



>>Entry Name: Manganese(II) nitrate (Mn(NO₃)₂), 11CI

CAS Registry Number: 10377-66-9

Related CAS Registry Numbers(s): 13224-08-3

Mn(NO₃)₂

Molecular Formula: MnN₂O₆

Molecular Weight: 178.948

Accurate Mass: 178.913685

Percentage Composition: Mn 30.70%; N 15.65%; O 53.64%

Source/Synthesis: Synth. by dehydration of the hydrate *in vacuo* over P₂O₅; or from MnCl₂ + N₂O₅

Physical Description: Hygroscopic pale red orthorhombic cryst.

Solubility: V. sol. H₂O, liq. NH₃, THF, MeCN; sol. EtOH, Me₂CO; insol. Et₂O

Other Data: μ_{eff} = 5.48μ_B

Aldrich: 34070-7

Fluka: 63533

>>Derivative: Monohydrate

CAS Registry Number: 63228-81-9

Source/Synthesis: Synth. by dehydration of the hexahydrate

Physical Description: Dark pink cryst.

Other Data: Contains *cis*-[MnO₄(OH₂)₂] octahedra and MnO₈ dodecahedra with four bidentate NO₃

>>Derivative: Dihydrate

Molecular Formula: H₄MnN₂O₈

Molecular Weight: 214.978

Accurate Mass: 214.934815

Percentage Composition: H 1.88%; Mn 25.56%; N 13.03%; O 59.54%

Source/Synthesis: Synth. from MnCl₂ and conc. HNO₃

Physical Description: Light pink cryst.

Other Data: Isostructural with Zn compd. Contains *trans*-[MnO₄(OH₂)₂] octahedra with bridging NO₃

>>Derivative: Tetrahydrate

CAS Registry Number: 20694-39-7

Molecular Formula: H₈MnN₂O₁₀

Molecular Weight: 251.009

Accurate Mass: 250.955945

Percentage Composition: H 3.21%; Mn 21.89%; N 11.16%; O 63.74%

Source/Synthesis: Synth. by drying the hexahydrate over conc. H₂SO₄ or P₂O₅ *in vacuo*

Use/Importance: Used commercially to colour porcelain and as an intermediate in preparation of specific forms of MnO₂

Physical Description: Hygroscopic pink cryst.

Other Data: *cis*-[Mn(NO₃)₂(OH₂)] octahedral struct. with Zn and Ni compds.

Fluka: 63547

Sigma: M4519

>>Derivative: Hexahydrate

Synonym(s): Hexaaquamanganese(II) nitrate. Manganese(II) nitrate hexahydrate

CAS Registry Number: 17141-63-8

Molecular Formula: H₁₂MnN₂O₁₂

Molecular Weight: 287.039

Accurate Mass: 286.977075

Percentage Composition: H 4.21%; Mn 19.14%; N 9.76%; O 66.89%

Source/Synthesis: Synth. from MnCO₃ and dil. HNO₃

Melting Point: Mp 25.8° (25°)

Other Data: Rhombic. Appears to be [Mn(OH₂)₆][NO₃]₂

References: