



>>Entry Name: Beryllium nitrate (Be(NO₃)₂)

Synonym(s): Nitric acid, beryllium salt, 8Cl

CAS Registry Number: 13597-99-4

Be(NO₃)₂

Molecular Formula: BeN₂O₆

Molecular Weight: 133.022

Accurate Mass: 132.98782

Percentage Composition: Be 6.77%; N 21.06%; O 72.17%

Source/Synthesis: Prepd. by thermal dec. of Be(NO₃)₂·2N₂O₄ The dissolution of beryllium metal in a mixt. of MeOH and CCl₄ followed by evaporation of the solv. yields beryllium powder which reacts readily with aq. HNO₃ to form Be(NO₃)₂ solns.

Physical Description: Deliquescent white amorphous solid

Other Data: ΔH_f° -678 kJ mol⁻¹

Hazard & Toxicity: Highly toxic, suspected carcinogen

Aldrich: 46503-8

>>Derivative: Trihydrate

CAS Registry Number: 7787-55-5

Molecular Formula: BeH₆N₂O₉

Molecular Weight: 187.068

Accurate Mass: 187.019515

Percentage Composition: Be 4.82%; H 3.23%; N 14.98%; O 76.97%

Physical Description: Deliquescent pale yellow cryst.

Melting Point: Mp 60°

Boiling Point: Bp 142°

Solubility: V. sol. H₂O, EtOH

Other Data: ΔH_f° -788 kJ mol⁻¹

>>Derivative: Tetrahydrate

CAS Registry Number: 13510-48-0

Molecular Formula: BeH₈N₂O₁₀

Molecular Weight: 205.083

Accurate Mass: 205.03008

Percentage Composition: Be 4.39%; H 3.93%; N 13.66%; O 78.01%

Physical Description: Tetragonal cryst.

>>Derivative: Bis(dinitrogen tetroxide) complex

Source/Synthesis: Obt. by treating BeCl₂ with a mixt. of N₂O₄ and EtOAc

Other Data: Dec. on heating → Hexakis[μ-(nitrato-*O:O'*)]-μ₄-oxotetraberyllium [HSG54-P](#)

References:

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Kirk-Othmer Encycl. Chem. Technol., 2nd edn., Wiley, 1963, **3**, 474, (*uses*)

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U.S. Pat., 1971, 3 574 533; *CA*, **74**, 128274, (*manuf*)

Ribar, B. *et al.*, *Z. Kristallogr., Kristallgeom., Kristallphys., Kristallchem.*, 1972, **136**, 159, (*tetrahydrate, cryst struct*)

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