



## Specification

### Manganese Sulfate Monohydrate ACS/USP/FCC/EP/BP

**Catalog Number:** MS1001  
**CAS Number:** 10034-96-5  
**Molecular Formula:**  $\text{MnSO}_4 \cdot \text{H}_2\text{O}$   
**Molecular Weight:** 169.02  
**Storage:** 15°C - 30°C  
**Retest Period:** Five years from the date of manufacture

Test	Specification
Appearance	Pale pink to almost white crystalline powder
Assay	99.0% - 101.0%
Identification	To pass test
Loss on Ignition	10.0% - 12.0%
Substances Reducing Permanganate	To pass test
Insoluble Matter	$\leq 0.01\%$
Chloride (Cl)	$\leq 0.005\%$
Calcium (Ca)	$\leq 0.005\%$
Magnesium (Mg)	$\leq 0.005\%$
Nickel (Ni)	$\leq 0.02\%$
Potassium (K)	$\leq 0.01\%$
Sodium (Na)	$\leq 0.05\%$
Zinc (Zn)	$\leq 0.005\%$
Heavy Metals (as Pb)	$\leq 0.002\%$
Iron (Fe)	$< 10$ ppm
Substances Not Precipitated By $(\text{NH}_3)_2\text{S}$	$\leq 0.5\%$
Arsenic (As)	$\leq 3$ mg/kg
Lead (Pb)	$\leq 4$ mg/kg
Selenium (Se)	$\leq 0.003\%$
Solubility	Freely soluble water, Insoluble ethanol
Residual Solvents	Only purified water used
Solution (10%) appearance	$\leq$ opalescent than reference solution

Approved:

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