

## Certificate of Analysis

Date of Testing: 2023-09-20 11:08:47  
 Date of Next Testing: 2026-09-19 11:08:47  
 Product Name: **Poly(ethylene glycol)**  
 CAS Number: 25322-68-3  
 Specifications & Purity: Ultrapure BioReagent, 35,000  
 Lot #: 12319524  
 SKU #: **P432425**  
**Analysis: 274216**

Parameter	Limit Values	Result
Melting point	64-66 (°C)	65.00000 °C
Water by Karl Fischer	0-1 (%)	0.10 %
Sulfated Ash	0-0.2 (%)	0.09000 %
Viscosity(50% in H <sub>2</sub> O , 20°C)	11000-14000 (mPa·S)	12200.00000 mPa·S
Molecular mass(calculated from hydroxyl value)	25000-45000	32063.00000
Hydroxyl value	2.5-4.5 (mgKOH/g)	3.50 mgKOH/g
traces peroxide (as H <sub>2</sub> O <sub>2</sub> )	0-50 (ppm)	33.00000 ppm
Aluminium(Al)	0-5 (ppm)	2.11000 ppm
Barium(Ba)	0-5 (ppm)	1.02 ppm
Bismuth(Bi)	0-5 (ppm)	2.30 ppm
Calcium(Ca)	0-10 (ppm)	6.00 ppm
Cadmium(Cd)	0-5 (ppm)	1.22 ppm
Cobalt(Co)	0-5 (ppm)	0.27 ppm
Chromium(Cr)	0-5 (ppm)	0.00 ppm
Copper(Cu)	0-5 (ppm)	0.00 ppm
Iron(Fe)	0-5 (ppm)	2.60 ppm
Potassium(K)	0-200 (ppm)	100.00 ppm
Lithium(Li)	0-5 (ppm)	3.10 ppm
Magnesium(Mg)	0-5 (ppm)	0.20 ppm
Manganese(Mn)	0-5 (ppm)	0.10 ppm
Molybdenum(Mo)	0-5 (ppm)	0.10 ppm
Sodium(Na)	0-200 (ppm)	199.00 ppm
Nickel(Ni)	0-5 (ppm)	0.00 ppm
Lead(Pb)	0-5 (ppm)	2.01 ppm
Strontium(Sr)	0-5 (ppm)	0.00 ppm
Zinc(Zn)	0-5 (ppm)	0.00 ppm

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Arsenic traces(MHS-AAS)	0-0.1 (ppm)	0.02 ppm
Total sulfur as SO4 (ICP)	0-50 (ppm)	29.00 ppm
Chloride (Cl-)	0-50 (ppm)	20.30 ppm
pH(1.5g in 30ml H2O)	5.5-7	5.80000
UV-ABS.at 260 nm	0-0.12	0.08000
UV-ABS.at 280 nm	0-0.12	0.11000
Appearance(P432425)	Colorless or White Powder or Crystals or Flakes	Colorless or White Powder or Crystals or Flakes
Infrared spectrum	Conforms to Structure	Conforms to Structure
Residue (filter test)	no residue	no residue

A handwritten signature in black ink that reads "John Su".

John Su  
QA & QC Manager