Now, plant-based biopolymer from corn starch

Gurgaon-based Hi-Tech International gets nod to launch the alternative for plastics

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Gurgaon-based Hi-Tech International, a technology sourcing provider in the field of plastics and packaging, has come out with a plant-based bio-compostable polymer. The biopolymer, made from corn starch, can replace single- and multiple-use plastic products.

Bio-compostable product

"Corn starch is the main ingredient in the polymer, which is biodegradable. It is 100 per cent compostable and can replace plastic bottles, straws, cups, disposable cutlery and polybags," said Mukul Sareen, Director, Business Development, Hi-Tech International.

The bio-compostable polymer, branded as Dr Bio, has received the approval of the Institute of Petrochemicals Technology (formerly Central Institute of Petrochemicals Technology Engineering and Technology) after tests.

"Our product, India's first, was approved only after it was found to be compostable. Ours is the only Bureau of Indian Standards (BIS) approved biopolymer film," the Hi-Tech International official said.

The firm, which shifted its headquarters to the Haryana city a few years ago from Mumbai, has made further progress with its product.

"We got the Central Pollution Control Board licence to start producing the bio-compostable polymer a few days ago and we have now begun to pitch Dr Bio to various customers," Sareen told *BusinessLine* in a phone interview. Hi-Tech began producing biopolymers at its plant in Ludhiana, Punjab, in 2018.

Mukul Sareen

Polymer granules

The biopolymer is produced by converting the corn starch into a granule. "We buy starch from the mills and go in for polymerisation through a blending process. This helps us to get polymer granules the way some petrochemical firms produce plastic granules," Sareen said.

From these granules, the Gurgaon-based firm, established in 1985, produces bottles, cups, trays, polybags and other such materials. "Corn starch makes up 60-70 per cent of our product. We also use biomass to manufacture our products," he said.

Though production costs of biopolymer are higher, it can be offset by producing materials that have lower micron levels than traditional plastic products. "Biopolymers are 2.5 times costlier than plastic products but where it can score is that you cannot produce a plastic bag less than 50 microns. On the other hand, we can produce a biopolymer bag of 20 microns," he said.