PHA (Polyhydroxyalkanoate) Polymers

BIOREFINING PROCESS SOURCE

Fermentation of 6-carbon sugars & starches, fermentation of lignocellulosic biomass

DESCRIPTION

PHA polymers are polyesters with highly promising thermoplastic polymer applications. PHA polymers are considered to outperform PLA, and analysts say that, if economically produced, they could capture a significant portion of the plastics market. PHBV, or poly(3-hydroxybutyrate-co-3hydroxyvalerate), is a PHA polymer which has been used in commercial production of plastic bottles and coated paper. PHA polymers are naturally produced by some bacteria, and research is being conducted into whether they can be grown inside genetically modified plants.

PRICE

$0.30-$1.50/lb[1]

MARKET SIZE

15 million tons

REFERENCES

[1] Energetics Incorporated. 2003. Industrial Bioproducts: Today and Tomorrow, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Office of the Biomass Program, Washington, D.C.