

New biodegradable polymers under development

Eco-friendly polymers with therapeutic use: Researchers at Cuttack-based PL Nayak Research Foundation (PLNRF) have developed several bio-degradable polymers from prawn and crab shells, tamarind seeds and mango kernel. The bio-degradable polymer can be used for control use of drugs forming a matrix for periodic release of the target drugs.

<http://www.expressbuzz.com/edition/story.aspx?Title=Eco-friendly+polymers+with+therapeutic+use&artid=Gd3LkfVhdYg=&SectionID=mvKkT3vj5ZA=&MainSectionID=fyV9T2jIa4A=&SectionName=nUFeEOBkuKw=&SEO=>

New Barrier Polymer Offers Biodegradability: A major Japanese materials producer is opening the development door for a novel new vinyl-alcohol resin that features high amorphous content with the capability to tailor crystallinity. Applications will include high-strength, flexible, antistatic, and hydrophilic functional products.

http://www.designnews.com/article/230883-New_Barrier_Polymer_Offers_Biodegradability.php

Israeli breakthrough paves way for 'green' diapers: Exotech, an Israeli company based in Kiryat Gat, claims that its unique new polymer, a macromolecular compound called ethylene-bis-stearamide (EBS), is not only as absorbent as its rival acrylic acid, but it is also cheaper, more available, and safer for both humans and the environment.

<http://www.israel21c.org/bin/en.jsp?enZone=Technology&enDisplay=view&enPage=BlankPage&enDispWhat=object&enDispWho=Articles%5E1186>

HU-developed material prevents adhesions after surgery: A material aimed at preventing scar tissue after surgery that was developed at the Hebrew University of Jerusalem has been approved by the US Food and Drug Administration (FDA) for use in pediatric cardiac surgery. The product was invented by Prof. Daniel Cohn, who used novel, customized biodegradable polymers for the prevention of such adhesions.

<http://www.jpost.com/servlet/Satellite?pagename=JPost%2FJPArticle%2FShowFull&cid=1239710841652>

EcoPure Biodegradable Plastic Additive: Bio-Tec Environmental has just completed a new round of "green products" testing on its biodegradable plastic solution EcoPure, its second generation additive that makes green products by turning regular plastic into biodegradable plastic. This results in environmentally sustainable products.

http://www.marketwatch.com/news/story/ecopure-biodegradable-plastic-additive-shows/story.aspx?guid=%7B480FA37F-D6DE-482C-AF4F-965CCA0DA0DD%7D&dist=msr_2

Biodegradable polymers show promise for improving treatment of acute inflammatory diseases: A family of biodegradable polymers called polyketals and their derivatives may improve treatment for such inflammatory illnesses as acute lung injury, acute liver failure and inflammatory bowel disease by delivering drugs, proteins and snips of ribonucleic acid to disease locations in the body. "The polyketal microparticles we developed are simply a vehicle to get the drugs inside the body to the diseased area as quickly as possible," said Niren Murthy, assistant professor in the Coulter Department of Biomedical Engineering at Georgia Tech and Emory University. "The major advantage to using these polyketals to deliver drugs is that they degrade into biocompatible compounds that don't accumulate in a patient's tissue or cause additional inflammation."

<http://gtresearchnews.gatech.edu/newsrelease/polyketal-microparticle.htm>

Projects in pipeline

Hyderabad-based SPC Biotech Private Ltd plans to set up a manufacturing unit to make high-end, biodegradable polymer. These biodegradable polymers are increasingly finding use in the medical industry as absorbable medical implants. Starch-based products, like corn, rice and sweet potato, have attracted many researchers making biodegradable plastics because of their recycling capacities. It is the first project of its class in South East Asia.

<http://www.envis-icpe.com/SPC%20BIOTECH%20BIODEGRADABLE%20POLYMER%20PLANT.doc>

Nippon Gohsei has established a semi-commercial plant in Japan for annual production of 300 tons of Nichigo G-Polymer. Another 2,000 tons of commercial production capacity will also be available this year.

<http://www.designnews.com/article/230883-NewBarrierPolymerOffersBiodegradability.php?rssid=20026>

Japanese film, fibres and biotechnology firm Toyobo Co Ltd and The Netherlands-based global lactic acid specialist Purac have joined forces to launch a new bioplastic polymer in Europe. Osaka-based Toyobo plans to launch the product, Vyloecol - a fully biodegradable polylactic acid produced from Purac's lactide monomers - in the European market.

<http://plasticsnews.com/headlines2.html?channel=190&id=1235598512>

Biodegradable polymer designed as petrochemical replacement: Two giants of the ingredients business this week opened a US plant to produce a biodegradable polymer designed to replace petrochemicals in cosmetics and personal care products. DuPont and Tate & Lyle are not being shy in labeling their Bio-PDO facility in Loudon, Tenn. as the "dawn of industrial biotechnology".

<http://www.cosmeticsdesign.com/Formulation-Science/Biodegradable-polymer-designed-as-petrochemical-replacement>

EU-funded projects:

IsoBone aims to develop living-tissue-engineered bone-substitute materials that can replace load-bearing and non-load-bearing bone. The idea is to produce a hybrid implant consisting of a biocompatible, biodegradable polymer scaffold seeded with the patient's own bone cells.

<http://ec.europa.eu/research/growth/gcc/projects/in-action-biomat07.html>

RAPRA Technology has secured EU funding of 1.4 million [euro] and assembled a consortium that will develop super-critical fluid processing technology in order to make advanced multi-functional biodegradable polymer devices.

http://www.accessmylibrary.com/coms2/summary_0286-14054258_ITM