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SYMPHONY ENVIRONMENTAL TECHNOLOGIES PLC
("Symphony", the "Company" or the "Group")

**Scientific study confirms
no trace of microplastics in soil from d2w plastics**

Symphony Environmental Technologies Plc (AIM:SYM), the global specialists in technologies that make plastic and rubber products smarter, safer, and more sustainable, is pleased to announce the results of an important scientific study by Intertek International ("Intertek") relating to its d2w biodegradable technology. The study shows conclusively that d2w in plastics does not create microplastics and instead causes a complete transformation of the plastic into natural biodegradable compounds which are then organically recycled back to nature.

The Intertek study

Intertek performed the study between 20 January and 7 March 2025 with the objective of establishing the composition of any residues from degraded d2w products. The study concludes that after samples of polyethylene (PE) and polypropylene (PP) had degraded in soil, ZERO microplastics were found.

Intertek used ISO Standard 24187:2023, the standard for investigating microplastics in various environmental matrices. The soil used had also been tested in accordance with the OECD 207 and 208 standards, and no toxicity to seedlings or earthworms was found.

About Intertek

Intertek Group plc is a multinational company that provides assurance, inspection, product testing, and certification services. Headquartered in London, Intertek is listed on the London Stock Exchange and is on the FTSE 100 Index. See www.intertek.com

Michael Laurier, CEO of Symphony said:

"In addition to this groundbreaking study, which confirms what Symphony and many scientists and organisations have always understood, [a Position Paper published by Symphony](#) on microplastics has been endorsed by some of the world's leading polymer scientists in Canada, USA and Brazil, confirming that d2w technology does not create microplastics.

Many people have asked why our sales of d2w had been slow to develop, and the main reason is the misconception that plastics made with d2w technology merely fragment into microplastics, which is the position that the EU and some corporations have taken. We now believe that with this new scientific evidence, these misperceptions will change."

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Microplastics are seen today as the main problem with plastics. They are tiny pieces of plastic, which are being found on land, in the sea, and now even in the air we breathe and the water we drink. Some of the microplastics are coming from tyres and man-made fibres, and recycling and composting can also be a source of microplastics, but most of the microplastics found in the environment are caused by the fragmentation of ordinary plastic.

Exposure to weathering in the environment causes the degradation of ordinary plastic articles, leading to embrittlement and fragmentation in as little as 4-8 weeks, particularly when exposed to sunlight, on land or when floating on the ocean. Fragmentation will be accelerated by colorants and other impurities in the plastic.

The problem is that although ordinary plastics are degrading, they persist in the environment for a long time because their molecular weight is too high for biodegradation. They then get smaller and smaller until they are small enough to get into our bodies. This persistent particulate litter takes decades to degrade sufficiently to permit biodegradation. Also, fragmented conventional polymers are more likely to be occluded from sunlight by burial in topsoil or vegetation and to be susceptible to biofouling over time, resulting in a reduced rate of degradation.

This is why d2w biodegradable plastic was invented. Professor Ignacy Jakubowicz, one of the world's leading polymer scientists, has described the process 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 monomeric and oligomeric fragments, and from hydrocarbon molecules to oxygen-containing molecules which can be bioassimilated."

The prodegradant catalyst in the d2w masterbatch not only accelerates oxidative degradation and reduction of molecular weight but also - critically - removes the dependence of this process on sunlight so that, unlike conventional plastics or photo-degradable plastics, degradation will continue in darkness - even if buried - until biodegradability is achieved.

In September 2024, scientists at Lambton Manufacturing Innovation Centre in Ontario, Canada, reported on biodegradable plastic and concluded that oxo-degradable plastics (i.e. ordinary plastics) create microplastics, but oxo-biodegradable plastics do not. They said:

"Oxo-biodegradable plastics are both bioplastics and biodegradable plastics. They consist of a conventional plastic containing a masterbatch. The masterbatches cause the molecular chains to be dismantled by oxidation so that the material is no longer a plastic and becomes biodegradable. Light and heat will accelerate the process, but it will continue even in dark, cold conditions. Moisture is not necessary for oxidation and does not prevent it."

"Ordinary plastic and oxo-biodegradable plastic lose their strength and fall apart at about the same time when exposed to sunlight, but the fragments of ordinary plastic have a molecular weight which is much too high for biodegradation."

"In summary, it is clear that if plastic products are made with an oxo-biodegradable masterbatch and get into the open environment intentionally or by accident, the molecular weight of the plastic will reduce much more quickly and it will become a waxy substance which is no longer a plastic. It will then have become a source of nutrition for naturally occurring micro-organisms."

The European Chemicals Agency ("ECHA") were asked to study this type of plastic in December 2017. They made a Call for Evidence, and they advised after 10 months that they were not convinced that it creates microplastics. We agree with them and have seen no evidence that microplastics from oxo-biodegradable plastic have ever been found in the environment.

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