



GEORGIA WAREHOUSE
3939 Royal Drive, Suite 139,
Kennesaw, GA, 30144

MICHIGAN WAREHOUSE
25991 Northline Commerce Dr.
Unit 504 Taylor, MI 48180

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

DATE : 18-Feb-17

CERTIFICATE OF ANALYSIS

QUANTITY/COMMODITY : 160 MT (640 DRUMS)
GLYCERINE - USP/KOSHER 99.7% MIN

PACKING : IN 250KG NEW LINED STEEL DRUMS, PALLETIZED

BUYER'S PO NUMBER : TK121916HOU

MANUFACTURING DATE : FEBRUARY 09, 2017; FEBRUARY 10, 2017; FEBRUARY 11, 2017

BEST BEFORE : FEBRUARY 09, 2019; FEBRUARY 10, 2019; FEBRUARY 11, 2019

VESSEL : MSC REUNION V.HC706R/ANNA MAERSK V.706W

PI NO : 100216RK2739 A

CONTAINER / BATCH NO : TCKU 3744861 (G170209-3W); MEDU 6550455 (G170209-4W); GLDU 3666223 (G170210-3W);
MEDU 6024569 (G170209-1W); FCIU 3561237 (G170209-2W); GLDU 5685937 (B170210-4W);
TCKU 2263183 (G170210-5W); GLDU 3543276 (G170211-3W).

A COMPOSITE SAMPLE WAS DRAWN FROM THE ABOVE-MENTIONED CONSIGNMENT FOR ANALYSIS. ON ANALYSIS THE FOLLOWING RESULTS WERE OBTAINED :

Parameter	Unit	Result	Specification	Test Method
Appearance		Transparent	Transparent	Visual
Identification A (IR)		Conform	Conform	USP 39 : 2016 (197F)
Identification B				
- Diethylene Glycol	%	<0.10	0.10 max	USP 39: 2016
- Ethylene Glycol	%	<0.10	0.10 max	USP 39: 2016
Identification C		Conform	Conform	USP 39: 2016
(Confirmation of Glycerin by GC)				
Glycerine Content	%	99.8	99.7 min	USP 39 : 2016
Inorganic Impurities :				
- Chloride Content	ppm	<10	10 max	USP 39: 2016 (221)
- Sulfate Content	ppm	<20	20 max	USP 39: 2016 (221)
- Residue on Ignition	%	0.007	0.01 max	USP 39: 2016 (281)
Organic Impurities :				
- Related Compounds				
- Individual Impurities	%	NIL	0.10 max	USP 39: 2016
- Total Impurities	%	NIL	1.0 max	USP 39: 2016
- Chlorinated Compounds	ppm	<30	30 max	USP 39: 2016
Fatty Acids & Esters (as mL of 0.5N NaOH/50 g)		0.40	1 max	USP 39: 2016
Color (mL FeCl3)	-	<0.4	0.4 max	USP 39: 2016
Specific Gravity @ 25		1.2614	1.2612 min	USP 39: 2016 (841)
Moisture Content	%	0.11	0.3 max	USP 39: 2016 (921)
Color	APHA	5	10 max	AOCS Ea 9-65
Heavy Metal as Pb	ppm	< 5	5 max	USP 39 : 2016 (231)