

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-07-04 10:56:36  
 Date of Next Testing: 2028-07-03 10:56:36  
 Product Name: **N-(2-Hydroxyethyl)piperazine**  
 CAS Number: 103-76-4  
 Specifications & Purity:  $\geq 98\%$   
 Lot #: G2401094  
 SKU #: **H101744**  
 Version: **0**  
 Analysis #: **141120**  
 Storage Temperature: Room temperature

| Parameter                          | Limit Values          | Result                |
|------------------------------------|-----------------------|-----------------------|
| Purity(GC)                         | 98-100 (%)            | 98.04600 %            |
| Density (20°C)                     | 1.061-1.063           | 1.06200               |
| Water by Karl Fischer              | 0-0.5 (%)             | 0.22000 %             |
| Refractive index n <sub>20/D</sub> | 1.5055-1.5075         | 1.50650               |
| Appearance (H101744)               | Colorless Liquid      | Colorless liquid      |
| Infrared spectrum                  | Conforms to Structure | Conforms to Structure |



John Su  
QA & QC Manager