



# GTI LABORATORIES SUPPLIES

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## FOR RESEARCH & DEVELOPMENT

*Laboratory Chemicals for Research and Development*

Not for direct use in food, cosmetics and or pharmaceuticals.

### Certificate of Analysis

#### Poly(ethyleneimine), 50% w/v, Certified<sup>®</sup> Analytical Standard

Catalog: CANSTD9002986-30GM/27.77ml

Purity: 50% w/v, Mn ~60,000, Mw ~750,000

Grade: Certified<sup>®</sup> Analytical Standard

CAS: 9002-98-6

Lot: SA05132019.1137

Retest: 05/2024

#### TEST

Appearance  
Assay  
Boiling point  
Density  
Elemental analysis  
Flash point  
Format  
Formula  
Identification  
Melting point  
Molecular weight  
  
pH  
Refractive index  
Residue after evaporation  
Solubility in water  
Suitability  
Viscosity

#### RESULTS

light yellow clear viscous liquid  
(concentration by w/v in H<sub>2</sub>O) 50.0%  
250°C  
1.08  
(nitrogen) 18.2%  
>110°C  
single component solution  
H(NHCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>NH<sub>2</sub>  
(FTIR) conforms to structure  
59-60°C  
43.06780  
(average Mn-7) ~60,000 by LALLS method  
(average Mw-7) 750,000 by LALLS method  
(5% solution in water) 10.8  
1.5290  
49.3%  
soluble  
for gel permeation chromatography  
26050.00

#### Note\*\*\*

is a branched chain polymer having a ratio of 1:2:1 of primary: secondary: tertiary amines with a branching site every 3–3.5 nitrogen atoms and a general backbone of (CH<sub>2</sub>CH<sub>2</sub>NH)<sub>x</sub>, the polymer has a cationic charge when the nitrogen atoms are protonated, so the charge density is pH dependent, there is essentially no active monomer present, PEI has been used as a protein precipitant and as a nucleic acid precipitant, it has been used in a transfection assay, PEI is used to pretreat filters to increase the binding of proteins, PEI can effectively complex heavy metal ions, this product is supplied as a 50% (w/v) aqueous solution, working solutions of 0.3 % are used fresh for treating filters.

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