

## Certificate of Analysis

Date of Testing: 2023-07-01 14:05:06  
Date of Next Testing: 2027-06-30 14:05:06  
Product Name: **2,3-Butanedione**  
CAS Number: 431-03-8  
Specifications & Purity: 98%  
Lot #: F23161025  
SKU #: **B104601**  
**Analysis:** **239357**  
Storage Temperature: Store at 2-8°C, Argon charged

Parameter	Limit Values	Result
Density (20°C)	0.984-0.988	0.99
Refractive index n <sub>20</sub> /D	1.393-1.397	1.39
Purity(GC)	98-100 (%)	99.58 %
Appearance (B104601)	Yellow to Yellow-Green Liquid	Yellow to Yellow-Green Liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure



John Su  
QA & QC Manager