



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

Date: 9/22/2015

PO #: 1733

Product: Glycerin 99.7% USP/K

Lot #: G150506-4W

Production Date: 5/6/2015

Parameter	Unit	Result	Specification	Test Method
Appearance		Transparent	Transparent	Visual
Identification A (IR)		Conform	Conform	USP 37 : 2014 (197F)
Identification B				
Diethylene Glycol	%	<0.10	0.10 max	USP 37 : 2014
Ethylene Glycol	%	<0.10	0.10 max	USP 37 : 2014
Identification C (Confirmation of Glycerin by GC)		Conform	Conform	USP 37 : 2014
Glycerin Content	%	99.8	99.7 min	USP 37 : 2014
Inorganic Impurities:				
Chloride Content	ppm	<10	10 max	USP 37 : 2014 (221)
Sulfate Content	ppm	<20	20 max	USP 37 : 2014 (221)
Heavy Metals as Pb	ppm	<5	5 max	USP 37 : 2014 (231)
Residue on Ignition	%	0.006	0.01 max	USP 37 : 2014 (281)
Organic Impurities				
Individual Impurities	%	NIL	0.10 max	USP 37 : 2014
Total Impurities	%	NIL	1.0 max	USP 37 : 2014
Chlorinated Compounds	ppm	<30	30 max	USP 37 : 2014
Fatty Acids & Esters (as mL of 0.5N NaOH/50 g)		0.30	1 max	USP 37 : 2014
Specific Gravity @ 25		1.2614	1.2612 min	USP 37 : 2014 (841)
Moisture Content	%	0.13	0.3 max	USP 37 : 2014 (921)
Color	APHA	5	10 max	AOCS Ea 9-65

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Date: 6/19/15

PO #: 1700

Product: Glycerin 99.7% USP/K

Lot #: G150509-3W

Production Date: 5/9/2015

Parameter	Unit	Result	Specification	Test Method
Appearance		Transparent	Transparent	Visual
Identification A (IR)		Conform	Conform	USP 37 : 2014 (197F)
Identification B				
Diethylene Glycol	%	<0.10	0.10 max	USP 37 : 2014
Ethylene Glycol	%	<0.10	0.10 max	USP 37 : 2014
Identification C (Confirmation of Glycerin by GC)		Conform	Conform	USP 37 : 2014
Glycerin Content	%	99.8	99.7 min	USP 37 : 2014
Inorganic Impurities:				
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Residue on Ignition	%	0.006	0.01 max	USP 37 : 2014 (281)
Organic Impurities				
Individual Impurities	%	NIL	0.10 max	USP 37 : 2014
Total Impurities	%	NIL	1.0 max	USP 37 : 2014
Chlorinated Compounds	ppm	<30	30 max	USP 37 : 2014
Fatty Acids & Esters (as mL of 0.5N NaOH/50 g)		0.22	1 max	USP 37 : 2014
Specific Gravity @ 25		1.2614	1.2612 min	USP 37 : 2014 (841)
Moisture Content	%	0.14	0.3 max	USP 37 : 2014 (921)
Color	APHA	5	10 max	AOCS Ea 9-65