

## Certificate of Analysis

Date of Testing: 2024-03-16 16:47:45  
Date of Next Testing: 2027-03-16 16:47:45  
Product Name: **Poly(ethylene glycol)**  
CAS Number: 25322-68-3  
Specifications & Purity: BioUltra, 400  
Lot #: C2407463  
SKU #: **P615470**  
**Analysis: 324476**

Parameter	Limit Values	Result
Density(D20/4°C)	1.125-1.127	1.13
Refractive index n20/D	1.466-1.468	1.47
Water by Karl Fischer	0-1 (%)	0.10 %
Sulfated Ash	0-0.2 (%)	0.10000 %
Viscosity(neat/20 °C)	105-152 (mPa·S)	118.00000 mPa·S
Hydroxyl value	267-295 (mgKOH/g)	276.00 mgKOH/g
Trace peroxide(As H2O2)	0-200 (ppm)	12.30000 ppm
Aluminum(Al)	0-5 (ppm)	0.30 ppm
Bismuth(Bi)	0-5 (ppm)	0.30 ppm
Calcium(Ca)	0-10 (ppm)	0.58 ppm
Cadmium(Cd)	0-5 (ppm)	0.30 ppm
Cobalt(Co)	0-5 (ppm)	0.30 ppm
Chromium(Cr)	0-5 (ppm)	0.30 ppm
Copper(Cu)	0-5 (ppm)	0.30 ppm
Iron(Fe)	0-5 (ppm)	0.30 ppm
Potassium(K)	0-200 (ppm)	12.20 ppm
Lithium(Li)	0-5 (ppm)	0.30 ppm
Magnesium(Mg)	0-5 (ppm)	0.30 ppm
Manganese(Mn)	0-5 (ppm)	0.30 ppm
Molybdenum(Mo)	0-5 (ppm)	0.30 ppm
Sodium(Na)	0-300 (ppm)	12.50 ppm
Nickel(Ni)	0-5 (ppm)	0.30 ppm
Lead(Pb)	0-5 (ppm)	0.30 ppm
Strontium(Sr)	0-5 (ppm)	0.30 ppm
Zinc(Zn)	0-5 (ppm)	0.30 ppm
Arsenic Traces	0-0.1 (ppm)	0.02000 ppm
Total sulfur as SO4 (ICP)	0-50 (ppm)	2.50 ppm

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Parameter	Limit Values	Result
Chloride (Cl-)	0-50 (ppm)	3.20 ppm
PH(50 mg/mL in H2O)	5.5-7	5.80000
UV - ABS. AT 260 NM(50 mg/mL in H2O)	0-0.06	0.02000
UV - ABS. AT 280 NM(50 mg/mL in H2O)	0-0.03	0.01000
Barium(Ba)	0-5 (ppm)	0.30 ppm
Appearance(P615470)	Colorless Viscous Liquid or Semi-Solid or Paste or Solid	Colorless Viscous Liquid or Semi-Solid or Paste or Solid
Infrared spectrum	Conforms to Structure	Conforms to Structure
Solubility in H2O,colorless and clear(50 mg/mL)	Pass	Pass
Residue (filter test)	no residue	no residue

John Su  
QA & QC Manager