

## 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	18987
Lot Number	A0477240
Description	L(+)-Lactic acid,90% solution in water
CAS Number	79-33-4
Quality Test/Release Date	29/Oct/2025
Suggested retest date	29/Oct/2030
Country of Origin	SPAIN
Declaration of Origin	plant
BSE/TSE	The product is made by fermentation from sugar which is sourced from sugar beets

Result Name	Units	Specifications	Test Value
Appearance (Color)		Clear colorless to yellow	Clear colorless
Appearance (Form)		Liquid	Liquid
Infrared spectrum		Conforms	Conforms
Titration excess NaOH	%	>=88	90.3
Heavy metals (as Pb)	ppm	=<10	5
Sulfated ash	%	=<0.1	0.05
Refractive index		1.4260 to 1.4280 (20°C, 589 nm)	1.4277 (20°C, 589 nm)
Density	g/ml	(20°C) 1.2 to 1.21	(20°C) 1.2 to 1.21
Chloride (Cl)	%	=<0.2	0.001
Sulfate (SO4)	%	=<0.25	0.001
Iron (Fe)	ppm	=<10	=<5
Arsenic (As)	ppm	=<3	1
Identification		Passes test	Passes test
Sugars		Passes test	Passes test

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.