

Certificate of Analysis

Product Name: N-Acetyl-L-cysteine

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
Purity test		
Optical rotation $[\alpha]_D^{20}$	+21.3 - +27.0°	+25.0°
Solubility	Colorless, Transmission max. 98.5%	99.80%
Chloride	max. 0.10 %	max. 0.02 %
Sulfate	max. 0.029 %	0.002 %
Heavy metal (as Pb)	max. 5 ppm	3.1 ppm
Iron	max. 1 ppm	In a range
Arsenic (as As ₂ O ₃)	max. 1 ppm	In a range
Other amino acids	None	In a range
Loss on drying	max. 0.50 %	0.00%
Residue on ignition	max. 0.05 %	0.04 %
Content	98.0 - 102.0 %	100.10%
pH	2.0 - 2.8	2.4

Inspecting Section Manager