

DATE : 29 APRIL 2017

**CERTIFICATE OF ANALYSIS**

QUANTITY/COMMODITY : 60 MT (240 DRUMS)  
GLYCERINE - USP/KOSHER 99.7% MIN

PACKING : IN 250KG NEW LINED STEEL DRUMS,PALLETIZED

MANUFACTURING DATE : APRIL 23, 2017; APRIL 25, 2017; APRIL 27, 2017

BEST BEFORE : APRIL 23, 2018; APRIL 25, 2018; APRIL 27, 2018

VESSEL : MSC CARLA 3 V.HC716R / COLUMBINE MAERSK V. 717W

PI NO : 100217RK0892-A

CONTAINER / BATCH NO : TCKU 3634289 (G170423-3W) ; DRYU 2513073 (G170425-1W)  
MEDU 2195938 (G170427-2W)

BUYER'S PO NUMBER:TK021017HOU

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

	<u>Unit</u>	<u>Result</u>	<u>Specification</u>	<u>Test Method</u>
Batch No				
Appearance		Transparent Conform	Transparent Conform	Visual USP 39 : 2016 (197F)
Identification A (IR)				
Identification B	%	<0.10	0.10 max	USP 39: 2016
- Diethylene Glycol	%	<0.10	0.10 max	
- Ethylene Glycol				
Identification C		Conform	Conform	USP 39: 2016
(Confirmation of Glycerin by GC)	%	99.8	99.7 min	USP 39 : 2016
Glycerine Content				
Inorganic Impurities :	ppm	<10	10 max	USP 39: 2016 (221)
- Chloride Content	ppm	<20	20 max	USP 39: 2016 (221)
- Sulfate Content	%	0.007	0.01 max	USP 39: 2016 (281)
- Residue on Ignition				
Organic Impurities :				
- Rela - 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		0.25	1 max	USP 39: 2016
(as mL of 0.5N NaOH/50 g)	-	<0.4	0.4 max	USP 39: 2016
Color (mL FeCl3)		1.2614	1.2612 min	USP 39: 2016 (841)
Specific Gravity @ 25	%	0.12	0.3 max	USP 39: 2016 (921)
Moisture Content	APHA	5	10 max	AOCS Ea 9-65
Color	ppm	< 5	5 max	USP 39 : 2016 (231)
Heavy Metal as Pb				

**PT. WILMAR NABATI INDONESIA**

**Jusuf Gohanmin**  
QC Head