

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	16769
Lot Number	A0481459
Description	1-Butanol,99+%,for spectroscopy
CAS Number	71-36-3
Quality Test/Release Date	09/Mar/2026
Suggested retest date	09/Mar/2031
Country of Origin	UNITED KINGDOM
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 (Form)		Clear liquid	Clear liquid
Color scale	APHA	≤10	10
GC	%	≥99.0	99.9
Water	%	≤0.05 (Coulometric)	0.0021 (Coulometric)
UV		at 210 nm A: ≤0.602	at 210 nm A:0.3936
UV		at 220 nm A: ≤0.400	at 220 nm A:0.1057
UV		at 238 nm A: ≤0.097	at 238 nm A:0.019
UV		at 245 nm A: ≤0.046	at 245 nm A:0.0118
UV		at 270 nm A: ≤0.009	at 270 nm A:0.0038
UV		1 cm cell vs HPLC-grade water	1 cm cell vs HPLC-grade water
Residue after evaporation	%	≤0.0005	≤0.0005



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.