

Ashland Specialties Ireland Ltd., National Science Park, Building V Dublin Road, Petitswood Mullingar, Co. Westmeath Ireland, N91 F6PD Tel: +353 (0) 87 360 8041 Asma.tahir@ashland.com

R & D Certificate of Analysis

Product Name : Poly ϵ -caprolactone (PCL)

Product Code : Viatel™ C 18 E

Lot / Batch Number : 0002653852

| Characteristic | Test Method | Specification | Result |
|------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------|
| Appearance | Visual inspection | White to light brown solid granules, powder, flake or other suitable form as agreed with the customer | White granules |
| Molar Mass (Inherent Viscosity) | Ubbelohde capillary viscometry (0.1 g/dl, 25 °C, CHCl ₃) As per USP <911> Method 1 | 1.6 – 2.0 dl/g | 1.64 dl/g |
| Chemical Identification | ¹ H-NMR Spectroscopy As per USP <761> | Conforms to ¹ H-NMR reference spectrum | Conforms |
| Residual Monomer Content | | ≤ 3 %wt. ε-caprolactone | 0.79 % |
| Solubility | Dissolution in CHCl ₃ , DCM at 15 – 30 °C | Clear homogenous solution | Pass 🗵 🛮 Fail 🗌 |

NOTE: This Product is repackaged for sale as an R & D grade material.

Name: Asma Tahir

Signature: Asma Tahir

Position: Quality Manager or Designate

Date: 18 AUG 2023

