

Going Sustainable With Polymers

Hi-Tech International is the first company in the country to manufacture a plant-based bio-polymer – Dr Bio – which can be used to replace single-use and multi-use plastic products with bio-compostable plastic. The Machinist take a closer look...

By Kruti Bharadva

The hazards of plastic waste are well known across the globe. India alone produces 9.46 million tons of plastic waste every year, of which 40 per cent remains uncollected and 43 per cent of which is used for packaging, most of it single-use. The real green and sustainable solution for the industry is to take a leap from recyclable plastic and move towards bio-compostable plastics which dissolve in the soil, thus making a strong, positive impact on plastic waste management as well as plastic contribution in the landfills.

That said, Hi-Tech International has set up a manufacturing facility spread of 250,000 sqft in Ludhiana for the commercial manufacturing of a unique polymer – Dr Bio.

“Reports indicate that urban India generates 62 million tons of waste (MSW) annually, and this will reach 165 million tons in 2030. 43 million tons of municipal solid waste is collected annually, out of which 31 million is dumped in landfill sites and just 11.9 million is treated. The sizes of landfills in India are on a constant rise and this is turning out to be a major concern. Contrary to the composition of waste in western countries, most of India’s waste is organic which means that there is a tremendous opportunity to compost a lot of it,” stated **Mukul Sareen, Director of Business Development at HiTech Group.**

“Then there is sustainability, renewable feedstocks such as corn, sugarcane, and algae can be utilised as raw material instead of petroleum, thereby reducing global dependence

on crude oil and lessening the impact on climate. With our unique farm to polymer model, we are working closely with farmers to procure and secure our highly refined corn starch supplies and other essential biomass inputs,” Mukul Sareen added.

Dr Bio is made from cornstarch and is 100 per cent compostable and biodegradable. It is unlike paper, which has a recycling limitation- as every kg of paper uses 70 litres of water to recycle. Similarly, the process of recycling aluminium and recyclable plastic has high upfront capital costs and these processes themselves are unhygienic and unsafe. Even the recycled products are not of very high quality.

Dr Bio products are not just completely biodegradable, they can be used to manufacture packaging material as per the need of custom-

ers. The products offered by the company are used in different sectors and applications such as home textiles, appliances, plastic bottles, cards, apparel, fresh food packaging, folded cartons, cellphone cases, service ware, lactides, polymers, polymer additives, nonwovens, adhesives, coatings, cosmetics, laptops, other durable goods, printing toners, and surfactants.

The major advantage is that bio-based polymers replace fossil carbon in the production process with renewable carbon from biomass. This is indispensable for a sustainable, climate-friendly plastics industry.

The second advantage is offered by more than half of the produced bio-based polymers: they are biodegradable (depending on the environment) and can therefore be a solution for plastics that cannot be collected and enter the environment. This results in the elimination of microplastics from our environment

“Our biopolymers are produced from corn starch in the agriculture rich region of Punjab, India and available in 45 countries globally. Hi Tech Group’s commitment towards sustainability is oriented to reduce the greenhouse gasses impact, minimize the dependence on fossil oil derivatives, and promote the use of renewable energies and reduce plastic waste in the environment. Following our core values, we have optimised our production processes to reduce the generated waste with a “zero waste” policy and to minimize our CO2 footprint impact from our activities,” concluded Mukul Sareen 📍

