



OXO-BIODEGRADABLE PLASTICS ASSOCIATION

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OPA RESPONSE TO FPA PAPER ON OXO-BIODEGRADABLE ADDITIVES

13th July 2010

1. It has come to the attention of the Oxo-biodegradable Plastics Association that the “Flexible Packaging Association” (FPA) of Linthicum, USA, has issued a paper on oxo-biodegradable additives.
2. Their paper relies heavily on statements made by “European Bioplastics,” and the “Society of the Plastics Industry Bioplastics Council” (SPIBC), and the “Biodegradable Products Institute” (BPI). These are not official bodies but trade associations for the vegetable-based “bioplastics” industry, whose products are competing unsuccessfully with oxo-biodegradable plastics.
3. The FPA paper quotes a definition of biodegradable plastic from SPIBC, but oxo-degradation is officially⁶ defined as “degradation resulting from oxidative cleavage of macromolecules” and oxo-biodegradation as “degradation resulting from oxidative and cell-mediated phenomena, either simultaneously or successively.”
4. The Oxo-biodegradable Plastics Association agrees that end-users of oxo-biodegradable plastic products should not make claims on or about those products unless they can be supported by scientific data certified by well-established third party authorities. The same of course applies to vegetable-based “bioplastics,” most of which should not be described as “biodegradable,” because they will biodegrade only in the special conditions found in an industrial composting process.
5. Reputable suppliers of oxo-biodegradable additives are always willing to advise customers on what claims can and cannot be properly made, but the claim is the responsibility of the customer by whom it is made.

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6. The Advertising Standards Authority of South Africa has recently ruled⁷ that bread bags made with oxo-biodegradable plastic can be advertised as “biodegradable.” The ASA considered the expert evidence, and on 8th April 2010 they ruled that the bread bags had been shown to be biodegradable.
7. They added that “In considering the meaning of the claim “Biodegradable Bag” on the bread packaging, to the hypothetical reasonable person, the Directorate must consider whether the packaging contains anything which might lend support to the contention that the words mean anything other than what is actually stated.
8. The packaging simply states “Biodegradable Bag”. This has been substantiated. Accordingly the Directorate finds that the claim is not likely to mislead the consumer.”
9. Most people will dispose of their waste responsibly but unfortunately some of it will always get out accidentally or deliberately into the environment. Otherwise we would never see plastic litter and there would be no “Great Pacific Garbage Patch.” This is the environmental problem which oxo-biodegradable plastic is designed to address.
10. Oxo-biodegradable additives convert ordinary plastic at the end of its useful life into a material with a completely different molecular structure. At that stage it is no longer a plastic but has become a material which can be bio-assimilated in the environment in the same way as a leaf. Oxo-biodegradable additives do not contain heavy metals, they are certified non-toxic and fit for direct food-contact, and there is no evidence of accumulation of persistent substances in the environment.
11. Oxo-biodegradable plastic is not intended for landfill. This is because if the plastic has been collected and put in a landfill it has already been disposed of responsibly and is no longer lying and floating around in the open environment. A tiny amount of the space an average landfill is occupied by plastic packaging, but if oxo-biodegradable plastic is sent to landfill it will degrade in the upper layers where oxygen is present, and it will not emit methane deeper in the landfill – unlike paper or compostable plastic.
12. It is not in fact a good idea to bury plastic in a landfill. If it is not suitable for recycling it should be sent to a modern incinerator where the energy in the plastic can be captured and put to good use. Modern incinerators do not cause pollution.
13. Oxo-biodegradable plastic is not designed for composting or anaerobic digestion – again because if the plastic has been collected for these processes it has already been disposed of responsibly and is no longer lying and floating around in the open environment. We agree with the packaging manager of Tesco (Britain’s largest supermarket) who said on 20th October 2009 that the supermarket “does not see the value in packaging that can only be industrially composted” and that “municipal authorities do not want it, as it can contaminate existing recycling schemes.”
14. 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.

⁷ <http://www.asasa.org.za/ResultDetail.aspx?Ruling=5108>

15. Most plastics are currently made from by-products of oil or natural gas. These by-products arise because the world needs fuels, and would arise whether or not the by-products were used to make plastic goods. So, nobody is extracting or importing extra 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 paper or cloth bags. In fact plastics could reduce the amount of oil and gas imported because after their useful life they can be incinerated to release the stored energy, which can be used to generate electricity or to heat buildings.
16. Oxo-biodegradable plastic can be recycled with other oil-based plastics during its useful life <http://www.biodeg.org/position-papers/recycling/?domain=biodeg.org>
17. The FPA cites a suite of standards⁸ designed for vegetable-based compostable plastics, but these materials degrade by a completely different process and those standards are not therefore appropriate for oxo-biodegradable plastic. The appropriate standard for oxo-biodegradable plastic is ASTM D6954 "Standard Guide for Exposing and Testing Plastics that Degrade in the Environment by a Combination of Oxidation and Biodegradation." It is not a standard specification, and it is not necessary to refer to specifications except for specific applications - such as composting. See [http://www.biodeg.org/files/uploaded/biodeg/OPA_Response_to_EBP_18.8.09\(3\).pdf](http://www.biodeg.org/files/uploaded/biodeg/OPA_Response_to_EBP_18.8.09(3).pdf)
18. Paradoxically, "compostable" plastic is not useful for compost. This is because the above-mentioned standards for compostable plastic require it to convert itself into CO₂ gas within 180 days. This contributes to climate change but does nothing for the quality of the soil.

⁸ Eg ASTM D6400, D6868, D7081, D5526, D5511, D6776, EN13432