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UK Government questions oxo-bio's eco-claims

By Rory Harrington, 15-Mar-2010

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UK Government-funded research has challenged the environmental credentials of oxo-biodegradable plastics and said the materials are suitable for neither conventional recycling nor composting.

The study, commissioned by the Department for Environment, Food and Rural Affairs (Defra), said the [oxo-bio](#) plastics may not be as eco-friendly as consumers believe and raised concerns about their impact on the environment once they break down into smaller pieces. The plastics are used to make packaging and carrier bags.

The report, by Loughborough University, found that the additives used to accelerate the degradation of oxo-bio plastics *"will not improve their environmental impact"*. One major UK-based retailer has already pledged to stop buying oxo-bio plastic bags after being contacted by a Government minister over the findings of the study.

Oxo-degradable plastics are made of petroleum-based polymers - usually polyethylene - which contain additives. The [oxo-biodegradation](#) industry says its plastics *"self-destruct"* or biodegrade when they are exposed to UV irradiation or heat because substances such as cobalt, nickel and zinc are added to conventional plastics at the time of manufacture. These reduce the molecular weight of the material over a pre-determined period and they fragment – allowing them to be consumed by bacteria and fungi.

Risk of confusion

But the Defra-backed report not only *"highlighted the uncertainty about the impact of the plastics on the natural environment when they begin to breakdown into smaller pieces"*, it also warned that the plastics were *"neither suitable for conventional recycling methods, due to the chemical additives, nor suitable for composting, due to the plastic not breaking down fast enough"*.

Defra's Environment Minister, Dan Norris said there was a risk consumers could be confused about the claims made by oxo-bio products, as he warned that incorrect disposal of oxo-bio plastics had *"the potential to negatively affect both recycling and composting facilities."*

"We hope this research will discourage manufacturers and retailers from claiming that these materials are better for the environment than conventional plastics", he added.

The minister even contacted a number of large oxo-bio users to make them aware of the study, including the Co-operative, a major UK supermarket chain, which confirmed it would ditch oxo-bio bags.

Industry response

However, Symphony, a UK manufacturer of oxo-bio plastics, rejected the report and questioned its objectivity – despite Defra insisting it had been independently and rigorously peer reviewed by recognised academics.

Quoting from the report, the company dismissed its claims that oxo-degradable plastics *"do not improve the environmental performance of petroleum based plastics"* and *"marketing claims which are typically applied to such materials are potentially misleading."*

"It should be obvious that plastic which self-destructs at the end of its useful life, leaving no harmful residues, is better for the environment than normal or recycled plastic, which can lie or float around for decades," said a [Symphony](#) statement.

The company said that Loughborough University did none of experiments itself and it alleged that *"two of the three assessors of the Report are themselves engaged in bio-based plastics, which is a totally different discipline to oxo-biodegradable"*.

This is not the first time the oxo-bio industry has come under attack. As FoodProductionDaily.com reported last year, industry association European Bioplastics (EB) publicly denounced claims made by the oxo-bio industry.

Harald Káb, Secretary General of European Bioplastics said today: *"Our intention was to raise awareness on questionable marketing claims and to make clear that biodegradable and biobased plastics are very different from oxo additive products. It is good to see that independent research has come to similar conclusions."*