



Shell Chemicals

Certificate of Analysis

Shell Product : IPA USP
Shell Spec. No. : S1144 / 1020
Customer Product : IPA USP
 Cust PO/Indent :
 Sales Order/Item : Package Type : BULK
 Delivery Number : Vehicle/Vessel :
 Despatch Date : AUG.01.2024 Shipping Loc :
 Inspection Lot : 000003349080

Property	Units	Minimum	Maximum	Result	N	Method
Purity	%m/m	99.8		99.9		DIN 55685
Water	%m/m		0.10	0.03		ASTM D1364
Acidity as acetic acid	%m/m		0.001	0.000		ASTM D1613
Water Miscibility	Miscible			Pass		ASTM D1722
Nonvolatile Residue	g/100ml		0.001	0.000		ASTM D1353
Appearance	Clear & Free From Suspended Matter			Pass		ASTM D4176
Identification Test	Pass			Pass		USP 197F
Color, Pt-Co			5	5	4	ASTM D1209
Specific Gravity @25C		0.783	0.787		1	ASTM D4052
Density @20C	g/ml	0.785	0.786	0.786	4	ASTM D4052
Distillation, IBP	°C	81.8		81.8	4	ASTM D1078
Distillation, DP	°C		82.8	82.8	4	ASTM D1078
Refractive Index @20C		1.376	1.378	1.377	4	ASTM D1218
Individual Impurities per USP	Pass			Pass		DIN 55685
Methanol	ppm		200	< 10		DIN 55685
UV Absorbance @230 nm			0.30	0.08		USP
UV Absorbance @250 nm			0.10	0.01		USP
UV Absorbance @270 nm			0.03	0.00		USP
UV Absorbance @290 nm			0.02	0.00		USP
UV Absorbance @310 nm			0.01	0.00		USP

(N)otes : 1-Agreed Specification limits - no results reported
 4-Agreed Specification limits - no results: Statistical average value reported



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Product as produced and handled through loading complies with current Good Manufacturing Practices (GMPs) according to USP General Chapter 1078; the current US Pharmacopoeia [USP] / National Formulary Monograph [NF]; ASTM D770; DIN 53245; European Pharmacopoeia; ACS 10th Edition Reagent Grade (General Use).

Individual Impurities per USP: ethyl ether, acetone, diisopropyl ether, 1-propanol, 2-butanol

Shell Chemicals certifies that these results are based upon sampling and testing procedures in place at the time of production