

Cellulose Plastics - A Promising New Alternative to Traditional Plastics

Cellulose plastics are a biodegradable alternative to traditional plastics that are derived from renewable plant materials like wood or non-food crops rather than petroleum. Specifically, they are made primarily from cellulose, one of the most abundant natural polymers on Earth found in the cellular structure of plants. With the use of solvents and plasticizers, cellulose can be produced industrially into a malleable yet durable product.

Growing Concerns over Petroleum-Based Plastics

[Cellulose](#)

[Plastics](#) derived from petroleum pose several environmental issues. Most petroleum-based plastics are not biodegradable and persist in landfills and the natural environment for centuries. This has led to increasing levels of plastic pollution, especially in oceans where it threatens wildlife and ecosystems. Producing and disposing of petroleum plastics also generates greenhouse gases that accelerate climate change. Additionally, dependence on finite fossil fuels introduces supply risks as reserves dwindle over time.

The Sustainability Advantages

They address these issues by utilizing a renewable resource – plant matter – that can regrow rather than a non-renewable fossil fuel. As the building blocks of plants, cellulose is naturally biodegradable and breaks down much quicker than petroleum plastics when disposed of properly. This drastically reduces the environmental footprint over the product lifecycle. They are also carbon neutral as the carbon dioxide released during biodegradation is equivalent to what the original plant material absorbed during growth. Some types can even absorb more carbon in their usable lifetime. Perhaps most notably, a switch to cellulose plastics represents a strategic reduction in dependence on crude oil reserves and improves energy security outlook.

Manufacturing Process

The manufacturing of these typically begins with processing plant

