

# Product Profile

## Identification

**Product Name:** Poly(lactide-co-glycolide), random  
*Lactide in DL-Form*

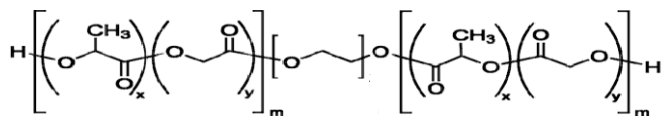
**Synonym(s):** PLGA

**Linear Formula:**  $[C_3H_4O_2]_x[C_2H_2O_2]_y$

**Product Lot Number:** P18712R-LAGLran

**CAS#** 26780-50-7

## Product Chemical Architecture:



## Composition:

Mn x 10 <sup>3</sup>	Mw x 10 <sup>3</sup>	Mw/Mn (PDI)
2.8	3.5	1.17
Composition: dl(LA):GL 70:30		
Terminal group -Hydroxy		

Appearance (Color) White to Faint ivory

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

Molecular Number determined by <sup>1</sup>H NMR.

Storage: In airtight bottle 2-8°C

## Method of Synthesis

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

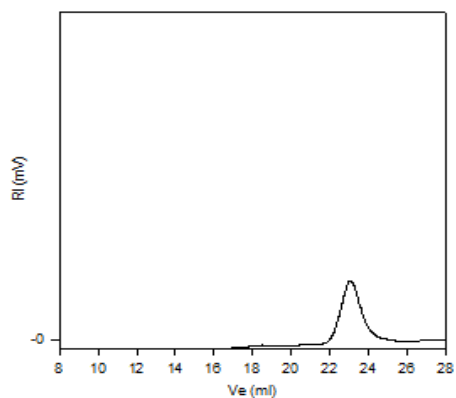
## Solubility in different solvents

THF (warm)	√	Ethyl-acetate	
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 allow for facile further chemical modification of these materials.

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

P18712-LAGL-ran



Size Exclusion Chromatography of random copolymer :  
THF/CHCl<sub>3</sub>

$M_n = 2,800$ ,  $M_w = 3,500$ ,  $M_w/M_n = 1.17$

**B. HNMR of the product carried out in CdCl<sub>3</sub>:**

