

# Oxo-Biodegradable Plastics Association

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## OXO-BIODEGRADABLE PLASTIC IN THE EUROPEAN UNION

### DRAFT DIRECTIVE

The EU institutions are currently debating a Proposal by the Commission (2018/0172(COD)) for a Directive on “Reduction of the impact of certain plastic products on the environment.” The preamble to the Proposal refers to work being done by ECHA, but does not otherwise mention degradable plastics save to say that the Commission is developing harmonized rules for defining and labelling compostable and biodegradable plastics.

Article 5 of the draft Directive identifies certain products (listed in part B of the Annex) which should be prohibited, but does not mention oxo-degradable or oxo-biodegradable plastics. The European Parliament wishes to amend the list to include products made of oxo-degradable (but not oxo-biodegradable) plastic, but the Reis report to its Environment Committee (2018/0172(COD)) contains no attempt to justify this amendment. The process is ongoing, and it remains to be seen what view the Commission, and the Council of Member States will take.

### BIODEGRADABLE PLASTIC

The Reis report says that “If we do not take action, by 2050 there will be more plastic than fish in the oceans” and this is the very reason why the plastic needs to be urgently upgraded so that it will convert into biodegradable materials much sooner than ordinary plastic if it does escape into the open environment, and especially the oceans.

The credentials of oxo-biodegradable plastic have recently been validated in an independent review conducted by Peter Susman QC, a distinguished barrister and deputy High Court Judge with over 25 years’ experience of adjudicating cases in the Technology and Construction branch of the High Court in England, involving the evaluation of expert evidence. In his report, dated 2<sup>nd</sup> November 2018 (<http://www.biodeg.org/2018/11/06/uk-judge-find-the-case-for-oxo-biodegradable-plastic-proven/>) Mr. Susman found that oxo-biodegradable plastic does facilitate the ultimate biodegradation of plastics in air or seawater by bacteria, fungi or algae, within a reasonable time, so as to cause the plastic to cease to exist as such, far sooner than ordinary plastics, without causing any toxicity.

### ECHA

In December 2017 the Commission had asked the European Chemicals Agency (ECHA) to prepare a restriction dossier on oxo-degradable plastics, “because of their potential to initiate the generation of microplastics.” This was not a request for a ban and no ban has been proposed by the Commission.

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The expected date for publication of ECHA's report was 17<sup>th</sup> January 2019, but as at the end of October 2018 they had found no evidence that micro-plastics are formed, and their report has been delayed until 19<sup>th</sup> July 2019. It would be inconceivable for any plastics to be banned unless ECHA finds that there is a sufficient reason to do so.

In fact this Association does believe that oxo-degradable plastics should be banned, as they take decades to become biodegradable. These are conventional plastics which undoubtedly create persistent microplastics, and they are the source of the microplastics being recovered from the oceans by researchers. This is why they have been banned for a wide range of products in Saudi Arabia and 11 other countries, where oxo-biodegradable technology for making these plastics is mandatory.

The Commission's request to ECHA is based on the Commission's 2018 Report which says that oxo-degradable plastic "fragments over time into plastic particles, and finally microplastics, with similar properties to microplastics originating from the fragmentation of conventional plastics". This is true in the case of oxo-degradable plastics but not of oxo-biodegradable plastics.

The process of oxo-biodegradation is described by Prof. Ignacy Jakubowicz, one of the world's leading polymer scientists as follows: "**The degradation process is not only a fragmentation, but is an entire change of the material from a high molecular weight polymer, to ... oxygen-containing molecules which can be bioassimilated.**"

This point is absolutely crucial to an understanding of oxo-biodegradable plastic technology, and it was explained to Commission officials on 30<sup>th</sup> November 2017 by Dr. R.S. Rose, the leader of the scientific team at Queen Mary University London, who had actually observed and photographed micro-organisms consuming oxo-biodegradable plastic. The plastic goes through a continuous abiotic and then biotic process of degradation, which is irreversible.

If oxo-biodegradable plastic merely fragmented without biodegrading, CEN would not have defined oxo-biodegradability, and the American, British and French Standards authorities would not have included tests for biodegradability in ASTM D6954, BS8472 and AC T51-808.

The Commission also says in its January 2018 report that, "It is clear that oxo-degradable plastic is prohibited from degradation if not first exposed to UV radiation and, to a certain extent, heat." Again this is true of oxo-degradable plastic but not of oxo-biodegradable plastic. UV exposure and ambient heat will accelerate oxo-biodegradation, but they are not essential.

## REDUCTION AND RECYCLING

The Commission proposes various measures for reducing the quantity of plastic goods being produced, and measures for encouraging collection for recycling. We support those measures, but plastic waste will still escape into the open environment for the foreseeable future in unacceptable quantities, and the Commission has not addressed this part of the problem.

As the Ries report says "Every year in Europe, 150,000 tonnes of plastic are dumped into the sea. The situation is even more alarming at global level, with 8 million tonnes ending up in the sea each year." **If action had been taken years ago to adopt oxo-biodegradable plastic technology there would be no ocean garbage patches of plastic today.**

## PACKAGING WASTE DIRECTIVE

Oxo-biodegradable plastic complies with the EU Packaging Waste Directive because it complies with Annex II sections 1, 2, and 3(a) (b) and (d). Oxo-biodegradable plastic does not contain any of the hazardous substances listed in Art 11 of the Directive, and oxo-biodegradable plastics are tested according to the same eco-toxicity tests prescribed by EN13432 for plastics intended for composting.

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