



Professor Emo Chiellini, Plastics Today, Greenwashing and Coronavirus

Michael Stephen, an international expert on bioplastics, shares his thoughts and opinion on important issues impacting the bioplastics industry. Today, Michael writes about Professor Emo Chiellini, Plastics Today, Greenwashing and Coronavirus.



Michael Stephen

PROFESSOR EMO CHIELLINI

It was with great sadness that I heard of the death on 21st August of Professor Emo Chiellini. He was Emeritus Professor of Chemistry at Pisa University in Italy, and together with his British colleague, Prof. Gerald Scott, was among the scientists who had developed plastic in the post-war period. They realised that the very durability which they had designed into plastic would cause a lasting problem if it escaped into the open environment.

They therefore found a way to cause the plastic to degrade and then biodegrade much more rapidly in the environment and they called it “oxo-biodegradable” plastic. Scott and Chiellini have made a huge contribution to the protection of our environment, for which they will be long remembered. It is sad that their invention ran into fierce opposition from the commercial interests of the bio-based plastic companies and is in consequence being actively obstructed by the EU Commission. However, it is clear to me that more people every day (even in the EU) are realising the value of their invention.

PLASTICS TODAY

Plastics Today carried an article on 13th August, saying “Shortening the time it takes any biodegradable plastic to break down from years (or millennia) to a matter of weeks would seem to be the holy grail for developers of bioplastics, and oxo-biodegradable plastic has the most potential to succeed. *Persistence Market Research* has published a report on this topic, “Oxo-Biodegradable Plastic Packaging Market: Global Industry Analysis (2013-2017) and Forecast (2018-2026).”

The study projects that the global market is “expected to soar” at a rate of 5.4% CAGR during the forecast period, driven primarily by increasing demand for environmentally friendly packaging and supportive government regulations. In 2017, the global oxo-biodegradable plastic packaging market stood at \$637.3 million; it is estimated to surpass \$1 billion by the end of 2026.

Awareness of environmental health and the need to curb plastic pollution will offer potential growth opportunities for oxo-biodegradable plastics, which have only become a vital component in the packaging industry in recent years. A higher percentage of various types of plastics are being used for packaging, and are being discarded after use.

As complete elimination of plastic is not possible, manufacturers have been promoting the use of biodegradable packaging solutions. This has triggered the adoption of oxo-biodegradable packaging solutions and is expected to drive the growth of the global market.”

Persistence Market Research noted that Asia Pacific is expected to be an attractive region for the manufacture and adoption of oxo-biodegradable plastics, and the market is expected to grow at a high value CAGR during the forecast period. Polyethylene will “witness high demand in the manufacturing of oxo-biodegradable plastics,”

Oxo-biodegradable garbage bags are expected to see high demand in the near future, with sales expected to exceed \$360 million by the end of 2026. Also, the pharmaceutical and healthcare markets have shown increased adoption of oxo-biodegradable plastic packaging recently, and both of these segments are expected to contribute to the growth of the global market in the forecast period.”

GREENWASHING

Packaging News for July/Aug 2020 carried a feature on “Greenwashing” which quotes Peter Maddox, director at WRAP:

“Compostable plastic packaging is a good example of where there is a risk of false sustainability claims. You might expect that if a pack is labelled as compostable, it is implying that the supply chain infrastructure exists for it to be collected and composted. However, in the absence of a consistent waste collection system in the UK, it is difficult to communicate to citizens about the correct way to dispose of these compostable plastics, and there is currently no established system of guidance or labelling for citizens. An

unintended consequence of using compostable plastic packaging without suitable labelling could be that it contaminates conventional plastic re-cycling.”

I would add to this – “It is well known that it will contaminate a conventional recycling stream, because it is an entirely different material which is not compatible with oil-based polymer,” and “You might expect that if a pack is labelled as compostable, it is implying that it will turn into compost.” In fact EN 13432 and ASTM D6400 require it to turn into CO₂. This is a greenhouse gas, which confers no benefit to the soil.

It should not therefore be advertised as “compostable,” nor as “biodegradable,” because it is tested to biodegrade in the special conditions found in an industrial composting facility – not in the open environment – and it is certainly not “organic recycling.”

CORONAVIRUS

The editor of Bioplastics News has drawn attention to the fact that Coronavirus has been found on packaging and is been exported from one country to another <https://bioplasticsnews.com/2020/08/17/packaging-covid19-corona/>

The World Health Organisation report *COVID-19 and food safety: guidance for food businesses* 7.4.20 says “ as the respiratory droplets are too heavy to remain airborne, they land on objects and surfaces surrounding the infected person. It is possible that someone may become infected by touching a contaminated surface, ... and then touching their own mouth, nose, or eyes. This can happen, for instance, when touching door knobs and then touching the face. Recent research evaluated the survival of the COVID-19 virus on different surfaces and reported that the virus can remain viable for up to 72 hours on plastic and stainless steel. “

This draws attention to the need to make plastic with anti-microbial technology, and plastic is the only material which can be given anti-microbial properties – it cannot be done with glass, paper, cardboard, cloth or metal.

So, if a virus lands on plastic it can survive for up to 72 hours and be transmitted to someone who touches it – unless it is made with anti-microbial technology -see www.d2p.net

WHO also says “ The COVID-19 virus can contaminate disposable gloves in the same way it gets onto workers’ hands.” – unless the glove is made with d2p.

and “The virus will enter business premises only when an infected person enters, or contaminated products or items are brought into the premises.” – but they won’t be contaminated if they are plastic or rubber products made with d2p.

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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