

STATEMENT by SYMPHONY IN RESPONSE TO “POSITION-PAPER” ISSUED BY “BIOPLASTICS COUNCIL” in JANUARY 2010

All plastics will degrade and then biodegrade, but normal and recycled plastics can take decades to do this. Plastics made with oxo-biodegradable additives are an improvement of normal plastics because they cause the plastic products to harmlessly degrade then biodegrade after their useful life if they have not by then been recycled. They are not new products - unlike the vegetable-based or “compostable” plastics.

The increasingly desperate efforts of the hydro-biodegradable (vegetable-based or “compostable”) plastic companies to rubbish oxo-biodegradable plastics are becoming laughable. Their latest tactic is to form themselves in the USA into a very official-sounding organisation called the “Bioplastics Council” and to attach it to the respected Society of the Plastics Industry. This “Council” has recently issued a Position Paper which repeats the allegations made against oxo-biodegradable plastics in July 2009 by an organisation called “European Bioplastics.” Not surprising really – as they are financed by some of the same companies for the same purpose. (This organisation is not the same as the respected “Plastics Europe”).

Their allegations have been comprehensively refuted (see www.biodeg.org) by Professor Gerald Scott DSc, FRSC, C.Chem, FIMMM; - Professor Emeritus of Polymer Science of Aston University, UK, and Chairman of the British Standards Institute’s Committee on Biodegradability of Plastics - and their behaviour is damaging the whole plastics industry. See also a statement by the respected laboratory Smithers-RAPRA <http://www.rapra.net/consultancy/biodegradable-plastic.asp>

In particular the Professor refutes their allegation that oxobio plastics just fragment and do not biodegrade, and explains that the additive formulation reduces the molecular weight of the material to the point where it is no longer a plastic, allowing it to be consumed by bacteria and fungi. There is no evidence that degradable plastics (whether oxo or hydro) have encouraged littering, and no evidence that tiny fragments of what used to be oxo-biodegradable plastic are more harmful than the trillions of other fragments normally found in the environment. Nor is there any evidence that they are more likely to attract toxins in a marine environment than fragments of seaweed or of ordinary plastic.

Prof. Scott also deals with the question of international standards. The vegetable-based plastic industry are determined to block a European Standard (comparable to ASTM D6954) for oxo-biodegradable plastics – acting not in the consumer’s interest but in their own commercial interests, and have promoted legislation such as the notorious AB 1972 in California, to serve their interests. They continue to maintain that the composting standards are the only standards applicable to biodegradable plastic, whether the product is intended for composting or not.

Oxo-degradation is defined by CEN (the European Standards Organisation) in TR15351 as “degradation identified as resulting from oxidative cleavage of macromolecules” and oxo-biodegradation as “degradation identified as resulting from oxidative and cell-mediated phenomena, either simultaneously or successively.” Oxo-biodegradable plastic is a bioplastic.

The vegetable-based plastic companies have another organisation in the US called the “Biodegradable Products Institute” run by a Mr. Mojo – again it sounds very independent and official but is just another lobby group for the “compostable” plastics industry.

These organisations are constantly demanding that the oxo-biodegradable companies disclose their test data. We provide this commercially-sensitive data to independent experts who test our materials, but we have no intention of disclosing it to those self-appointed guardians of the public interest.

The cases in the US and Italy to which the “Council” refers were lost because the advertisers made extravagant claims, which we do not condone, and not because of any defect in oxo-biodegradable technology.

The companies who finance these organisations are some very big names, and are spending large sums of money on propaganda - so why are they doing this? - because they have realised that they have invested massive sums into the wrong technology, which they know cannot compete on its merits with oxo-biodegradable plastics. Vegetable-based plastics seemed like a good idea at the time, and they told the public that it was better to make plastics from “renewable” resources instead of oil. In fact it was a very bad idea

Vegetable-based plastics are not “renewable” because huge amounts of hydrocarbons are burned in the production process and huge amounts of greenhouse gas are emitted. (See [http://www.biodeg.org/files/uploaded/biodeg/Hydro-biodegradable Plastic Production Process.pdf](http://www.biodeg.org/files/uploaded/biodeg/Hydro-biodegradable%20Plastic%20Production%20Process.pdf)) In June 2009 Germany’s Institute for Energy and Environmental Research concluded that oil-based plastics, especially if recycled, have a better Life-cycle Analysis than “compostable” plastics.

By contrast, oxo-bio plastics are made from by-products of oil or natural gas. These by-products arise because the world needs fuels, so nobody is extracting or importing oil or gas to make plastic. Until other fuels have been developed it makes good environmental sense to use the by-products, instead of using scarce agricultural resources and water to make vegetable-based plastics in competition with food production.

The length of time oxo-bio plastic takes to biodegrade depends on the requirements of the customer and the environment in which it degrades – it is not necessary for it biodegrade in the short timescale necessary for industrial composting. It will certainly biodegrade more quickly than nature’s wastes such as twigs and straw, and much more quickly than ordinary or recycled plastic. Light will accelerate the process, but it is not necessary.

In addition, the vegetable-based plastics cannot compete because:

- They are up to 400% more expensive than oxo-bio plastics
- They cannot be recycled in a normal oil-based plastic waste stream. Recyclers should be very worried about vegetable-based plastics but not about oxobio (See <http://www.biodeg.org/position-papers/recycling/?domain=biodeg.org>). (So far as Symphony is concerned PET and PVC are not relevant, because we do not as yet believe that they can really be made oxo-biodegradable, and nor does the Oxo-biodegradable Plastics Association).

- They are generally thicker and heavier, causing many more trucks on the road burning much more fuel and emitting much more greenhouse gas (http://www.biodeg.org/files/uploaded/biodeg/Oxo_vs_Hydro-biodegradable.pdf)
- They are in many cases not robust enough for processing in high-speed machines, nor for weight-bearing applications (unless blended with oil-based plastic which rather defeats their object).
- When tested, actual products made with vegetable-based plastic have not always met the composting norms ASTM D6400 or EN13432 - contrary to the claims that are made, as they are often mixed with oil-based polymers.
- They do not readily degrade in the open environment but need to be put into an industrial composting process. There is therefore no point in buying them unless there is an industrial composting facility nearby. They are not suitable for home-composting.
- They can emit methane deep in landfill, and methane is a greenhouse gas 23 times more powerful than CO₂. (Oxo-bio is not designed to degrade deep in landfill, where it becomes inert and does not emit anything).
- “Compostable plastics” are in fact useless in compost because in order to meet the composting standards (ASTM D6400; EN13432 etc.) the plastic has to convert itself to CO₂ gas within 180 days. This contributes to climate-change but not to the fertility of the soil.

The packaging manager of Tesco (Britain’s largest supermarket) said on 20th October 2009 that the supermarket “does not see the value in packaging that can only be industrially composted” and that “local authorities do not want to touch it, as it can contaminate existing recycling schemes.” A few days earlier, Tesco’s head of waste and recycling had told a conference that the supermarket group was “not taking compostable packaging any further.”

FOR FURTHER INFORMATION

Contact Max de Trensé at Carteret Communications +44207-828-8598
maxdet@onetel.com

NOTES FOR EDITORS

SYMPHONY ENVIRONMENTAL TECHNOLOGIES PLC is a British public company and the world-leader in Controlled-life plastic technology - a system that works by a process called oxo-biodegradation. The technology is branded d₂w[®] and appears as a droplet logo on many thousands of tonnes of plastic packaging and other plastic products.

Symphony has a diverse and growing customer-base and has established itself successfully as an international business, with 53 Distributors worldwide. Products made with d₂w plastic technology can now be found in more than 80 countries around the world and in many different product-applications. Symphony is a member of the Oxo-biodegradable Plastics Association (www.biodeg.org), the Society for the Chemical Industry (UK), and the American Standards Organisation (ASTM). Symphony is also a member of the US “Save the Plastic Bag Coalition” (<http://www.savetheplasticbag.com/>). Symphony actively participates in the work of the British Standards Institute (BSI) and the European Standards Organisation (CEN).

