



>>Entry Name: Hexaamminenickel(II)(2+), 8Cl

Synonym(s): Hexaamminenickel(II)

CAS Registry Number: 15365-74-9

$[\text{Ni}(\text{NH}_3)_6]^{2(+)}$  ( $O_h$ )

Molecular Formula:  $\text{H}_{18}\text{N}_6\text{Ni}^{2(+)}$

Molecular Weight: 160.872

Accurate Mass: 160.09464

Percentage Composition: H 11.28%; N 52.24%; Ni 36.48%

Physical Description: Salts are blue

Other Data: Paramagnetic. Salts are sol.  $\text{H}_2\text{O}$ , donor solvs., but dec. to e.g.  $[\text{Ni}(\text{NH}_3)_4\text{X}_2]$  or  $\text{Ni}(\text{OH})_2$ . Aq. solns. stable only if  $\text{NH}_3$  added

>>Derivative: Dichloride

Synonym(s): Nickel(II) chloride hexaammine

CAS Registry Number: 10534-88-0

Molecular Formula:  $\text{Cl}_2\text{H}_{18}\text{N}_6\text{Ni}$

Molecular Weight: 231.778

Accurate Mass: 230.032344

Percentage Composition: Cl 30.59%; H 7.83%; N 36.26%; Ni 25.32%

Physical Description: Bluish cubes

Solubility: Sol. cold  $\text{H}_2$ ; dec. hot  $\text{H}_2\text{O}$

Aldrich: 25580-7

>>Derivative: Dibromide

Synonym(s): Nickel(II) bromide hexaammine

CAS Registry Number: 13601-55-3

Molecular Formula:  $\text{Br}_2\text{H}_{18}\text{N}_6\text{Ni}$

Molecular Weight: 320.68

Accurate Mass: 317.971312

Percentage Composition: Br 49.83%; H 5.66%; N 26.21%; Ni 18.30%

Physical Description: Violet powder

Solubility: V. sol.  $\text{H}_2\text{O}$ ; dec. hot  $\text{H}_2\text{O}$

>>Derivative: Diiodide

Synonym(s): Nickel(II) iodide hexaammine

CAS Registry Number: 13859-68-2

Molecular Formula:  $\text{H}_{18}\text{I}_2\text{N}_6\text{Ni}$

Molecular Weight: 414.681

Accurate Mass: 413.903586

Percentage Composition: H 4.37%; I 61.21%; N 20.27%; Ni 14.15%

Physical Description: Pale blue cubes

Solubility: Sol.  $\text{NH}_4\text{OH}$ ; dec.  $\text{H}_2\text{O}$

>>Derivative: Bis-triiodide

CAS Registry Number: 41507-83-9

Molecular Formula:  $\text{H}_{18}\text{I}_6\text{N}_6\text{Ni}$

Molecular Weight: 922.299

Accurate Mass: 921.521478

Percentage Composition: H 1.97%; I 82.56%; N 9.11%; Ni 6.36%

Source/Synthesis: Synth. from the dichloride + KI +  $\text{I}_2$  in  $\text{H}_2\text{O}$  at r.t.

Physical Description: Reddish-brown needles

Other Data: Dec. at  $170^\circ$

>>Derivative: Bis-tetrafluoroborate

Synonym(s): Nickel(II) tetrafluoroborate hexaammine

CAS Registry Number: 13877-20-8

Molecular Formula:  $\text{B}_2\text{F}_8\text{H}_{18}\text{N}_6\text{Ni}$

Molecular Weight: 334.482

Accurate Mass: 334.100474

Percentage Composition: B 6.46%; F 45.44%; H 5.42%; N 25.13%; Ni 17.55%

Physical Description: Blue