

SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution) Coimbatore – 35



Poly lactide or Poly lactic acid (PLA)

PLA is a type of polyester made from fermented plant starch from corn, cassava, maize, sugarcane or sugar beet pulp. The sugar in these renewable materials are fermented and turned into lactic acid, when is then made into Poly lactide, or polylactic acid (PLA.)

The direct condensation of lactic acid monomers can be used to produce PLA. This process needs to be carried out at less than 200 °C; above that temperature,

H₃C OH Polymerization
$$CH - C$$
 Polymerization $CH - C$ Poly Lactic acid

Properties

- 1. It is shiny and transparent, remains stable at low temperatures,
- 2. It has modest oxygen and water permeability,
- 3. It has high grease and oil resistance.

Uses

1. PLA is a very useful material to be used as a replacement for petroleum-based polymers because of its good mechanical properties and good process ability.