



**ATLANTA WAREHOUSE**  
3939 Royal Drive, Suite 139  
Kennesaw, GA 30144

**UTAH WAREHOUSE**  
647 West Billinis Road, Unit 1  
Salt Lake City, Utah 84119

Certificate of Analysis

PRODUCT: PROPYLENE GLYCOL USP-K      SHIP DATE: 6/1/2016  
EPC #: 10241      LOT #: 250531Y9

LOT TESTING:		
TEST DESCRIPTIONS	SPECIFICATIONS	TEST RESULTS
Specific Gravity @ 25°C	1.035 - 1.037	1.0356
Color (Apha)	10 Max	10
Appearance	Clear, Free	Pass
Purity	99.5 % Min.	99.661
Identification, by IR	Compare to Standard	Pass
Water	0.2 % Max	0.046670
VALIDATION TESTING:		
*Specific Gravity @ 25°C	1.035 - 1.037	1.03541
*Assay	99.5 % Min.	100.00
*Identification A, by IR	Pass/Fail	Pass
*Identification B, Limit of Diethylene Glycol	Pass/Fail	Pass
*Identification B, Limit of Ethylene Glycol	Pass/Fail	Pass
*Identification C	Pass/Fail	Pass
*Residue on Ignition (mg)	3.5 Max	0.00
*Heavy Metals	0.0005 % Max	<=0.0006
*Chloride	0.007 % Max	<=0.007
*Sulfate	0.006 % Max	<=0.006
*Acidity (USP)	Pass/Fail	Pass
*Water	0.2 % Max	0.0208
TYPICAL VALUES:		
**Arsenic	1 wt ppm Max	1
**CONEG Metals	Pass	Pass
**Distillation, IBP@ 760 mmHg (°C)	186 Min.	186
**Distillation, DP@ 760 mmHg (°C)	189 Max	189
**Oxidiz Subst as ml thiosulfate	0.2 ml Max	0.2
**Refractive Index @ 20°C	1.4310 - 1.4340	1.4312
**Solubility @ 25°C	Pass/Fail	Pass

\*Results listed represent typical manufacturer values.

This product meets: U.S. Pharmacopoeia 38/National Formulary 33. This material is not intended for use as an Active Pharmaceutical Ingredient (API).