

## Certificate of Analysis

Date of Testing: 2022-08-22 18:35:42

Date of Next Testing: 2026-08-21 18:35:42

Product Name: **1-Chlorobutane**

CAS Number: 109-69-3

Specifications & Purity: for HPLC, ≥99.5%

Lot #: H2212070

SKU #: **C103252**

**Analysis:** **121704**

Storage Temperature: Room temperature

Parameter	Limit Values	Result
Alkalinity (as NH3)	0-0.0002 (%)	0.00 %
free acid (as HCl)	0-0.001 (%)	0.00 %
Purity(GC)	99.5-100 (%)	99.90 %
UV Absorbance 230nm	0-0.2	0.13
UV Absorbance 250nm	0-0.01	0.00
Evaporation Residue	0-0.001 (%)	0.00 %
Refractive index n20/D	1.401-1.403	1.40
UV Absorbance 240nm	0-0.02	0.02
Water by Karl Fischer	0-0.01 (%)	0.01 %
Appearance (C103252)	Colorless liquid	Colorless liquid
Infrared spectrum	Conforms to Structure	Conforms to Structure
λ, H2O reference	Pass	Pass



John Su  
QA & QC Manager