

Standard (Pullulan)**INSPECTION CERTIFICATE**

Type : P-82
Lot No. : 181104
Material : Polysaccharide

Method	SEC				Static light scattering	
	Grade	Mp	Mw	Mn	Mw/Mn	Mass-average molar mass (g/mol)*
P-800	64.2x10 ⁴	73.6x10 ⁴	59.7x10 ⁴	1.23	82.0x10 ⁴	7.4x10 ⁴
P-400	33.4x10 ⁴	34.3x10 ⁴	26.4x10 ⁴	1.30	37.4x10 ⁴	1.8x10 ⁴
P-200	20.1x10 ⁴	20.2x10 ⁴	15.4x10 ⁴	1.31	23.8x10 ⁴	1.2x10 ⁴
P-100	10.7x10 ⁴	11.3x10 ⁴	10.0x10 ⁴	1.13	11.9x10 ⁴	1.1x10 ⁴
P-50	4.71x10 ⁴	4.88x10 ⁴	4.55x10 ⁴	1.07	5.28x10 ⁴	0.47x10 ⁴
P-20	2.20x10 ⁴	2.30x10 ⁴	2.13x10 ⁴	1.08	-	-
P-10	0.98x10 ⁴	0.99x10 ⁴	0.93x10 ⁴	1.07	-	-
P-5	0.63x10 ⁴	0.66x10 ⁴	0.60x10 ⁴	1.09	-	-

* Measured by static light scattering method at National Institute of Advanced Industrial Science and Technology in Japan

** The quoted uncertainty is the half-width of the expanded uncertainty interval calculated using a coverage factor $k = 2$, corresponding to an estimated confidence level of approximately 95 %.

- Unmeasured

Showa Denko K.K.
Kawasaki Plant

**SHOWA DENKO K.K.****Separation & Refining Business Group (Shodex)**

13-9, Shiba Daimon 1-Chome, Minato-ku, Tokyo 105-8518, Japan

TEL. +81 3 6402 5140

FAX. +81 3 5403 5730

E-mail Sdk_shodex@showadenko.com

www.shodex.com