

Certificate of Analysis

Product Name: L-Cysteine Hydrochloride Monohydrate

Lot No.:

PKG Size:

Tomo Chemical Co. Ltd.

4th Floor, 4-7-19 Kudan-minami, Chiyoda-ku

Tokyo 102-0074 JAPAN

Test Item	Specification	Result
Appearance	White crystalline powder or powder	Passes test
Odor	Slightly characteristic odor	Passes test
Purity test		
Optical rotation $[\alpha]_D^{20}$	+5.5 - +7.0°	+6.30°
Solubility	Colorless	Passes test
Sulfate	max. 0.029 %	0.002 %
Heavy metal (as Pb)	max. 20 ppm	2.5 ppm
Arsenic (as As ₂ O ₃)	max. 1 ppm	In a range
Iron	max. 3 ppm	0.5 ppm
Cystine	Clear	Passes test
Loss on drying	8.5 - 12.0 %	10.30 %
Residue on ignition	max. 0.10 %	0.00 %
Content	98.0 - 102.0 %	100.40%

Inspecting Section Manager