



**ChemPure\* Brand  
Chemicals**

...Pure Quality

### Certificate of Analysis

<b>Product:</b>	Manganese Chloride Tetrahydrate	ACS/Meets USP43-NF38
<b>Cat:</b>	CP-A1640D/CP-B1640D	
<b>Lot:</b>	0225103CP	
<b>CAS:</b>	13446-34-9	
<b>Molecular Formula:</b>	MnCl <sub>2</sub> ·4H <sub>2</sub> O	
<b>Molecular Weight:</b>	197.91	
<b>Manufacture Date:</b>	11/20/2020	
<b>Retest Date:</b>	11/19/2023	

#### Test

Appearance

Assay (on dried basis)

Identification A<sup>1</sup>, Rxn of Cl

Solubility (10%)

pH (5% solution in H<sub>2</sub>O)

Insoluble Matter

Substances not ppt'd by Ammonium Sulfide

Sulfate (SO<sub>4</sub>)

Heavy Metals (Lead)

Iron<sup>1</sup> (Fe)

Zinc<sup>1</sup> (Zn) (No turbidity in 5 min.)

Organic Volatile Impurities

<sup>1</sup>This lot meets the specifications for the USP43-NF38 Standard

#### Specification

##### Min.

##### Max.

#### Result

Pink, slightly deliquescent

98.0%

101.0%

To pass test

Clear, light pink

4.0

6.0

0.005%

0.2%

0.005%

4 ppm

5 ppm

To pass test

To pass test

Conforms

98.7%

Passes

Passes

5.18

0.003%

0.12%

<0.005%

3.3 ppm

<5 ppm

Passes

Passes

#### Quality Control Approval

Vyto Mekesa  
QC Director

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