

## Certificate of Analysis

Date of Testing: 2024-01-30 15:29:50  
 Date of Next Testing: 2028-01-29 15:29:50  
 Product Name: **N-Acetyl-L-Cysteine**  
 CAS Number: 616-91-1  
 Specifications & Purity: USP,EP,≥98.5%  
 Lot #: A2423074  
 SKU #: **A105421**  
**Analysis:** **302439**  
 Storage Temperature: Store at 2-8°C,Argon charged

Parameter	Limit Values	Result
Assay	98.5-100 (%)	99.83 %
Loss on drying	0-1 (%)	0.35 %
Total impurities	0-0.5 (µg/kg OR ng/g)	0.01 µg/kg OR ng/g
Other impurities	0-0.5 (%)	0.30 %
n,n'diacetyl-l-cystine	0-0.5 (%)	0.00 %
Ignition Residue (as sulfate)	0-0.2 (%)	0.03 %
Endonuclease Detection	0-0.1 (EU/g)	0.05 EU/g
Heavy metal (as Pb)	0-10 (ppm)	0.15 ppm
n,s-diacetyl-l- cysteine	0-0.5 (%)	0.17 %
l-cystine	0-0.5 (%)	0.02 %
Zinc(Zn)	0-10 (ppm)	0.07 ppm
PH test	2-2.8	2.30
l-cysteine	0-0.5 (%)	0.28 %
Specific Rotation [α] <sub>20</sub> /D(c=5 in Phosphate buffered saline)	21.3-27 (°)	24.86 °
Appearance (A105421)	white crystalline powder	white crystalline powder
biochemical toxicity	passes	passes
Solubility in H <sub>2</sub> O , 0.5 G /10 ML in water, clear, colorless	pass	Pass
volatile organic substances	pass	Pass
Infrared spectrum	Conforms to Structure	Conforms to Structure



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A handwritten signature in black ink that reads "John Su". The signature is written in a cursive, flowing style.

John Su  
QA & QC Manager