

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

## Certificate of Analysis

Date of Testing: 2024-06-03 17:12:23  
Date of Next Testing: 2028-06-02 17:12:23  
Product Name: **Ethyl 4-oxo-1-piperidinecarboxylate**  
CAS Number: 29976-53-2  
Specifications & Purity:  $\geq 98\%$   
Lot #: E2413332  
SKU #: **E109371**  
Version: **1**  
Analysis #: **364209**  
Storage Temperature: Argon charged

| Parameter                           | Limit Values               | Result                     |
|-------------------------------------|----------------------------|----------------------------|
| Purity(GC)                          | 98-100 (%)                 | 99.01%                     |
| Water by Karl Fischer               | 0-0.5 (%)                  | 0.39%                      |
| Density (20°C)                      | 1.137-1.14                 | 1.14                       |
| Refractive index n <sub>20</sub> /D | 1.474-1.477                | 1.47                       |
| Appearance (E109371)                | Colorless to Yellow Liquid | Colorless to Yellow Liquid |
| Proton NMR spectrum                 | Conforms to structure      | Conforms to Structure      |



John Su  
QA & QC Manager