

BRENTAG MID-SOUTH

PURCHASE ORDER #:

781050

Material ID: REFINED GLYCERINE USP 99.7%

PICK UP #:

1025017337

REMAINING BALANCE FROM TANK 350 WAS TRANSFERED INTO TANK 311 ON 5/14/2018



Wilmar Oleo North America LLC
11200 Broadway
Suite 2338
Pearland, Texas 77584

CERTIFICATE OF ANALYSIS

Product: GLYCERIN 99.7%, USP
Trade Name: WILFARIN™ USP-987
Vessel/Voyage: "Ginga Lynx" Voyage # 1801
Terminal/Location: Hudson Tank, Port Newark, NJ
Sample Drawn From: Shore Tank 350
Date: April 18, 2018
Lot Number: 350-18-108
Date of Manufacture: March 8, 2018
LSI WO Number: CM180149-24

Lot#
379380018144001

| TEST | SPECIFICATION | RESULT |
|---|---------------------------------------|----------------|
| Description | To Pass | Passes |
| Solubility | To Pass | Passes |
| Color (Color, Pt-Co) | To Pass (10 max) | Passes (2) |
| Identification (A) - IR | To Pass | Passes |
| Identification (B) - Limit of EG and DEG | | |
| Diethylene Glycol, wt. % | 0.10 max | Less than 0.10 |
| Ethylene Glycol, wt. % | 0.10 max | Less than 0.10 |
| Identification (C) - Confirmation of Glycerin by GC | To Pass | Passes |
| Related Compounds | To Pass | Passes |
| Total Impurities, wt. % | 1.0 max | Less than 1.0 |
| Individual Impurities, wt. % | 0.10 max | Less than 0.10 |
| Specific Gravity @25/25°C | 1.2612 min | 1.2616 |
| Residue on Ignition | 5.0 mg/50 gm max | 0.8 |
| Residue on Ignition, wt% | 0.01 max | 0.002 |
| Sulfuric Acid Heat Test, APHA | 80 max | 20 |
| Water, wt. % | 0.3 max | 0.04 |
| Chloride, ppm | < 10 | Passes |
| Sulfate, ppm | < 20 | Passes |
| Heavy Metals | < 5 µg/g (ppm) | Passes |
| Chlorinated Compounds, ppm | < 30 | Passes |
| Assay, Anhydrous Basis, wt. % | 99.0 - 101.0 | 99.9 |
| Fatty Acids and Esters (mL of 0.5 N NaOH) | < 1 mL | Passes |
| Residual Solvents | Compliant | Compliant |
| Fatty Acids and Esters, wt. % | Report | 0.002 |
| Appearance | Clear and free of suspended matter | Passes |
| Odor | Characteristic | Passes |

"Product tested per customer in reference to USP 40th Edition Monograph for Glycerin."

Christopher LeGros
Christopher LeGros
Laboratory Associate

Laboratory Service Inc., Main Office and Lab: 85 Lafayette Street, Carteret, NJ 07008 (732) 541-5151
Port of Houston Lab: 11731 Port Road, Seabrook, TX 77586 (281) 474-1300
Port of Savannah Lab: 1084 West Lathrop, Savannah, GA 31415 (912) 334-4488

IMPORTANT: All information provided is believed to be accurate and complete. The data provided is representative of the product quality on the date of analysis for the lot number indicated. This certificate of analysis may not include all of the constituents of the product. Persons using this information should make their own determination regarding its suitability for their particular application. This certificate of analysis shall not in any way limit or preclude the operation and effect of the applicable terms and conditions of sale.