>>**Entry Name: Tetraamminecopper(*II*)(2+)**

CAS Registry Number: 16828-95-8
Related CAS Registry Numbers(s): 22989-83-9
Extra CAS Registry Numbers(s): 44001-04-9
$[Cu(NH_3)_4]^{2(+)}$

Molecular Formula: $CuH_{12}N_4^{2(+)}$
Molecular Weight: 131.668
Accurate Mass: 131.045794
Percentage Composition: Cu 48.26%; H 9.19%; N 42.55%

>>**Derivative:** Hydroxide (1:2)
Synonym(s): Schweizer's reagent. Schweitzer's reagent

CAS Registry Number: 17500-49-1
Molecular Formula: $CuH_{14}N_4O_2$
Molecular Weight: 165.682
Accurate Mass: 165.051274
Percentage Composition: Cu 38.35%; H 8.52%; N 33.82%; O 19.31%
Source/Synthesis: Synth. as a dark blue soln. by dissolving $Cu(OH)_2$ in conc. aq. NH_3
Use/Importance: The soln. is used to dissolve cellulose in the manuf. of rayon
Physical Description: Blue needles

>>**Derivative:** Sulfate (1:1)
Synonym(s): Cuprammonium sulfate

CAS Registry Number: 14283-05-7
Extra CAS Registry Numbers(s): 10380-29-7
Molecular Formula: $CuH_{12}N_4O_4S$
Molecular Weight: 227.731
Accurate Mass: 226.997524
Percentage Composition: Cu 27.90%; H 5.31%; N 24.60%; O 28.10%; S 14.08%
Source/Synthesis: Synth. by dissolving $CuSO_4.5H_2O$ in aq. NH_3
Physical Description: Deep blue cryst. + $1H_2O$
Solubility: Sol. H_2O; insol. EtOH
Other Data: Each H_2O molecule in contact with 2 Cu atoms to form a chain and by H-bonds to the O atom of 2 SO_4 groups to form another chain; SO_4 groups are not in direct contact with Cu. $\mu_{eff} = 1.87\mu_B$

References:

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