Bioplastics NEWS

Kill the Virus, Marine Degradation, Airports, Brazil Retail, Plastic Growth and Face Mask

Michael Stephen, an international expert on bioplastics, shares his thoughts and opinion on important issues impacting the bioplastics industry. Today, Michael writes about killing the virus, biodegradation in marine environment, airports use oxo-bio plastics, Brazilian supermarkets using antimicrobial and biodegradable bags, plastic growth, compostable plastics and face masks.

KILL THE VIRUS!

Good news for mankind this week, as UNICAMP University in Brazil finds that antimicrobial plastic will destroy within one hour 99.9% of Coronavirus coming into contact with it.

The Virus used in the study was the BETACORONAVIRUS Cell: L929 -NCTC clone 929 [L cell, L-929, derivative of Strain L] (ATCC® CCL-1™)(same genus as SARS-CoV-1, SARS-CoV-2, MERS among others). The host cell was a 10% bovine foetal serum. All tests were conducted with biological quadruplicates (four repetitions)

The antimicrobial plastic tested was made by the UK company Symphony Environmental Technologies Plc and is marketed under their d2p brand.

Plastic is the only material in common use which can be given anti-microbial properties, and d2p can be included in almost all the plastic products which we touch every day.

These results demonstrate the efficacy against viruses of antimicrobial technology in plastic products, and the importance it has in helping Governments to control the spread of the virus and saving lives. This technology goes beyond just the basics of washing with soap or sanitizing the hands, or wiping surfaces, as that protection is only short term, but antimicrobial technology is embedded in the plastic itself and provides protection for the lifetime of the plastic product.

BIODEGRADATION IN THE MARINE ENVIRONMENT

Good news for the Environment this week. At last there really is a plastic which will biodegrade if it gets into the oceans. This has now been proved beyond doubt by scientists at the Laboratoire d'Océanographie Microbienne, in a four-year study funded by the French government, of Symphony's d2w oxo-biodegradable plastic.

The purpose of the ANR-OXOMAR project is to investigate whether oxo- biodegradable plastics will fully biodegrade in a reasonable time in the marine environment, and to investigate whether oxo-biodegradable plastic or its by-products create any toxicity in the marine environment. It involves the complementary expertise of four independent laboratories (CNEP, LOMIC, ICCF, and IFREMER).

A summary of the results, dated 4th September 2020, says:

"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. Out of the six-formulations tested, the Mn/Fe pro-oxidant was the most efficient, with no toxic effects under our experimental conditions. Biodegradability was demonstrated either by using the culture bacteria Rhodococcus rhodochrous or by a complex natural marine community of microorganisms."

Perhaps it is now time for all short-life plastic products to be made with this technology.

AIRPORTS USE OXO-BIO PLASTIC

Also this week, Aberdeen, Glasgow and Southampton have become the first airports in the UK to use an oxo-Biodegradable security bag.

BRAZILIAN SUPERMARKET CHAIN MAKES ITS BAGS ANTIMICROBIAL AND BIODEGRADABLE

COTRIPAL announced on 22nd September that it is the first supermarket in the world to upgrade its carrier bags by using antimicrobial and biodegradable plastic technologies together, thus giving consumers additional protection they need from Coronavirus and other harmful bacteria that can contaminate them and their shopping. The addition of d2p makes it safer to use and re-use the bags, and the addition of d2w biodegradable technology goes further, by protecting the environment from persistent pollution by any plastic that escapes on land or into the oceans.

PLASTICS GROWTH

Oil producers now see plastics as the biggest driver of future demand, according to a new report by financial think tank Carbon Tracker and sustainability and development group Systemiq. Plastic

production has increased around 4% every year since 2000, the report said, adding that most firms in the industry appear to expect that rate of growth to continue, driven mainly by emerging economies.

The reason for this growth is that plastic really is the best material for packaging, and for a wide variety of other uses. The only problem with plastic is that it can lie or float around in the environment for many decades, so it is urgently necessary to make it now with oxo-biodegradable technology.

"COMPOSTABLE" PLASTICS

What happens to compostable plastics at an industrial composting plant? You want the truth, the whole truth and nothing but the truth … including the pictures and videos? The article of the year brought to you by BioplasticsNews. See **What Happens to Bioplastics at Industrial Composting Sites?**

In short, there is no place for any kind of plastic in the composting process.

If you can collect a piece of plastic there are better things to do with it than turn it into CO2, as required by EN13432. Actually, as it does not convert into compost it is seriously misleading to call it compostable at all, and this deception of consumers needs to stop.

FACE MASKS

A report on the BBC on 23rd September said that single-use face masks caused "enormous" plastic waste and that environmentally friendly alternatives must be promoted.

To help prevent the spread of coronavirus, face coverings are now mandatory on public transport, in shops and in some other enclosed spaces in the UK.

However, "disposable masks contain plastics which pollute water and can harm wildlife who eat them or become tangled in them."

These masks are made of polypropylene, and they need to be made oxo-biodegradable, using a special formulation which causes them to biodegrade very rapidly as soon as they are taken out of their packaging.

Michael Stephen

Michael Stephen is a lawyer and was a member of the United Kingdom Parliament, where he served on the Environment Select Committee. When he left Parliament Symphony Environmental Technologies Plc. attracted his attention because of his interest in the environment. He is now Deputy Chairman of Symphony, which is listed on the AIM market of the London Stock Exchange, and is the founder and Chairman of the Oxo-biodegradable Plastics Association.

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- 7/02/20 – Coronavirus, MPs Letter, Montreal, Australia and the Dominican Republic
- 14/02/20 – Oman, MacArthur Foundation, Stifling Innovation, South Africa and Compostable Plastics
- 24/02/20 – Serbia, India, Pakistan and European Bioplastics
- 03/03/20 – Plastic To Protect Health and Common Sense on Plastic
- 10/03/20 – Plastiphobia, Singapore, Compostable Plastics, Doorknobs and Carbios
- 17/03/20 – Greening our Way to Infection, Defra Warns Against Bioplastics and Montreal
- 24/03/20 – Ditch the Plastic Bag Ban and Inn-Probio
- 01/04/20 – The Come Back of Plastic Bags, Compostable Plastic Not Wanted and EASAC
- 16/04/20 – Coronavirus and Agricultural Plastics
- 11/05/20 – Coronavirus, Peru, Barbados and Recycling
- 18/05/20 – Say No to Plastiphobia, False Descriptions and the Recycling Myth
- 02/06/20 – Definitions and More Setbacks for Plastiphobia
- 11/06/20 – BBIA, Food Waste and Testing of OXO-Biodegradable Plastic
- 19/06/20 – Oxo Biodegradation, Independent Reports and Precautionary Principle
- 29/06/20 – Banana Republic, Why Turn Plastic into CO2 and Plastic Waste from Ships
- 13/07/20 – Running Scared, The Daily Telegraph and Market Report
- 20/07/202 – Tipa, Plastics Today and The American Genius
- 27/07/20 – Coronavirus, Plastic Litter, Bahrain and Polymateria
- 17/08/20 – Plastics Europe, Confusing Issues and Paper
- 25/08/20 – Professor Emo Chiellini, Plastics Today, Greenwashing and Coronavirus

Interview with Michael Stephen

- Questions and Answers on OXO-Biodegradability

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