



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	13265
Lot Number	A0320778
Description	DL-Serine,99%
CAS Number	302-84-1
Quality Test/Release Date	30/Nov/2024
Suggested retest date	30/Nov/2029
Country of Origin	CHINA
Declaration of Origin	porcine

BSE/TSE The product is manufactured from porcine gelatine and poultry keratine

Result Name	Units	Specifications	Test Value
Appearance		white crystalline powder or crystals white crystalline powder	
Infrared spectrum		authentic	authentic
Titration Total base	%	98.5 to 101.5	98.7
Other amino acids	%	=<0.5 (TLC)	=<0.5 (TLC)
Loss on drying	%	=<0.3 (105°C, 3 hrs)	0.11 (105°C, 3 hrs)
Heavy metals (as Pb)	ppm	=<10	=<10
Sulfated ash	%	=<0.1	0.07
UV transmittance	%	>=95 (c=10, 2 N HCl, 430 nm) 1 cm cell	98 (c=10, 2 N HCl, 430 nm) 1 cm cell
Trace analysis		Type: Fe measure =< 10 ppm	Type: Fe measure =< 10 ppm
Trace analysis		Type: Cl measure =< 200 ppm	Type: CI measure =< 200 ppm
Trace analysis		Type: SO4 measure =< 500 ppm	Type: SO4 measure =< 200 ppm
Trace analysis		Type: NH4 measure =< 200 ppm	Type: NH4 measure =< 200 ppm

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.