


CERTIFICATE OF ANALYSIS

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|----------------------|---|--------------|--------------|
| Product Name: | DL-Cysteine Base | Report Date: | Aug 04, 2017 |
| Formula: | C ₃ H ₇ NO ₂ S | Batch No.: | 170802 |
| CAS No.: | 3374-22-9 | Manu. Date: | Aug 02, 2017 |
| Inspection Standard: | AJI92 | Exp. Date: | Aug 01, 2019 |

RESULTS OF ANALYSIS

| Test Items | Specifications | Results |
|--------------------------------------|--|--|
| Appearance | White crystals or crystalline powder | Conforms |
| Specific rotation $[\alpha]_D^{20}$ | $\pm 1^\circ$ | +0° |
| Identification | Infrared Absorption | Conforms |
| State of solution (Transmittance) | Clear and colorless Not less than 95.0% | 99.0% |
| Chloride(Cl) | Not more than 0.10% | <0.10% |
| Iron(Fe) | Not more than 5ppm | <5ppm |
| Heavy Metals(Pb) | Not more than 10ppm | <10ppm |
| Arsenic | Not more than 1ppm | <1ppm |
| Other amino acids | Chromatographically not detectable | Conforms |
| Loss on drying | Not more than 0.2% | 0.08 |
| Residue on ignition(sulfated) | Not more than 0.10% | 0.04% |
| Assay | 98.0% to 102.0% | 99.5% |
| Conclusion: | Conforms to the specifications of AJI92. |  |

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