



## **CERTIFICATE OF ANALYSIS**

**PRODUCT NAME : L-CYSTEINE HYDROCHLORIDE (MONOHYDRATE)**

|                         |                                                                       |                     |                     |
|-------------------------|-----------------------------------------------------------------------|---------------------|---------------------|
| <b>CAS No</b>           | <b>: 7048-04-6</b>                                                    | <b>Product code</b> | <b>: 14040</b>      |
| <b>Mol. Formula</b>     | <b>: C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>S.HCl.H<sub>2</sub>O</b> | <b>Batch No</b>     | <b>: MCR-23465</b>  |
| <b>Mol. WT</b>          | <b>: 175.64</b>                                                       | <b>Mfd.</b>         | <b>: May 2021</b>   |
| <b>Date of analysis</b> | <b>: 29/05/21</b>                                                     | <b>Exp.</b>         | <b>: April 2026</b> |

| S.R | Test                                                  | Specification                           | Observation               |
|-----|-------------------------------------------------------|-----------------------------------------|---------------------------|
| 1   | Description                                           | White to Colourless crystalline powder. | White crystalline powder. |
| 2   | Assay (On dried basis)                                | 99% w/w min                             | 99.78%                    |
| 3   | Specific rotation $[\alpha]^{20}_D$<br>C = 2, 5 N HCl | + 5.5 to + 6.5 <sup>0</sup>             | + 6.25 <sup>0</sup>       |
| 4   | Loss on drying at 130°C                               | 9.0-11.5%                               | 9.20%                     |
| 5   | Sulphated ash                                         | 0.1% max                                | 0.04%                     |
| 6   | Sulphate (SO <sub>4</sub> )                           | 0.01% max                               | <0.01%                    |
| 7   | Iron (Fe)                                             | 0.001% max                              | <0.001%                   |
| 8   | Heavy metals (Pb)                                     | 0.001% max                              | <0.001%                   |

**REMARK:** THE PRODUCT COMPLIES WITH THE ABOVE SPECIFICATIONS

**[Tested By]**

**[QC Incharge]**

**HEAD-QUALITY ASSUARANCE  
(G.G.Salian)**

**Note:** Computer generated image requires no sign.

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