

# Product Profile

## Identification

**Product Name:** Methoxy-poly(D,L-lactide)

**Synonym(s):** PDLA, PLA, poly-DL-lactide

**Linear Formula:**  $\text{CH}_3\text{O}(\text{C}_3\text{H}_4\text{O}_2)_n\text{H}$

**Product Lot Number:** P44557C-LA (dl)

## Composition:

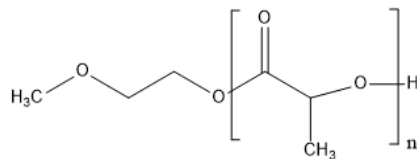
Mn x 10 <sup>3</sup>	Mw x 10 <sup>3</sup>	Mw/Mn (PDI)
3.0	3.5	1.1
Dp of (DL) LA= 45		

Appearance (Color) White to Faint ivory

Appearance (Form) Powder or honey like depends on its Mw.

Molecular Number determined by HNMR data analysis.

## Product Chemical Architecture:



## Method of Synthesis

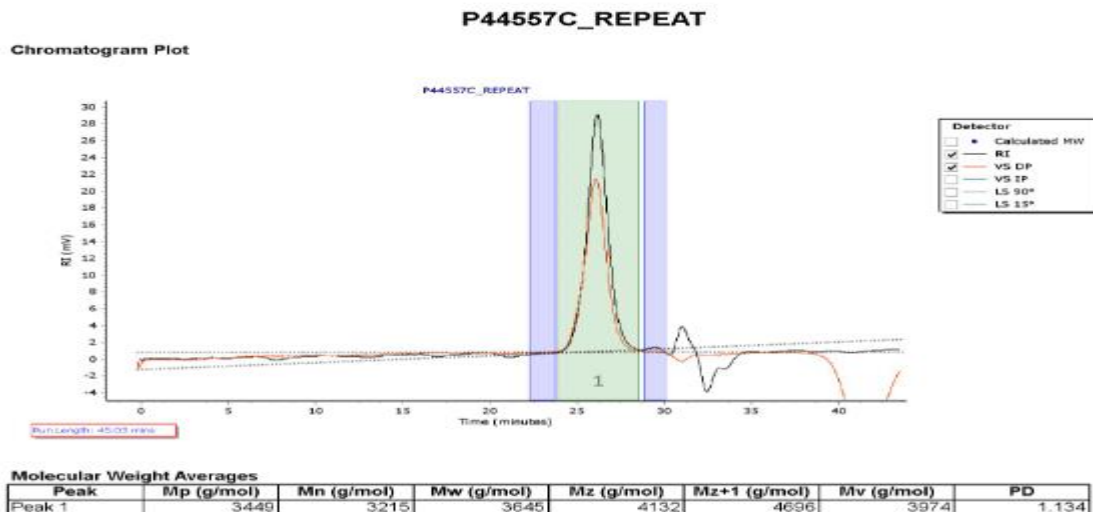
3,6-Dimethyl-1,4-dioxane-2,5-dione(or DL Lactide rac-lactide), is the 50:50 racemic mixture of D- and L-Lactide. Rac-lactide can be readily polymerized via ring-opening polymerization, using a variety of metal or organocatalysts, yielding poly(D,L-lactide). While the resulting polymer is generally amorphous, the use of stereospecific catalysts can lead to heterotactic PLA, which exhibits some degree of crystallinity.

## Solubility in different solvents

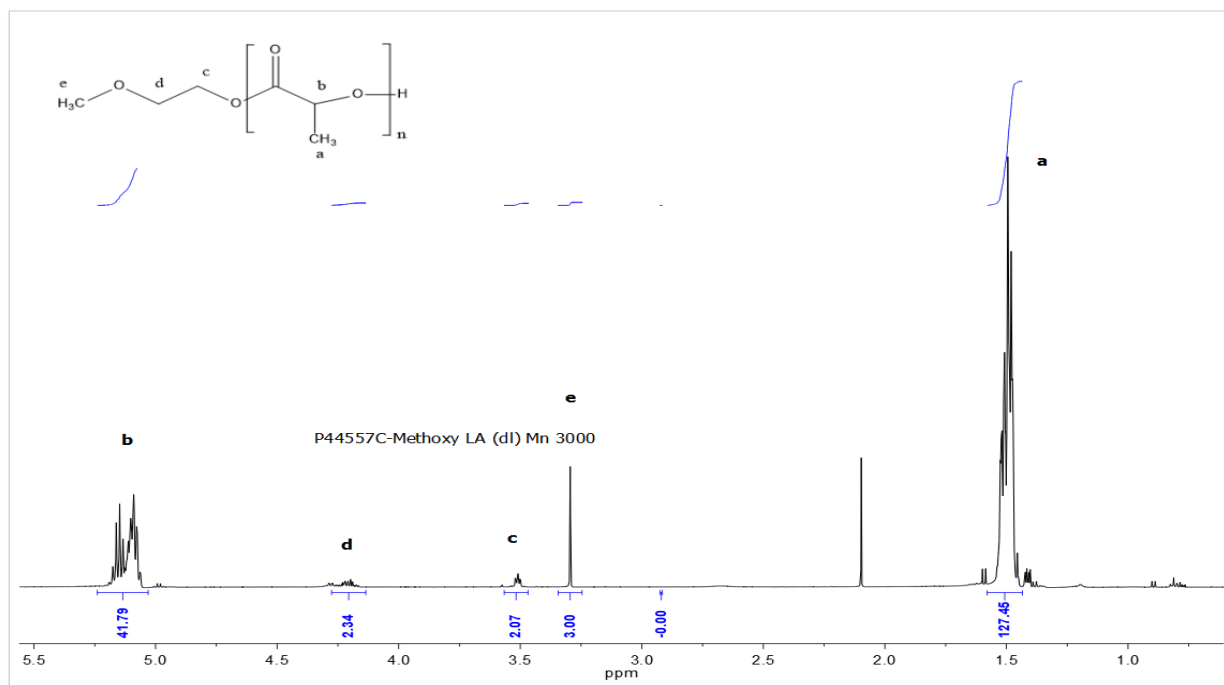
THF (warm)	√		
CHCl <sub>3</sub>	√		
Acetone	√		

Architecturally controlled well-defined materials with varying properties can be prepared by controlling dP of monomer units. OH, SH and NH<sub>2</sub> end terminated polymers allows for facile further chemical modification of these materials.

### A. Gel Permeation Chromatography (GPC), SEC- Profile:



**B.  $^1\text{H}$  NMR of the polymer:**



**C. Thermal properties based on different isomers of polylactide:**

