



**OLIN CORPORATION
SALES SPECIFICATION**

Date Printed: 2015-11-06

Effective Date: 11/05/2015

Supersedes Date: 09/29/2015

Name: OPTIM™ Glycerine 99.7%, USP/EP

Specification Number: 000000108950

Previous Specified Material: 00008439

Additional Product Information:

Clear, Viscous, Hygroscopic Liquid

Shelf Life				
Container Type	Conditions of Handling	Conditions of Storage	Shelf Life	Deterioration Characteristics
Drum			36 Months	
Plastic Container (IBC)			36 Months	
Bulk			36 Months	

Government and Industry Standards

EUROPEAN PHARMACOPOEIA (EP)

THE UNITED STATES PHARMACOPEIA (USP)

FOOD CHEMICALS CODEX (FCC)

E 422 Glycerol food additive purity criteria

Final Testing Requirements				
Test and Test Condition	Limit	Unit	Method	Note
Assay, on Anhydrous Basis	99.0 — 101.0	%	Current USP	
Chloride	10 Max	ppm	Current USP	

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Test and Test Condition	Limit	Unit	Method	Note
Fatty Acids & Esters, consumption of 0.5N NaOH per 50g Test Frequency:	1 Max annually	ml	Current USP	
ID Test A, IR Test Frequency:	Pass quarterly		Current USP	
ID Test B, Limit of Diethylene Glycol	0.10 Max	%	Current USP	
ID Test B, Limit of Ethylene Glycol	0.10 Max	%	Current USP	
ID Test C, Retention Time	Pass		Current USP	
Related Compounds, Individual impurities NMT 0.1 %	Pass		Current USP	
Related Compounds, Total Impurities	1.0 Max	%	Current USP	
Water Content	5.000 Max	%	Current USP	
Spec. Grav. @ 25C Test Frequency:	1.249 Min annually		Current USP	
Heavy Metals, as Pb Test Frequency:	5 Max quarterly	ppm	Current USP	
Chlorinated Compounds Test Frequency:	30 Max quarterly	ppm	Current USP	
Residue on Ignition Test Frequency:	0.01 Max annually	%	Current USP	
Sulfate Test Frequency:	20 Max quarterly	ppm	Current USP	
Assay	98.0 — 101.0	%	Current EP	
Acidity/Alkalinity, consumption of 0.1M NaOH	0.2 Max	ml	Current EP	

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Test and Test Condition	Limit	Unit	Method	Note
Aldehydes	10 Max	ppm	Current EP	
Appearance, clear & colorless solution	Pass		Current EP	
Impurity A, and related substances, (Diethylene glycol)	0.1 Max	%	Current EP	
Total Impurities, with RT greater than RT of glycerol	0.5 Max	%	Current EP	
Any other impurity, with RT less than RT of glycerol, max 0.1%	Pass		Current EP	
Halogenated Compounds Test Frequency:	35 Max quarterly	ppm	Current EP	
ID Test A, Refractive Index @ 20degC	1.470 — 1.475		Current EP	
ID Test B, IR Test Frequency:	Pass quarterly		Current EP	
Chlorides	10 Max	ppm	Current EP	
Heavy Metals, as Pb Test Frequency:	5 Max quarterly	ppm	Current EP	
Sulfated ash Test Frequency:	0.01 Max annually	%	Current EP	
Esters, consumption of 0.1M HCl Test Frequency:	8.0 Min quarterly	ml	Current EP	
Sugars Test Frequency:	Pass annually		Current EP	
Water Content	2.000 Max	%	Current EP	
Assay	99.70 Min	%	DOWM 102399	

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Test and Test Condition	Limit	Unit	Method	Note
Color, Pt-Co	10 Max		ASTM D1209	
Water Content	0.300 Max	%	ASTM E203	
Spec. Grav. @ 25C	1.2615 — 1.2635		ASTM D4052	
Test Frequency:	annually			

General Notes

- 1 Note :
 Values reported for Assay on Anhydrous, ID Test B: Limit of Ethylene Glycol and Diethylene Glycol, ID Test C: Retention Time, Related Compounds (Individual and Total Impurities) under USP and for Assay, Aldehydes, Impurities & related substances under EP are obtained using the validated Dow GC Method DOWM 102399.

- 2 Compliance with FCC and EU food additive regulation is determined by testing on a statistical basis with defined frequencies.

- 3 Container Standards:
 Packaging - Unless otherwise specified, this product will be packaged in bulk, drums, or plastic containers (IBCs).
 Labelling - Minimum container markings shall include:
 Product Name
 Batch Number
 Net Weight
 Appropriate Warning Label

- 4 OPTIM Glycerine 99.7% USP/EP complies with the requirements for Residual Solvents per the current edition of The United States Pharmacopeia/National Formulary (USP/NF) and the ICH Residual Solvents Guidelines. OPTIM Glycerine 99.7% USP/EP is not manufactured with or does not contain any Class 1 or Class 2 solvents. Only a class 3 solvent is likely to be present. Analysis of every batch of OPTIM Glycerine 99.7% USP/EP by gas chromatography confirms the absence of this class 3 solvent below a detection limit of 0.01%.

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External Notes

- 1 Government and Industry Standards:
Meets all current requirements of USP, EP, FCC and EU Additive Regulation (E422) or a more rigid Olin Specification.
- 2 The foregoing statements are valid up to, but not beyond, delivery to our primary customers. Any subsequent handling, repackaging, storage, processing, etc. render these claims void and unsubstantiated by Olin Corporation.

READ PRECAUTIONARY INFORMATION AND MATERIAL SAFETY SHEETS. THIS PRODUCT IS SHIPPED IN COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS REGARDING CLASSIFICATION, PACKAGING, SHIPPING AND LABELING.