Future Trends in Biodegradables

Biopolymers are a class of polymer produced by living organisms. Starch, protein and peptides are all examples of biopolymers, in which the basic building blocks are sugars, amino acids and nucleic acids. Unlike petroleum based polymers, biopolymers break-down and biodegrade over time.

Because biopolymers are biodegradable and are derived from renewable resources, they are strong candidates for many industrial applications. The major beneficiaries of biopolymers are industries such as: food-processing, cosmetics, pharmaceuticals, packaging, paper and textiles. Biopolymers can be used as stabilizers, thickeners, binders, dispersants, lubricants, adhesives and drug-delivery agents.

Trends & Applications

- World plastics consumption is expected to increase by 43% during the next two years (180 million tons currently to 258 million tons in 2010.)
- Plastics are expected to continue to replace traditional materials like steel, wood and glass.
- Experts in the field believe bio-plastics could capture up to 4.8% of the total plastics market by the end of 2010.
- Depending on oil prices, R&D funding and social pressure to reduce green house gases, the use of biopolymers could explode in the next two years to 12.4 million tons in the year 2010.
- Products capable of replacing 50 percent or more of the petroleum-based content of conventional plastic resins with renewable resources such as cornstarch, tapioca or other starches.
- Bio-Polymer drainage trench methods used in
    - Landfill leachate collection
    - Reactive barriers