



# Certificate of Analysis

| Item Number                          | Product Description                       | Lot Number |
|--------------------------------------|-------------------------------------------|------------|
| CP-B1640D                            | Manganese Chloride Tetrahydrate USP, 1 KG | 22852303CP |
| Formula                              | Molecular Weight                          | Cas Number |
| MnCl <sub>2</sub> •4H <sub>2</sub> O | 197.91                                    | 13446-34-9 |

QC TEST/RELEASE DATE: 02/28/2023

SUGGESTED RETEST DATE: 11/29/2024

| S.No | Test                                                             | Unit | Specifications                                       | Test Value |
|------|------------------------------------------------------------------|------|------------------------------------------------------|------------|
| 1    | Appearance                                                       |      | Light pink crystals                                  | passed     |
| 2    | Assay                                                            | %    | 98.0 - 101.0                                         | 99.62      |
| 3    | Identification A                                                 |      | Gives reaction for Manganese                         | passed     |
| 4    | Identification B                                                 |      | Gives reaction for Chloride                          | passed     |
| 5    | Solubility (10%)                                                 |      | Clear, light pink                                    | passed     |
| 6    | pH (5%)                                                          |      | 3.5 - 6.0                                            | 5.3        |
| 7    | Moisture (LOD)                                                   | %    | 36.0 - 38.5                                          | 37.19      |
| 8    | Insoluble Matter                                                 | %    | ≤ 0.005                                              | 0.003      |
| 9    | Sulfate                                                          | %    | ≤ 0.005                                              | < 0.005    |
| 10   | Substances Not Precipitated By (NH <sub>3</sub> ) <sub>2</sub> S | %    | ≤ 0.2                                                | 0.12       |
| 11   | Iron                                                             | ppm  | ≤ 5                                                  | < 5        |
| 12   | Zinc                                                             |      | No turbidity within 5 minutes                        | passed     |
| 13   | Residual Solvents                                                |      | Water is the only solvent used during manufacturing. | passed     |
| 14   | BSE/TSE Free                                                     |      | BSE/TSE Free                                         | passed     |
| 15   | Country of Origin                                                |      | India                                                | passed     |
| 16   | Grade                                                            |      | USP                                                  | passed     |

This is to certify that samples of the lot number above were tested and found to comply with the stated specifications. Some or all data have been provided by vendors/third parties. ChemPure Brand Chemicals expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular use or purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in research and further manufacturing only. **NOT FOR USE IN FOOD, DRUG OR MEDICAL DEVICE MANUFACTURING.** Persons using this information should make their own determination regarding its suitability for their particular use. This is an electronically generated document and does not require signatures.