

## CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek. Certificate Number. 2317548

Catalogue Number	42588
Lot Number	A0447179
Description	1-Chlorobutane,99.8%,for HPLC
CAS Number	109-69-3
Quality Test/Release Date	29/May/2025
Suggested retest date	29/May/2030
Country of Origin	INDIA
Declaration of Origin	synthetic
BSE/TSE	Not directly derived from or manufactured with any animal byproducts in any way (Including but not limited to fermentation or nutrient broth, catalysts, enzymes).

Result Name	Units	Specifications	Test Value
Appearance (Color)		Colorless	Colorless
Appearance (Form)		Liquid	Liquid
Color scale	APHA	=<10	10
Water	%	=<0.020	0.020
GC	%	>=99.7	99.9
Acidity	meq/g	=<0.0003	none detected
Residue after evaporation	ppm	=<2	=<2
UV		at 230 nm A: =<0.2	at 230 nm A:0.13
UV		at 240 nm A: =<0.05	at 240 nm A:0.016
UV		at 250 nm A: =<0.01	at 250 nm A:0.004
UV		1 cm cell vs HPLC-grade water	1 cm cell vs HPLC-grade water
Filtered to 0.2 micrometer		Filtered	Filtered



Geert Torfs  
Supervisor, QC

Products are processed under ISO 9001:2015 quality management systems and samples are tested for conformance to the noted specifications. Certain data may have been supplied by third parties. We disclaim the implied warranties of merchantability and fitness for a particular purpose, and the accuracy of third-party data or information associated with the product. Products are for research and development use only. Products are not for direct administration to humans or animals. It is the responsibility of the final formulator or end user to determine suitability, and to qualify and/or validate each product for its intended use.

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of the catalogue number listed above.