



Smart Packaging & Tableware.

Frequently Asked Questions.

TWOinONE and VeriGreen Plus Flexy-Glass

Product Basics

Q: What are the TWOinONE & VeriGreen Plus cups made from?

A: Food-grade polypropylene (PP) containing a Polymateria additive. The additive is less than 2% of the material, so the cup performs, looks and recycles like a standard PP cup.

Q: What is Biotransformation®?

A: A three-step process:
 (1) the cup is designed to be collected and recycled like a normal PP product;
 (2) if it escapes into the open-air environment, exposure to heat, light, moisture and air activates the self-destruct properties;
 (3) the plastic transforms into an earth-friendly wax which micro-organisms then break down into water, CO₂ and biomass, within roughly one to two years, leaving no microplastics or toxins.

Q: Do you have scientific proof that the cups self-destruct?

A: Yes. The technology is tested by independent third-party laboratories against BSI PAS 9017:2020, the British Standards Institution's specification for biodegradation of polyolefins in an open-air terrestrial environment. This is a purpose-built standard, and the TWOinONE & VeriGreen Plus Flexy-Glass range meets it.



Biodegradation standard
(PAS 9017)

What is this standard?...

In simple terms, the standard measures if products made with IE Polymateria's masterbatch will degrade in open air environment without leaving harm in the natural environment (microplastics and toxins). It also specifies that in the process of biodegradation plastic should turn to wax.



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For further info:
<https://shop.bsigroup.com/products/plastics-biodegradation-of-polyolefins-in-an-open-air-terrestrial-environment-specification>



Product Basics

Q: What conditions are needed for the cup to break down?

A: Light, warmth, moisture and air. Without all of these present, the process does not begin.

Q: Will the product start to degrade in storage, in a box, or in a carton?

A: No. It needs the right open-air conditions before biotransformation starts, so normal storage, transport and shelf life are unaffected. Expected storage life is approximately two years under normal conditions.

Q: Will the cups break down in landfill?

A: No — nothing biodegrades in landfill, and we don't claim this is a landfill solution. The technology is specifically aimed at reducing the harm caused by fugitive plastic — the roughly 32% of all plastic that escapes formal waste collection and ends up in the natural environment.

Q: Can the cups go into normal recycling?

A: Yes. Because the additive is under 2% of the material, the cups are compatible with the conventional PP recycling loop and don't affect the quality of the recycled output. Where a local council doesn't have the sorting technology for plastic cups, specialist recyclers are also available to collect them.

Q: If the recycled material is used to make new products, will those also disappear?

A: No. Once recycled, the additive level is diluted to the point where it no longer triggers the process.

Q: What can the recycled material be turned into?

A: A wide range of objects — examples already in use include community benches, bracelets, rugby tees, stadium giveaways, fencing and building materials.

Q: Is this the same as oxo-degradable plastic?

A: No, and this distinction matters. Oxo-degradable plastics fragment into smaller and smaller pieces without fully converting, which can actually increase microplastic pollution. Biotransformation® is a genuine chemical transformation of the polymer into wax and then into water, CO₂ and biomass — tested specifically to confirm no microplastic residue is left behind.

Q: Why choose this over paper cups?

A: Paper cups typically use a plastic liner or a second material, which complicates recycling, and can go soggy in use. They also make it harder to see or accurately measure a served drink. Polypropylene is generally lower cost than paper, and the TWOinONE & VeriGreen Plus range adds the recyclability-plus-fail-safe combination on top of that.

Don't settle for ordinary disposable cups.

Choose the smarter alternative with **TWOinONE or VeriGreen Plus Flexy-Glass.**

Speak to our team today and see how easy it is to make a positive change.



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Real-World Use & Evidence

Q: Where has this technology actually been used, not just tested?

A: Major UK venues and events including Twickenham Stadium, Leeds United (Elland Road), Harlequins Rugby Club, Ashton Gate Stadium, Murrayfield Stadium, Silverstone, several Premier League football clubs, Kent County Cricket Club, Glamorgan Cricket, and large festivals and concerts.



Q: Do collection rates actually work in practice?

A: At Twickenham Stadium, introducing dedicated collection bins and clear fan communication alongside the self-destruct cups achieved close to 100% collection of cups for recycling, replacing a costly deposit-return scheme for reusable glasses.

Q: Who has recognised or endorsed the technology?

A: The underlying Biotransformation® technology, developed by Polymateria with Imperial College London over four years, helped define the new BSI PAS 9017:2020 standard. It was selected for HRH King Charles III's Terra Carta brand and showcased at COP26 in Glasgow in 2021, following a visit by then-Prince Charles to the Imperial College labs.



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Ready to make the switch to smarter single-use cups?

Contact us today to discover how **TWOinONE Flexy-Glass** can help you reduce environmental impact, protect your brand, and meet your sustainability goals. Get in touch for samples, pricing, or a custom print quotation.

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Greenwashing & Credibility Challenges

Q: Isn't 'self-destructing plastic' just a marketing gimmick, like other biodegradable claims that haven't held up?

A: It's a fair question given the industry's track record. The difference here is independent, third-party verification against a named British Standard (BSI PAS 9017:2020), rather than an unverified marketing term. We can provide the underlying test data and standard reference to anyone who wants to check it.

Q: Doesn't marketing a 'self-destruct' feature encourage people to litter, since the cup will 'just disappear'?

A: No — and this needs to be stated clearly and consistently in any communication. Recycling remains the intended and promoted first option in every piece of messaging. Biotransformation® is described as a fail-safe for cups that are lost or littered despite collection efforts, not as a reason to litter. Marketing copy should avoid any phrasing that could be read as condoning littering.

Q: Is calling this product 'biodegradable' or 'fully recyclable' at the same time contradictory or misleading?

A: The two claims describe different stages of the same product's life and should always be presented together, in order: fully recyclable first (its intended end of life), fully biotransformational second (what happens only if it escapes that system). Presented in isolation, either claim on its own could be seen as incomplete — which is why our own materials, and this FAQ, consistently pair them.

Q: What is the risk of a greenwashing complaint being upheld against a claim like this?

A: Any environmental claim carries some regulatory risk if it's unclear, unqualified, or unsubstantiated. This claim is lower-risk than most because it rests on a published, named standard (BSI PAS 9017:2020) with independent laboratory testing behind it. Risk increases if the biodegradation claim is used without the recycling context, without timeframe ('within two years'), or without the specific conditions required (light, warmth, moisture, air) — all of which should be included in customer-facing claims.



Greenwashing & Credibility

Q: How should we respond if a competitor or commentator publicly disputes these claims?

A: Respond with the evidence, not with claims about the competitor. Point to the BSI PAS 9017:2020 test standard, the independent laboratory verification, and real-world collection data such as the Twickenham case study. Avoid making negative factual claims about any named competitor's products without verified evidence, since unsubstantiated claims about a competitor can create legal risk in the other direction.

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Future-proof your packaging with the cup that delivers today and disappears when it should.

Discover the benefits of **TWOinONE** or **VeriGreen Plus Flexy-Glass** and request your personalised quotation today.

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