

## Certificate of Analysis

Date of Testing: 2023-03-08 16:05:47

Date of Next Testing: 2027-03-07 16:05:47

Product Name: **1,4-Dimethylpiperazine**

CAS Number: 106-58-1

Specifications & Purity: >98.0%(GC)

Lot #: B2328196

SKU #: **D124551**

**Analysis:** **196236**

Storage Temperature: Argon charged

| Parameter                           | Limit Values                           | Result                                 |
|-------------------------------------|----------------------------------------|----------------------------------------|
| Purity(NonaqueousTitration)         | 98-100 (%)                             | 98.80 %                                |
| Refractive index n <sub>20</sub> /D | 1.445-1.448                            | 1.45                                   |
| Purity(GC)                          | 98-100 (%)                             | 99.63 %                                |
| Density (20°C)                      | 0.852-0.855                            | 0.85                                   |
| Appearance (D124551)                | Colorless to Light yellow clear liquid | Colorless to Light yellow clear liquid |
| Proton NMR spectrum                 | Conforms to structure                  | Conforms to Structure                  |



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