

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2022-12-08 13:57:46  
Date of Next Testing: 2026-12-07 13:57:46  
Product Name: **Piperazine Dihydrochloride Monohydrate**  
CAS Number: 142-64-3  
Specifications & Purity: >98.0%(T)  
Lot #: L2201788  
SKU #: **P160724**  
Analysis: **123502**

Parameter	Limit Values	Result
Purity(Argentmetric Titration)(calcd.on anh.substance)	97.5-102.5 (%)	100.51 %
Proton NMR spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager