Polylactic Acid (PLA) Production

<table>
<thead>
<tr>
<th>Capacity:</th>
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<tbody>
<tr>
<td>Plant and machinery cost:</td>
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<tr>
<td>Working Capital:</td>
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<tr>
<td>Rate of return (ROR):</td>
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<td>Break Even Point (BEP):</td>
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<td>TCI:</td>
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</tr>
<tr>
<td>Cost of Project:</td>
<td>0.00 Lakh</td>
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Polylactic Acid (PLA) Production. A Biodegradable and Bioactive Polyester. Most Common Bioplastic in Today’s Use

Polylactic Acid (PLA)
Polylactic acid or polyactide (PLA) is a biodegradable and bioactive polyester made up of lactic acid building blocks. Polylactic acid (PLA) is at present one of the most promising biodegradable polymers (biopolymers) and has been the subject of abundant literature over the last decade.

PLA can be processed with a large number of techniques and is commercially available (large-scale production) in a wide range of grades. It is relatively cheap and has some remarkable properties, which make it suitable for different applications.

Polylactic acid (PLA) is the most common bioplastic in use today. First, corn or other raw materials are fermented to produce lactic acid, which is then polymerized to make polylactic acid (PLA). Bioplastics are expected to make major contributions to environmental protection, because they reduce CO₂ and because they are biodegradable. The range of applications for bioplastics is growing, from materials used in automobile interiors to packaging for foods and cosmetics, to agricultural sheeting, to household appliances.

Application:
PLA is biocompatible and thus suitable for medical use, for instance in absorbable suture threads. PLA is also one of the few plastics that are suitable for 3D printing. PLA (polylactic acid) is adapted to classical processing equipments and allows the manufacturing of food contact packagings, bottles for cosmetics application, textile fibers etc.

Early applications of high-density PLA were mostly limited to biomedical areas due to its ability to be safely absorbed biologically. Over the past decades, the development of economical production methods and a rising environmental consciousness in consumers lead to the widespread use of PLA as packaging material for consumer goods.

Market Outlook
Polylactic Acid (PLA) Market is expected to garner $5.2 billion by 2020, registering a CAGR of 19.5% during the forecast period 2013-2020. Polylactic acid (PLA) is a bio-degradable thermoplastic aliphatic polymer produced from lactic acid using various crops like corn, sugarcane, tapioca etc. as a raw material. Increasing consumer awareness, government incentives and easy availability of raw materials are the major factors driving market growth. However, the cost of PLA is comparatively higher than synthetic plastics, thus becoming a primary restraining factor for the market growth.

In terms of volume consumption Polylactic acid accounts for highest consumed bio plastic. Government is taking initiatives, providing subsidies and support for increasing usage of bio degradable products. Pollution control and environment safety are the major reasons why more and more stakeholders are turning towards bio plastic usage rather than conventional plastic synthesised from petroleum. Technological advancement, technological transfer from developed countries and high consumer demand in developing countries are responsible for upcoming new set ups in packaging, textiles and electronics industries. These industries’ demand for Polylactic acid is the key market growth driver in developing countries.

Increasing usage in creams, shampoos, and body care products as it enhances skin lightening effects, improves collagen and elastin synthesis, accelerates exfoliation and cell renewal is expected to propel industry expansion over the forecast period. Rising demand for personal care products, owing to the introduction of sophisticated products along with the formulation development for a particular consumer group is expected to create new growth avenues for the lactic acid market.

There are different types of packaging available in the market such as metal packaging, rigid packaging, flexible packaging, glass packaging, cardboard, and paper packaging. Some common objectives of
Packaging are physical protection, barrier protection, containment or agglomeration, marketing, security, and convenience. The key driver responsible for the growth of the market is the increasing demand for plastics in packaging from the developing countries such as China and India. The countries like Brazil, India, China, and Russia (BRIC) are global leaders in the Packaging industry with a total 30% of the market share.

The Polylactic acid Market is segmented based on product form which is further sub-divided into films and sheets, coatings, and fibers; and also on the basis of the application which is again sub-divided into packaging, catering, technical material, consumer goods, agriculture, construction materials and others. Packaging is the main application of PLA since almost 46% of PLA is consumed for manufacturing packaging materials. Packaging material again has two categories, film packaging, and bottle packaging. In this category, most of the PLA is used for making of plastic bags. Around 19000 tons i.e. 18% of total PLA is used for making plastic bottles.

The major players in global Polylactic acid production market are collaborating in order to provide innovative solutions to meet the specific demand for Polylactic acid. Most of European and American firms are taking initiatives via technology and expertise transfer to increase the production of Polylactic acid in Asia pacific market, which is highest growing market.

Indian Scenario:
Poly lactic acid is not presently produced in India.

Tags
#Polylactic_Acid_Production, #Poly_Lactic_Acid_Production_Pdf, #How_to_Make Polylactic Acid, #Poly_Lactic_Acid_Production_in_India, #Polylactic_Acid_Properties_and_Uses, Polylactic Acid Manufacture, #PLA_Manufacturing, Process for Producing Polylactic Acid, #Commercial_Production_of_PLA, #Polylactic_Acid_Manufacturing_Plant, Polylactic Acid Industry, Polylactic Acid (PLA) Industry, Production Process for Polylactic Acid (PLA), Production of Polylactic Acid, Poly (Lactic Acid), Poly (Lactic Acid) or Polylactic Acid or Polylactide (PLA), #Project_Report_on_Polylactic_Acid_Manufacturing, Industry, #Detailed_Project_Report_on_Polylactic_Acid_Production, Project Report on Polylactic Acid Production, Pre-Investment Feasibility Study on Polylactic Acid Production, #Techno_Economic_feasibility_study_on_Polylactic_Acid_Production, Feasibility report on Polylactic Acid Production, Free Project Profile on Polylactic Acid Production, Project profile on Polylactic Acid Manufacturing, Polylactic Acid Production, A Biodegradable and Bioactive Polyester, Most Common Bioplastic in Today's Use

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