INEOS Oxide

Sales Specification

QUANTUM Specialty Ethanolamines® Trolamine 99 NF

Product Code: 87736	Material ID: 0824LN	CAS No.: 102-71-6 (TEA)

Specification	Min	Max	Unit	Method
Triethanolamine Assay	99.60		%	INEOSM 100106
Monoethanolamine		0.05	%	INEOSM 100106
Diethanolamine		0.10	%	INEOSM 100106
Water Content (KF)		0.20	%	ASTM E1064
Color, Pt-Co		30	APHA	ASTM D1209
Apparent Equivalent Weight	148.00	150.00	-	INEOSM 100200
Assay[1]	99.00	107.40	Wt. %	Current NF
Specific Gravity	1.120	1.128	-	Current NF
Residue on Ignition		0.05	%	Current NF
Refractive Index at 20 °C	1.481	1.486	-	Current NF
Identification Tests (A, B, C)		Pass	-	Current NF
Organic Volatile Impurities		Pass	-	Current NF
Residual Solvents		Pass	-	Current NF
Appearance	Colorless to light amber			-
Odor	Slight Ammonia			-

[1] Current NF tests performed quarterly

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USP/NF Chapters < 232> and <233> Elemental Impurities

Element	Class	Max (µg/kg)	MDL (µg/kg)	Typical[2]	Unit	Method
Cadmium	1	200	0.11	MDL	ppb	ICP -MS
Lead	1	500	0.09	MDL	ppb	ICP -MS
Arsenic	1	200	0.07	0.20	ppb	ICP -MS
Mercury	1	100	0.24	MDL	ppb	ICP -MS
Cobalt	2A	300	0.70	MDL	ppb	ICP -MS
Vanadium	2A	100	0.39	MDL	ppb	ICP -MS
Nickel	2A	500	1.18	2.70	ppb	ICP -MS
Thallium	2B	800	0.11	MDL	ppb	ICP -MS
Gold	2B	100	0.58	MDL	ppb	ICP -MS
Palladium	2B	100	0.24	MDL	ppb	ICP -MS
Iridium	2B	100	0.02	MDL	ppb	ICP -MS
Osmium	2B	100	0.17	MDL	ppb	ICP -MS
Rhodium	2B	100	0.59	MDL	ppb	ICP-MS
Ruthenium	2B	100	0.46	MDL	ppb	ICP -MS
Selenium	2B	8,000	24.8	MDL	ppb	ICP -MS
Silver	2B	700	0.22	0.23	ppb	ICP-MS
Platinum	2B	100	0.07	MDL	ppb	ICP -MS
Lithium	3	2,500	0.01	0.02	ppb	ICP -MS
Antimony	3	2,000	0.05	0.09	ppb	ICP -MS
Barium	3	30,000	0.02	0.09	ppb	ICP -MS
Molybdenum	3	1,000	0.29	0.50	ppb	ICP-MS
Copper	3	3,000	1.21	MDL	ppb	ICP -MS
Tin	3	6,000	0.22	0.30	ppb	ICP-MS
Chromium	3	300	0.40	0.41	ppb	ICP-MS

[2]Typical based on quarterly samples

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