

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	45185
Lot Number	A0472184
Description	L-Alanine,99%,specified according to the requirements of Ph.Eur.
CAS Number	56-41-7
Quality Test/Release Date	23/May/2026
Suggested retest date	23/May/2028
Country of Origin	CHINA
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 to white to almost white	white
Appearance (Form)		Crystals or crystalline powder	crystalline powder
Infrared spectrum		Conforms	Conforms
Titration with HClO ₄	%	98.5 to 101.0 (dried substance)	100.4 (dried substance)
Appearance of solution		Clear and not more intensely colored than	Clear and not more intensely colored than
Appearance of solution		reference solution BY6	reference solution BY6
Specific optical rotation		+13.5° to +15.5° (20°C, 589 nm) (c=10, 6N HCl)	+14.6° (20°C, 589 nm) (c=10, 6N HCl)
Specific optical rotation		(dried substance)	(dried substance)
Loss on drying	%	≤0.5 (1 g, 105°C)	0.2 (1 g, 105°C)
Sulfated ash	%	≤0.1 (1 g, 600°C)	0.02 (1 g, 600°C)
Chlorides	ppm	≤200	≤200
Sulfates	ppm	≤300	≤300
Ammonium (NH ₄)	ppm	≤200	≤200
Iron (Fe)	ppm	≤10	≤10
Ninhydrin-positive substances	%	≤0.10 (Any ninhydrin-positive substance)	≤0.10 (Any ninhydrin-positive substance)
Ninhydrin-positive substances	%	≤0.5 (Total)	≤0.5 (Total)

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.