

PLASTICS|SA CLARIFIES STANCE ON DEGRADABLE, BIODEGRADABLE AND OXO-BIODEGRADABLE PLASTICS

Johannesburg, February 24, 2014. Plastics|SA, the mouthpiece and umbrella body representing the South African plastics industry, has clarified its position on degradable, biodegradable and oxo-biodegradable plastics. According to the official position paper on this topic, the association's Executive Director, Anton Hanekom says they welcome and support any innovations that enable plastic products to meet the required high quality performance standards.

"However, a lot of confusion still exists around the environmental claims made by the manufacturers of degradable plastics. The general perception is that degradable plastics will dissolve and disappear over time versus conventional plastics that will be around forever. Unfortunately, it is not that simple", Hanekom says.

Seeing the wood from the trees...

Plastics|SA stresses the importance of understanding that bio-based plastics are not always biodegradable and that biodegradable plastics are not always bio-based. "It is possible to make biodegradable polymers from fossil raw materials. It is essential to make this distinction in order to avoid confusion when addressing different societal and environmental concerns of bioplastics. It is also essential that those who use the additives consider the sustainability implications of these additives on the recyclability of plastics," Hanekom warns.

What's in a name?

The general term "bioplastics" is wrongly used to describe different concepts, which often leads to confusion. The biodegradability and compostability as material properties are regulated by international standards. Plastics|SA distinguishes between the following:

- **Biodegradable plastics** are degradable due to the action of micro-organisms and enzymes. The aerobic or anaerobic decay of biodegradable plastics by micro-organisms is the conversion of the organic matter into carbon dioxide (or methane); mineral salts and water under specific environmental conditions, either through processes in nature or man-made (degradation in industrial composting plants, anaerobic digestion plants, etc.).
- **Compostable plastics** are degradable due to a biological process occurring during composting and are converted into carbon dioxide, water, mineral salts and biomass.

There are no toxic side effects like toxic residue for water, soil, plants or living organisms. Not all biodegradable materials meet compostable criteria.

“Materials which do not fulfil these criteria may still be biodegradable under specific environmental conditions. To ensure that waste treatment facilities work properly, only plastic waste which is compliant with the standards and requirements of the respective facility enters composting streams,” Hanekom explains.

- **Bio-based plastics** are plastics derived entirely or partially from renewable resources, such as vegetable fats and oils, corn or starch. Fossil-fuel plastics are derived from petroleum. The use of renewable resources as feedstock in the production of bio-based materials is seen as a way of reducing the dependency on oil.

Explains Hanekom: “Bio-based plastics made from renewable resources can be used in a variety of applications and complement currently used fossil based products. Bio-based plastics can offer similar, additional or even better functionality depending on its composition”.

Making the case for plastics

Whilst it agrees that there are certain uses and applications that could potentially be ideally suited to degradable plastics, Plastics|SA warns that introducing bioplastics to the country’s burgeoning and well-developed recycling industry, would contaminate the recycling streams with disastrous and costly consequences.

“Plastics don’t litter. People Do. Biodegradable plastic should not be seen as a quick-fix solution to our country’s litter problem. Instead, we are calling for more money and resources to be spent on educating the public about recycling and putting proper recycling infrastructures in place to support the plastics recycling industry has in recent years become an integral part of South Africa’s economy. Last year alone, 264 758 tons of plastic was collected and recycled, providing jobs to more than xxx people,” Hanekom explains.

Of real concern to the plastics industry and its recycling sector, is the impact degradable materials will have once this plastic is recycled and used in second and successive applications.

“As an industry, our concern is what will happen when the polymer molecules used in degradable, biodegradable and oxo-biodegradable plastics break down during the expected service life? Recycled plastic waste is used to make many new long-term plastic products such as refuse bags, agricultural- and building products (such as water pipes, builder’s film,

fencing and decking), as well as carpeting, to geo-textiles, strapping, plastic timber - all products that are made to last for many years to come. Introducing biodegradable plastics that are meant to decompose after a certain amount of time, would have disastrous consequences if introduced into the recycling stream,” Hanekom explains.

A second major concern about degradable, biodegradable and oxo-biodegradable packaging, is that the product is composed of non-renewable fossil fuel based inputs and there is little difference in regards to energy and resource usage when compared to conventional disposable packaging. If biodegradable and oxo-biodegradable packaging are meant to break down in a landfill environment, the products will not be recovered through waste management and recycling initiatives, resulting in a loss of resources (the calorific value of plastics) in the same way these resources are lost if they are not recycled.

Looking ahead. Quo Vadis?

Plastics SA is committed to achieving its objective of sending “Zero plastic to landfill”, as determined by the Waste Management Act. In line with this objective, the association and its members therefore recommend that oxo-biodegradable products do not be used as packaging alternatives to traditional plastic, as these would contaminate the recycling waste stream and reduce the value and recycling rates of plastic. If, however, further scientific evidence shows that there are other benefits to the use of oxo-biodegradable products, Plastics|SA will reconsider its position.

“One of the challenges faced by the plastics recycling sector over the past decade has been that of building confidence in recycled material and demonstrating its ability to perform as a viable alternative to virgin plastics. We have worked very hard to address these concerns by improving the quality and standards of recycled plastic material. Today, recycled plastics are in huge demand in South Africa and recyclers cannot produce enough material to meet the demand. Recycled plastic is finally enjoying the recognition it deserves and is seen as a top quality material that is a consistent and reliable raw material source”.

- Plastics|SA recommends that any product environmental impact should be measured against comprehensive Life Cycle Assessments together with costs evaluations. As such, it is not correct to assume that oxo-biodegradable or bio-based plastics have by definition a lower environmental impact.
- It is crucial that any environmental claims are backed by sound science and standards. All environmental claims such as biodegradability, compostability or the bio-based content are in compliance with appropriate standards such as ISO 14021.
- It must be emphasised that market requirements will remain a determining factor in choosing the plastic grade with the desired property profile. The choice is therefore

directly related to the functionality and not to the raw material base of the plastic which can be either fossil or bio-based.

- Plastics|SA seeks to build confidence in the technical integrity of recycled material that is able to demonstrate its ability to perform as a viable alternative to virgin plastics. If a proportion of recycled plastic contains oxo-biodegradable material, it could change the characteristics of the material and may lead to a failure of products as degradation occurs, resulting in the hindering of market acceptance which will lead to reduced value of recycled material in South Africa.

Conclusion:

“As a result of insufficient or incorrect information, consumers often base their decisions on foreign, poorly researched or emotional articles. Each country needs to find its own unique solutions to litter, municipal solid waste and poor human behaviour”, Hanekom concluded.

ENDS

Notes to the editor:

- Plastics|SA represents the plastics industry of South Africa. Its members represent all sectors of the SA Plastics Industry including polymer producers and importers, converters, machine suppliers and recyclers. The plastics chain in South Africa employs over 60 000 people, and is defined as a priority sector by Government. The combined turnover of the industry is some R 50 billion per annum and consumption is approx. 1,370 million tons per annum.
- Plastics|SA operates from three centres: the Head Office in Midrand, Gauteng and the two regional centres located in Pinetown KZN and in Cape Town. Plastics|SA provides industry training and drives the plastics industry Environmental initiative.
- For more information visit: www.plasticsinfo.co.za

For technical queries or commetary, please contact:

Annabe Pretorius

Tel: 083 654-8967

Email: Annabe@Absamail.co.za