



## OXO-BIODEGRADABLE PLASTICS ASSOCIATION

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Ms. Margrete Auken MEP,  
European Parliament,  
Rue Wiertz,  
Bruxelles

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20<sup>th</sup> February 2014

Dear Ms. Auken

We were interested in the proceedings at your “Let’s Bag It” meeting in the European Parliament on 19<sup>th</sup> February. It is good that there was significant interest in the role which biodegradable plastics can play in addressing the problem of plastic waste in the environment.

However, it needs to be clearly understood that there are two very different types of biodegradable plastic bags:

- a. “Compostable” - (also loosely known as “bio-based plastics” or “bioplastics” ) and designed according to EN13432 to biodegrade in the special conditions found in industrial composting, and
- b. Oxo-biodegradable - made from petroleum-derived polymers such as PE and PP, containing extra ingredients (which do not include “heavy-metals”) designed according to ASTM D6954 to degrade and biodegrade in the open environment leaving no harmful residues.

We noticed that Novamont and other advocates of bio-based plastics had ample opportunity to speak, and that a representative of Novamont had a prominent position on the platform. We were however concerned that neither this Association nor any member of the oxo-biodegradable plastics industry had been invited to provide a speaker.

We are therefore sending to you our statement on the relevance of degradable plastic to Europe<sup>1</sup>, and would be grateful if you would distribute it to all those on your invitation list. We are happy to answer any questions, and would be willing to meet with you in Brussels on 11<sup>th</sup> or 13<sup>th</sup> March.

We would comment on some points made at the meeting:

In general, the amount of ignorance, misinformation, irrelevance and emotional argument was astounding. True this was a political meeting, but even political decisions need to be made on the basis of properly understood facts.

This Association is willing to contribute scientific and technical expertise to a proper understanding of the facts, and we trust that we will be invited to contribute on future occasions when this subject is considered. Professor Thompson is not a polymer

<sup>1</sup> <http://www.biodeg.org/files/uploaded/Relevance%20of%20deg%20plastic%2013.11.13.pdf>

scientist, and is in no position to make statements on the composition and characteristics of polymers.

The plastic fragments found in the oceans, and ingested by birds and fish, are fragments of old-fashioned plastics. They are not fragments of oxo-biodegradable plastics which have degraded. In any event the majority of the plastics contributing to the ocean gyres are styrenics and polyamides-which are not derived from the polymer used to make shopper bags, and do not begin to justify a vendetta against shopper bags.

Plastics are made from a by-product of oil-refining to produce petrol, diesel and other fuels, and the same amount of oil would therefore be extracted and refined if plastics did not exist.

Composting is not the answer to plastics which escape into the environment and cannot realistically be collected. We all agree that the best long-term solution to littering and management of used packaging is collection and recovery, and there is no reason why oxo-bio plastic should not be collected and recovered during its useful life. However what is the EU going to do about the thousands of tonnes of plastic packaging which does not get collected and recovered.

The Commission has found no evidence that biodegradable plastics encourage littering. Indeed oxo-biodegradable plastic is completely indistinguishable by sight touch or smell from ordinary plastic.

There is no such thing as “oxo-fragmentable” plastic. Oxo-biodegradation is defined by CEN as “*degradation resulting from oxidative and cell-mediated phenomena, either simultaneously or successively.*”

Oxo-biodegradable plastic does not therefore just fragment, but will be consumed by bacteria and fungi after oxidative cleavage has reduced the molecular structure to a level which permits living micro-organisms access to the carbon and hydrogen. It is therefore “biodegradable.” This process continues until the material has biodegraded to nothing more than CO<sub>2</sub>, water, and humus, and it does NOT leave fragments of plastic in the environment.

We would agree that biodegradable material of any kind should not be sent to landfill. This is why oxo-biodegradable plastic (unlike bio-based plastic) is designed so that it will NOT biodegrade in anaerobic conditions.

Most of the comments on recycling are from people who understand recycling but do not understand oxo-bio technology. Some of them have failed to distinguish between oxo-bio and bio-based, and it is not possible to use the generic term “biodegradable plastic” in this context. Others are thinking of PET bottles, for which oxo-bio technology is not designed.

Not one of them has said that they had recycled oxo-bio plastic and had encountered any problems, and they have produced no scientific evidence (except the Austrian TCKT report commissioned by EuPC which proves that bio-based cannot be recycled and says nothing about oxo).

We were aware of concerns expressed by recyclers, so the oxo-bio industry identified an expert laboratory and asked them for a report. Extensive tests were carried out by Roediger Laboratories who reported on 21<sup>st</sup> May 2012<sup>2</sup> that “*Plastic products made with oxo-biodegradable technology may be recycled without any significant detriment to the newly formed recycled product.*” Roediger Laboratories examined the TCKT report and reported on 5<sup>th</sup> December 2013<sup>3</sup> that bio-based could not be recycled but they had no reason to change their opinion on oxo-bio.

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<sup>2</sup> <http://www.biodeg.org/files/uploaded/ROEDIGER%20REPORT%2021%20May%202012.pdf>

<sup>3</sup> <http://www.biodeg.org/files/uploaded/Roediger%20on%20EuPC%205%20Dec%20'13.pdf>

Our members' practical experience is entirely consistent with the Roediger report.

We were very concerned by the assertions in para 7, of the Motion proposed by Mr. Prodi, on a European strategy on plastic waste in the environment (2013/2113(INI)) which was accepted in Plenary on 14<sup>th</sup> January.

Paragraph 7 is defamatory of our members and their products, and is an unjustified attack on a whole industry which employs very many people. Members of the Parliament should not be allowed to use their parliamentary protection from legal action to commit defamation, and it is for that reason that we brought this matter to the attention of the President of the Parliament.

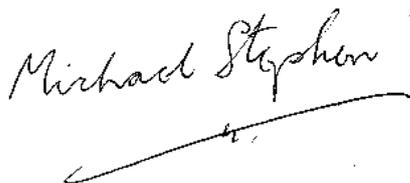
There is no evidence that oxo-biodegradable plastic is 'dangerous' nor that it is 'disruptive to human health' or the environment, nor that it contains heavy metals. Further, the scientific evidence<sup>4</sup> is that oxo-biodegradable plastic (as distinct from bio-based plastic) does not make recycling processes more difficult. These claims, which are central to the Motion, are false and seriously misleading.

In February 2011 a Life Cycle Assessment<sup>5</sup> by Intertek was published by the UK Environment Agency which shows that oxo-biodegradable plastic bags have a better LCA than paper bags or compostable plastic bags. In May 2012 a further LCA by Intertek<sup>6</sup> included the litter metric and compared oxo-biodegradable plastic with bio-based plastic and conventional plastic. It put oxo ahead in its potential to reduce the plastic waste problem and its less harmful impact on the environment and on global warming. In its ability to reduce plastic litter, oxo-bio scored 75% better than conventional plastic, and bio-based plastics were worse than oxo in all 11 environmental impact categories.

Oxo-biodegradation has been studied in depth at the Technical Research Institute of Sweden and the Swedish University of Agricultural Sciences, and a peer-reviewed report of the work was published in Vol. 96 of the journal of Polymer Degradation & Stability (2011) at page 919-928. It shows 91% biodegradation in a soil environment within 24 months, in accordance with ISO 17556 and it does NOT therefore leave fragments of plastic in the environment.

There is no justification for the claim that oxo-biodegradable plastics should be phased out of the market or banned outright, as soon as possible before 2020 or at all.

Yours sincerely,

A handwritten signature in black ink that reads "Michael Stephen". The signature is written in a cursive style and is positioned above a horizontal line that extends to the right.

MICHAEL STEPHEN  
Chairman

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<sup>4</sup> <http://www.biodeg.org/files/uploaded/Roediger%20on%20EuPC%205%20Dec%20'13.pdf>

<sup>5</sup> [http://degradable.net/files/uploaded/Carrier\\_Bags\\_Report\\_EA.pdf](http://degradable.net/files/uploaded/Carrier_Bags_Report_EA.pdf)

<sup>6</sup> [http://www.biodeg.org/files/uploaded/Intertek\\_Final\\_Report\\_15.5.12\(9\).pdf](http://www.biodeg.org/files/uploaded/Intertek_Final_Report_15.5.12(9).pdf)