OXO-BIODEGRADABLE PLASTICS ASSOCIATION

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OPA CONTRIBUTES TO EU WORKSHOP ON MARINE LITTER

Contribution to the meeting at the European Commission, Brussels, 30th November 2011 by Michael Stephen, Chairman of the OPA; former Member of the UK Parliament; and member of the British Standards Committee on biodegradability of plastics.

I have just returned from Hawaii where I was invited to speak about oxo-biodegradable plastics at the Pacific Basin Economic Council. They were concerned about plastic waste in the oceans, and the Great Pacific Garbage Patch is not far from Hawaii's shores. In fact if all the short life plastic had been oxo-biodegradable, the GPGP would not be there.

Oxo-biodegradability converts ordinary plastic at the end of its useful life in the presence of oxygen into a material with a *different molecular structure*. At that stage it is no longer a plastic and has become a material which is inherently biodegradable in the open environment in the same way as a leaf. It cannot then entangle wild creatures nor block drains, and it is no longer a form of visual pollution. It does NOT leave fragments of plastic, and it is not toxic. It does not need sunlight or heat, but these will accelerate the process.

It is called “Oxo-biodegradable” because it degrades by a process of oxidation.

An indication of how little understood the technology is, can be found in the paper prepared for this meeting today. It is stated there that "biodegradable plastics do not degrade in the natural environment". That is certainly true of the bio-based compostable plastics - which are designed to biodegrade in the special conditions found in industrial composting, but it is not true for oxo-biodegradable plastic. The published science shows beyond doubt that it does degrade and biodegrade in the natural environment.

Of course we must reduce the generation of litter and educate people not to litter, but in most countries in the world some of the plastic will always escape the preferred disposal routes and find its way into the open landscape or the ocean, from which it cannot realistically be collected. This component of marine litter has not been addressed in the paper at all.

A further omission from the paper is the very characteristic of plastic which causes so much concern for the marine environment. That characteristic is that it will float around for decades before bio-degrading, but this has not been addressed in the paper, nor in the presentation today from the plastics industry. The plastics industry needs to deal with this by adopting oxo-biodegradable technology for all its short-life products. It is unnecessary and unacceptable to make short-life plastic products which can lie or float around in the environment for 50 years or more.

Europe has no policy for this as yet, but in the Middle East it has been made compulsory to use oxo-biodegradable plastic for short-life products, and other

countries are following their lead. Europe should do the same, and we cannot leave it to others.

Oxo-biodegradable plastic is no more a solution to plastic litter than catalytic converters are to air pollution, but both have a role to play.

It is not a good idea to ban plastic shopping bags, and it is incorrect to call them “single-use” bags. An LCA published by the UK Environment Agency this year found that they are in fact re-used many times and that they are better for the environment than paper, bio-based plastic, or durable bags. Instead they should be required to be oxo-biodegradable.

Oxo-biodegradable plastic is not designed to comply with EN13432 because that is a standard for biodegradation in composting, and has no application to oxo-biodegradable plastic, which degrades by a completely different mechanism from bio-based compostable plastic. A lot of confusion has been caused by use of the term "biodegradable" plastic. In future we should speak either of oxo-biodegradable plastic or hydro-biodegradable plastic (ie bio-based compostable).

Oxo-biodegradable plastic does not contain heavy metals and it complies with EU and US regulations for direct contact with food. If collected during its useful life it can be recycled with ordinary plastic (se http://www.biodeg.org/position-papers/recycling/?domain=biodeg.org) and there is no waste of resources, but compostable plastic cannot be recycled with ordinary plastic. Oxobiodegradabilty does not work in PET, which can and should be recycled.

Oxo-biodegradable plastic is not designed to degrade deep in landfill because the Landfill Directive discourages degradation unless the landfill is designed to collect the gases. This is because materials like paper and bio-based compostable plastic will emit methane in anaerobic conditions and methane is a powerful greenhouse gas.

Finally oxo-biodegradability is not a disposal option, but it is said that biodegradable plastic encourages littering. If this were true it would apply to bio-based compostable plastic but not to oxo-biodegradable. This is because if I put on the table here a conventional bag and an oxo-biodegradable bag you could not tell the difference, but you could tell the difference with a compostable bag.

But suppose for the sake of argument that 10% more would be littered, there would be no oxo-biodegradable bags left after a very short time but the conventional bags and bio-based bags would still be floating around many years later.

I have not been able to cover this subject in detail, but you will find the detail on the OPA website at www. biodeg.org