

The Biodegradable Plastics Association

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US PLASTICS PACT

Their Report on PROBLEMATIC AND UNNECESSARY MATERIALS is fundamentally mistaken insofar as it relates to compostable and biodegradable plastics.

- A. The type of Plastic marketed as "compostable" is problematic and unnecessary
- B. Oxo-biodegradable plastic is necessary and is not problematic.

A. "COMPOSTABLE"

Plastic marketed as compostable is:

PROBLEMATIC because it:

1. Does not convert into compost (EN13432 and ASTM D6400 require it to convert into CO₂ gas)
2. Is designed for a deliberate linear process and is not circular. The material is intended to be lost to atmosphere and wasted by conversion into CO₂.
3. Cannot be re-used, recycled, or made from recyclate
4. Leaves microplastics in the compost and in the open environment
5. Does not deal with the problem of plastic litter in the environment

UNNECESSARY, because it is not wanted by industrial composters and local authorities, and is not suitable for home composting.

It should not therefore be described as compostable or biodegradable. It should not be encouraged, and should instead be banned.

For details see <https://www.biodeg.org/subjects-of-interest/composting/>

B. OXO-BIODEGRADABLE

NECESSARY

This type of plastic has been specifically designed to deal with plastic which escapes into the environment from which it cannot be collected. This is not an intended disposal route - it is an insurance in case waste management fails. It is the ONLY way to deal plastic in the open environment and is therefore NECESSARY.

NON-PROBLEMATIC

Oxo-biodegradable plastic is not problematic because:

1. It does not create microplastics. It is not disputed by anyone that most of the microplastics found in the environment are coming from the fragmentation of ordinary plastic, and that they are very persistent. The European Chemicals Agency were not satisfied that oxo-biodegradable plastic created microplastics, and ECHA have never provided a scientific dossier in support of any ban on oxo-biodegradable plastic.
2. It can be re-used and recycled and is perfectly compatible with a circular economy. See <https://www.biodeg.org/subjects-of-interest/recycling-2/>
3. It will fully biodegrade. Eurofins and Intertek have done tests showing biodegradation of 88.9% within 121 days and 92.74% biodegradation within 180 days, respectively. The percentage required by EN13432 for “compostable” plastic is 90%. No reason has been shown why biodegradation should stop before it is complete. Even if it did not fully biodegrade it would still be better than ordinary plastic, which would not have biodegraded at all.

EN13432 for “compostable” plastic requires biodegradation to be tested in a laboratory (not in a compost heap) but some critics suggest that oxo-biodegradable plastic should be tested in outdoor conditions. The Oxomar project was a three-year interdisciplinary study, sponsored by the French Government <https://www.biodeg.org/wp-content/uploads/2021/07/Final-report-OXOMAR-10032021.pdf> and the scientists said “The goal of this task (C3Task2) was to evaluate the biodegradation of OXO-bio in marine waters. This task has been divided in two parts by (i) following several months of OXO-biocolonization by marine microorganisms under natural conditions and (ii) by evaluating the biodegradability of OXO under natural conditions as compared to a cultivated microorganism with known PE-biodegradation abilities.”

They reported that “We have obtained congruent results from our multidisciplinary approach that clearly shows that oxo-biodegradable plastics biodegrade in seawater and do so with a significantly higher efficiency than conventional plastics. The oxidation level obtained due to the d2w prodegradant catalyst was found to be of crucial importance in the degradation process.”

See also the report from Queen Mary University London by Rose et. al 11th February 2020. <https://www.biodeg.org/wp-content/uploads/2022/10/QM-published-report-11.2.20-1.pdf> Para 2.6 says “prior to testing, samples of LDPE and oxo-LDPE were surface-weathered in sea water for 82 days, undergoing natural variations in sunlight and UV intensity.”

As to the correlation between laboratory tests and the real world, see the statement of Dr. Graham Swift, <https://www.biodeg.org/wp-content/uploads/2021/02/Swift-evidence-to-BEIS.pdf> who says “It has been my experience that results from laboratory testing are very likely to be reproduced in the real world. I can see no cause for concern that they would not, and have seen no evidence that they have not.”

4. It is not disputed that biodegradation will be many times faster than ordinary plastic. Queen Mary University say up to 90 times faster <https://www.biodeg.org/wp-content/uploads/2022/10/QM-published-report-11.2.20-1.pdf> para 2.3
5. Although recycling is preferable to biodegradation, it is not possible to recycle plastic which has escaped into the open environment from which it cannot realistically be collected. The ONLY way to deal with it is biodegradation