



4650 South Racine Avenue Chicago, Illinois USA 60609 P +1 773 376 9000 F +1 773 376 7428 www.vantagegrp.com

Certificate of Analysis

Product Name: VYCERIN™ GL88 - ACS GRADE Product Code: CGL88.K2.24
 Product Grade: 99.7% Glycerin ACS, USP Customer Reference:
 Order Number: Customer P.O.:
 Lot Number: Date of Manufacture: 14/Apr/2019
 Recommended Reval. Date: 12 months
 Order Quantity (lbs): 40000 Vehicle:

Based on quarterly testing, we certify that this product complies with current ACS and USP requirements: Chlorides (as Cl) <10ppm, Chlorinated Compounds (as Cl) <30 ppm, Heavy Metals (as Pb) <2ppm, Passes ID tests (IR Scan, Chromatographic retention time), Residual Solvents; Diethylene glycol, Ethylene glycol and other impurities.

Component Names	Results	Units	Specification	SOP Ref.
Acidity	0.2	mL	Result <=0.6	6.01 CHI gen
Sulfate, ACS limit	Less than 0.001%		Less than 0.001%	6.33
Silver Nitrate Test	Colorless, No Precipitate			6.30
Appearance	Clear colorless liquid			4.01
Residue after Ignition	0.003	%	Result <=0.005	6.05
APHA Color	8.0		Result <=10.0	6.10
Substances Darkened by H2SO4	Pass		Pass	6.18
Fatty Acid Esters as Butyric	0.4	mL HCl	Result <=2.3	6.13
Fatty Acids & Esters	0.3	mL NaOH	Result <=1.0	6.12
% Glycerin ACS GC, Anhydrous	99.9		Result >=99.5	6.06
Glycerin by SMP - USP	99.8	%	99.5 <= Result <=100.0	6.20
Acrolein and Glucose	Pass		Pass	6.02
Water	0.1	%	Result <=0.5	1.19
Neutral to Litmus	Pass		Pass	6.24
Odor General Description	Characteristic			6.26
Specific Gravity @25 °C	1.2614		Result >=1.2613	6.32
Glycerin by Sp. Gr.	99.8	%	Result >=99.7	6.32

Approver Name: Syed Ali QC Supervisor
Date Approved: 15/Apr/2019

ISO 9001:2015 Certified since 1993

The preceding data is provided for the convenience of the customer and does not constitute a guarantee nor does it relieve the purchaser of normal liability for inspection of material upon delivery or prior to use. No representation as to FDA regulated use are made for this product unless it is designated as meeting USP Grade.