



GO

[\(/en-GB/contact-us/\)](#)

SHARE

[\(https://twitter.com/intent/tweet?](https://twitter.com/intent/tweet?text=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)[text=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/\)](https://twitter.com/intent/tweet?text=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)[\(https://www.linkedin.com/sharing/share-offsite?url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/\)](https://www.linkedin.com/sharing/share-offsite?url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)[\(https://www.facebook.com/sharer/sharer.php?u=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/\)](https://www.facebook.com/sharer/sharer.php?u=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)[\(mailto:?](mailto:?subject=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&body=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)[subject=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&body=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/\)](mailto:?subject=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&body=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)

First standard to measure the biodegradability of polyolefins published by BSI

1 October 2020

BSI, in its role as the UK National Standards Body, publishes the first standard for measuring the biodegradability of polyolefins: the most littered form of plastic packaging¹.

The new standard, called PAS 9017 *Plastics – Biodegradation of polyolefins in an open-air terrestrial environment– Specification*, specifies requirements of polyolefinic materials enhanced with technology that imparts biodegradability in an open-air terrestrial environment. It also specifies the chemical analysis and the numerical limits required to meet compliance with the PAS at the end of each stage of testing.

For the first time plastic manufacturers have the means to obtain data on the performance of the biodegradability process of polyolefinic material and deliver testing laboratories with a standardized protocol to evaluate polyolefinic materials for conformance to the PAS.

The standardized protocols for testing at each stage will include:

- weathering exposure of test polyolefinic materials for a defined period of time, including chemical analysis to yield quantifiable measurement of chemical transformation into a wax;
- eco-toxicity testing upon the wax to ensure no hazardous substances are present; and
- biodegradation testing under mesophilic (real world) soil conditions.

Scott Steedman, Director of Standards at BSI, said: “Tackling the global challenge of plastic waste requires imagination and innovation. New ideas need agreed, publicly available, independent standards to enable the delivery of trusted solutions by industry. PAS 9017 is the first stakeholder consensus on how to measure the biodegradability of polyolefins which will accelerate the verification of technologies for plastic biodegradation. It is an excellent example of BSI’s commitment as the UK National Standards Body to support industry, government and society in our common ambition to achieve the UN Sustainable Development Goals by 2030.”

Nadhim Zahawi, Minister for Business and Industry said: “The government, consumers and businesses are taking collective action to tackle global plastic pollution, helping to reduce harm to wildlife, clean up our oceans and reach our trailblazing net zero goals. To support this ambition, the government published a call for evidence on biodegradable plastics, which will soon publish its findings. We always welcome innovation aimed at increasing the sustainability of plastics, and will monitor the introduction of this new standard with interest.”

The standard has been developed by a steering group* of experts in the field of plastics, and is sponsored by Polymateria. It was subject to a public consultation process, where other interested parties submitted comments. It publishes with consensus of the steering group.

The standard is available for purchase here: <https://shop.bsigroup.com/ProductDetail?pid=000000000030414052>

Notes to editors

¹ “For polymers, polyethylene and polypropylene contributed most to pollution in all environments.” *Marine Pollution Bulletin Journal 2019:*

<https://www.sciencedirect.com/science/article/pii/S0025326X19302905>

Definitions

- Publicly Available Specification (PAS) standards

PAS standards are characterized by their development process, which includes:

- Sponsorship by private companies, industry, government and trade associations
- Oversight by a steering group of experts constituted specifically for the purpose, and chaired by a BSI staff member independent of any external interest
- Active public consultation, usually of shorter duration than for a British Standard, and targeted in particular at a selected review panel identified as having expertise and a close interest in the subject matter

Find out more about PAS standards here: <https://www.bsigroup.com/en-GB/our-services/developing-new-standards/Develop-a-PAS/what-is-a-pas/>

- Ultimate biodegradability (Cited from EN 13432:2000 *Packaging — Requirements for packaging recoverable through composting and biodegradation — Test scheme and evaluation criteria for the final acceptance of packaging*)

Ultimate biodegradability breakdown of an organic chemical compound by micro-organisms in the presence of oxygen to carbon dioxide, water and mineral salts of any other elements present (mineralization) and new biomass or in the absence of oxygen to carbon dioxide, methane, mineral salts and new biomass.

- Microplastic – (Cited from the European Chemicals Agency)

Material consisting of solid polymer-containing particles, to which additives or other substances may have been added, and where $\geq 1\%$ w/w of particles have (i) all dimensions $1\text{ nm} \leq x \leq 5\text{ mm}$, or (ii), for fibres, a length of $3\text{ nm} \leq x \leq 15\text{ mm}$ and length to diameter ratio of $>3\text{ mm}$.

*Steering group

The steering group is made up of key stakeholders in the plastic industry. The Group members represent the following organizations: Waste and Resource Action Programme (Wrap); Food and Environment Research Agency (Fera); Polymateria; Anglia Ruskin University; Imperial College London; Avient; Impact Solutions; Department for Business, Energy and Industrial Strategy.

SHARE



(<https://twitter.com/intent/tweet?text=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/>)



(<https://www.linkedin.com/sharing/share-offsite/?url=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/>)



(<https://www.facebook.com/sharer/sharer.php?u=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/>)



(mailto:?subject=First%20standard%20to%20measure%20the%20biodegradability%20of%20polyolefins%20published%20by%20BSI&body=https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2020/october-2020/first-standard-to-measure-the-biodegradability-of-polyolefins-published-by-bsi/)

© The British Standards Institution 2020

(/en-GB/forms/Website-Feedback-Form/)