

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2023-09-15 10:40:39  
Date of Next Testing: 2027-09-14 10:40:39  
Product Name: **Diethanolamine**  
CAS Number: 111-42-2  
Specifications & Purity: Ultra pure grade, ≥99.5%  
Lot #: I2306026  
SKU #: **D112357**  
**Analysis:** **150907**  
Storage Temperature: Room temperature, Desiccated

Parameter	Limit Values	Result
Aluminum(Al)	0-1 (ppm)	0.00 ppm
Purity(GC)	99.5-100 (%)	99.59%
Copper(Cu)	0-1 (ppm)	0.60 ppm
Chromium(Cr)	0-1 (ppm)	0.00 ppm
Magnesium(Mg)	0-1 (ppm)	0.00 ppm
Strontium(Sr)	0-1 (ppm)	0.00 ppm
(As)Arsenic	0-0.1 (ppm)	0.00 ppm
PH(25 °C, 1 M in Water)	11-12	11.40
UV Absorbance 280nm	0-0.02	0.01
Iron(Fe)	0-1 (ppm)	0.00 ppm
Lead(Pb)	0-1 (ppm)	0.00 ppm
Refractive index n20/D	1.474-1.479	1.48
UV Absorbance 260nm	0-0.04	0.03
Lithium(Li)	0-1 (ppm)	0.00 ppm
Nickel(Ni)	0-1 (ppm)	0.00 ppm
Potassium(K)	0-20 (ppm)	0.00 ppm
Cobalt(Co)	0-1 (ppm)	0.00 ppm
Bismuth(Bi)	0-1 (ppm)	0.00 ppm
Water by Karl Fischer	0-0.2 (%)	0.10 %
Manganese(Mn)	0-1 (ppm)	0.01 ppm
Barium(Ba)	0-1 (ppm)	0.00 ppm
Zinc(Zn)	0-1 (ppm)	0.00 ppm
Cadmium(Cd)	0-1 (ppm)	0.00 ppm
Calcium(Ca)	0-5 (ppm)	0.00 ppm
Sodium(Na)	0-20 (ppm)	0.00 ppm
Carbonate(CO3)	0-0.2 (%)	0.13 %

---

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

Parameter	Limit Values	Result
Molybdenum(Mo)	0-1 (ppm)	0.00 ppm
Appearance (D112357)	colorless viscous liquid	colorless viscous liquid
Insoluble matter	pass	Pass
Solubility in H2O , soluble , 1M , 20°C, clear, colorless λ,1 M in H2O	pass Pass	Pass Pass



John Su  
QA & QC Manager