

CERTIFICATE OF ANALYSIS

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by Intertek Global Certificate Number. CERT-0120633

Catalogue Number	J14035
Lot Number	218117
Description	L-CYSTEINE HYDROCHLORIDE MONOHYDRATE
CAS Number	7048-04-6
Quality Test/Release Date	14/Dec/2021
Suggested retest date	29/Sep/2026
Country of Origin	Japan
Declaration of Origin	Organic - Non Animal
BSE/TSE	This product is manufactured by a fermentation process. No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.

Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	White crystalline powder
ARSENIC (As)	ppm	<= 1.5	<1
ASSAY	%	Inclusive Between 98.5 - 101.5	100.5
CHLORIDE	%	Inclusive Between 19.8 - 20.8	20.14
HEAVY METALS	ppm	<= 10	<10
IDENTIFICATION, I.R.	Matches Reference	= MATCHES REFERENCE	MATCHES REFERENCE
IRON (Fe)	ppm	<= 10	<10
LOSS ON DRYING	%	Inclusive Between 8.0 - 12.0	10.07
RESIDUE ON IGNITION (SULFATED)	%	<= 0.1	<0.1
SPECIFIC ROTATION @ 25 C	DEGREES (+ OR -)	Inclusive Between 5.7 - 6.8	6.6
SULFATE (SO4)	%	<= 0.03	<0.02
THIN LAYER CHROMOTOGRAPHY	HOMOGENEOUS=	HOMOGENEOUS	HOMOGENEOUS



Harout Sahagian
QC Manager

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 use or further manufacturing. 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.