



>>Entry Name: Yttrium nitrate

Synonym(s): Tris(nitrato)yttrium

CAS Registry Number: 10361-93-0

$\text{Y}(\text{NO}_3)_3$

Molecular Formula: $\text{N}_3\text{O}_9\text{Y}$

Molecular Weight: 274.921

Accurate Mass: 274.869306

Percentage Composition: N 15.28%; O 52.38%; Y 32.34%

Physical Description: Hygroscopic white solid

Solubility: Sol. EtOH, H_2O

>>Derivative: Monohydrate

CAS Registry Number: 60630-11-7

Molecular Formula: $\text{H}_2\text{N}_3\text{O}_{10}\text{Y}$

Molecular Weight: 292.936

Accurate Mass: 292.879871

Percentage Composition: H 0.69%; N 14.34%; O 54.62%; Y 30.35%

Source/Synthesis: Synth. by thermal dec. of the hexahydrate at 170°

Physical Description: Hygroscopic cryst.

Other Data: 9-Coord. Y with bidentate bridging nitrates and one H_2O molecule coord. to the Y atom

>>Derivative: Dihydrate

CAS Registry Number: 81212-86-4

Molecular Formula: $\text{H}_4\text{N}_3\text{O}_{11}\text{Y}$

Molecular Weight: 310.951

Accurate Mass: 310.890436

Percentage Composition: H 1.30%; N 13.51%; O 56.60%; Y 28.59%

>>Derivative: Trihydrate

Synonym(s): Yttrium nitrate trihydrate

CAS Registry Number: 84240-12-0

Extra CAS Registry Numbers(s): 13470-40-1

Molecular Formula: $\text{H}_6\text{N}_3\text{O}_{12}\text{Y}$

Molecular Weight: 328.966

Percentage Composition: H 1.84%; N 12.77%; O 58.36%; Y 27.03%

Source/Synthesis: Formed on heating hexhydrate to 105° or dehydration over H_2SO_4

Physical Description: Colourless cryst.

Solubility: Sol. H_2O , EtOH, Me_2CO

Other Data: 9-Coord. Y with bidentate nitrates

>>Derivative: Tetrahydrate

Synonym(s): Yttrium nitrate tetrahydrate

CAS Registry Number: 13773-69-8

Molecular Formula: $\text{H}_8\text{N}_3\text{O}_{13}\text{Y}$

Molecular Weight: 346.981

Percentage Composition: H 2.32%; N 12.11%; O 59.94%; Y 25.62%

Use/Importance: Commercially available

Physical Description: Reddish-white prisms

Solubility: Sol. H_2O , EtOH, HNO_3

Aldrich: 33130-9

>>Derivative: Pentahydrate

CAS Registry Number: 57584-28-8

Molecular Formula: $\text{H}_{10}\text{N}_3\text{O}_{14}\text{Y}$

Molecular Weight: 364.997

Percentage Composition: H 2.76%; N 11.51%; O 61.37%; Y 24.36%

Source/Synthesis: Synth. by dissolving Y_2O_3 in aq. HNO_3 at r.t.

Physical Description: Cryst.

Other Data: 10-Coord. Y with bidentate nitrates and four H_2O coord. to the Y atom

Sigma: Y1125