



ATLANTA WAREHOUSE

3939 Royal Drive, Ste 224 and 226
Kennesaw, GA 30144

UTAH WAREHOUSE

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

Certificate of Analysis

Customer PO: 5641
Ship: 08/28/2015
Vehicle Number:
Estimated Quantity: 80 Drums

Delivery No.: 179404

Product Name Propylene Glycol USP Grade

Test Details

Parameter	Results	Unit	Specifications	
			Min	Max
Lot# 152303713				
Manufacturing Date	08/07/2015			
Expiration Date	08/06/2017			
Purity, Assay	99.9	Wt %	99.5	
Acidity, as Acetic Acid	0.0005	Wt. %		0.002
Ash	<0.001	Wt. %	0.000	0.005
Water	0.00	Wt. %		0.2
Color	1	Pt-Co		10
Sulfate	<60	ppm		60
Heavy Metals as Pb	<0.1	ppm		5
Residual Solvents	Pass			
Chlorides	<0.10	mg/kg		1
Iron	0.02	mg./kg		0.5
Infrared Spectrum	Pass		PASS	
Specific Gravity @25	1.0359	Deg C	1.0350	1.0370
Specific Gravity @20	1.0384	Deg C	1.0376	1.0389
Distillation IBP @ 760 mmHg	187	°C	185	
Distillation DP @ 760 mmHg	188	°C		189
Refractive Index @20 C	1.4324	Deg C	1.431	1.433
Oxidizing Substances	<0.200		PASS	
Reducing Substances	Pass		PASS	
Arsenic	<1.0	ppm	0.0	1.0
Limit on DEG	Pass			USP
Limit on EG	Pass			USP
Limit on PG	Pass			USP

Notes: (1) Agreed Specification limits – no results reported

Product meets or exceeds all requirements of the United States Pharmacopeia (USP), European Pharmacopeia (EP) and the Food Chemicals Codex (FCC)

Lot Number and Traceability
Traceability may be maintained through the lot number indicated in this document.

Quality Assurance

Print Date: **08/28/2015**