



Certificate of Analysis

L-Cysteine HCl Monohydrate USP/FCC/EP

Catalog Number: CY1004
Lot Number: 1019502
CAS Number: 7048-04-6
Molecular Formula: $C_3H_7NO_2S \cdot HCl \cdot H_2O$
Molecular Weight: 175.6
Storage: 15°C – 30°C, Keep away from strong heat or light
Date of Manufacture: May 20, 2015
Retest Date: May 19, 2017

| Test | Specification | Result |
|--|--|-------------------|
| Appearance | Fine white crystalline powder | Conforms |
| Assay(Dry Basis) | 98.5% – 101.5% | 99.8% |
| Specific Rotation | +5.7° - +6.8° | +6.0° |
| Identification | Infrared absorption | Conforms |
| State of Solution (Transmittance) | Clear & colorless ≥ 98% Not more intensely colored than BY6 | 99.0% Conforms |
| Moisture (LOD) | 8.0% - 12.0% | 9.5% |
| Residue on Ignition | ≤ 0.4% | 0.04% |
| Ammonium | ≤ 200ppm | < 200ppm |
| Sulfate | ≤ 0.03% | < 0.03% |
| Chromatographic Purity Individual | ≤ 0.5% | < 0.5% |
| Total | ≤ 2.0% | < 2.0% |
| Ninhydrin-positive Substances | ≤ 0.5% | < 0.5% |
| Heavy Metals | ≤ 15ppm | < 10ppm |
| Iron | ≤ 30ppm | < 10ppm |
| Lead | ≤ 3.0ppm | < 3.0ppm |
| Residual Solvents | To meet requirements | Conforms |
| Total Aerobic Count | ≤ 1000cfu/g | < 1000cfu/g |
| Mold & Yeast | ≤ 100cfu/g max | < 100cfu/g |
| Coliforms | ≤ 10 cfu/g max | < 10cfu/g |
| <i>S. aureus</i> | Negative | Negative |
| <i>E. coli</i> | Negative | Negative |
| <i>Salmonella</i> | Negative | Negative |
| <i>Pseudomonas</i> | Negative | Negative |
| This lot meets the specifications for USP36/FCC/EP7. | | |

Approved by:

John Grubb

Date: October 19, 2015



Gojira Fine Chemicals, LLC

Quality Products & Services Meeting Customer Needs
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