in the future.

Axion has been involved in the consultation for this new protocol as a member of the Waste Protocols' Technical Advisory Group (TAG). The group found that 3.5 million tonnes of used plastics enter the waste

stream every year, of which 30% could potentially be recycled and treated as 'product' under the new protocol.

Under the new proposal, material will have to be processed according to specifications laid out to ensure that customers buy products that meet strict quality standards.

According to the EA, the adoption of this new protocol could divert more than a million tonnes of plastic from landfill each year and result in a CO2 saving of over 70,000 tonnes over the next 10 years.

www.environment-agency.gov.uk

PLASTIC WASTE 'CLEANS UP' AT K SHOW

High levels of interest shown at the Dusseldorf K2007 event in a novel 'dry cleaning' technology for mixed plastic waste, could lead to significantly greater recycling of the material in the UK, according to Keith Freegard, Technical Director of Axion Recycling.

Developed by German machine company Pla.to Technology, the dry mechanical cleaning system for dirty plastic flakes and films can reduce water consumption from up to 90%, and cut waste levels by half, compared to wet washing plants. This offers major savings on operating costs.

Managing Director of Pla.to Technology Heinz Schnettler said: "Customers are seeing the environmental and sustainable benefits of 'dry cleaning' technology more clearly than in the past."

Axion and Pla.to's shared exhibition stand attracted encouraging levels of inquiries from UK-based companies interested in improving their recycling processes for this rapidly growing plastic waste stream. Recent investment in the UK bottle recycling market and strong interest from retailers in the use of recycled PET and HPDE has driven the increasing collection of household plastics waste.

At present, around 1 in 4 UK bottles are collected and as more local authorities introduce plastic kerbside schemes, it is anticipated that that the volumes of plastic bottles, rigid containers and mixed-plastics films will increase dramatically. Details of a modified dry-cleaning system for wet and sticky materials, like rain-soaked HDPE bottle flakes, were also unveiled at the show.

"We had a very positive response to the technology, which enables more effective recycling of the dirty fraction from mixed plastic wastes, particularly food packaging such as crisp packets and yogurt pots," commented Keith Freegard. "Given the big push to recycle mixed plastics in the UK, we are predicting much growth in this area."



"Pla.to's technology is useful for recyclers who can use it to open up new sources of raw material, which fits closely with what Axion does – finding dirty plastic waste and recycling it," he said. Axion is the UK agent for Pla.to Technology.

In recent months several units have been installed at UK plastic recyclers; demonstrating the effectiveness of the dry-cleaning process for the mixed plastic waste sector. Axion is also conducting trials to assess more effective cleaning and separation techniques for mixed plastic waste.

"The Pla.to unit is an important step in the recycling chain in that the waste plastic recyclate can be re-used in higher grade applications than at present. Critically, it is good at recycling the film fraction of mixed plastic, which is one of the trickier steps in the whole process," added Keith.

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