



>>Entry Name: Copper(II) chloride (CuCl₂)

Synonym(s): Cupric chloride. Copper chloride

CAS Registry Number: 7447-39-4

Related CAS Registry Numbers(s): 1344-67-8

CuCl₂

Molecular Formula: Cl₂Cu

Molecular Weight: 134.451

Accurate Mass: 132.877302

Percentage Composition: Cl 52.74%; Cu 47.26%

General Statement: Struct. contains chains of square planar CuCl₂CuCl₂

Use/Importance: Catalyst; used in petroleum industry as deodorising, desulfurising and purifying agent; in refining Cu, Ag, Au; in photography as fixer and desensitiser, in manuf. of acrylonitrile, in pigments, as feed-additive, wood preservative, disinfectant. Used in org. synth. as a chlorinating agent, oxidising agent and Lewis acid

Physical Description: Yellow to brown, deliques. microcryst. powder. Forms dihydrate in moist air

Melting Point: Mp 630° (extrap.) (498°)

Solubility: Sol. H₂O, EtOH, Me₂CO

Other Data: Part. dec. >300° to CuCl + Cl₂. Mp of 498° often reported is for mixt. CuCl₂/CuCl

Hazard & Toxicity: Irritating to skin, mucous membranes

Aldrich: 37969-7

Fluka: 61173

Sigma: C1654

>>Derivative: Hydrate

CAS Registry Number: 13468-85-4

Other Data: Contains variable quantities of H₂O

Sigma: C3279

>>Derivative: Dihydrate

CAS Registry Number: 10125-13-0

Use/Importance: Commercially available

Physical Description: Green-blue powder or cryst. forming acidic aq. soln.

Melting Point: Mp *ca.* 100°

Solubility: Sol. H₂O, MeOH, EtOH; mod. sol. Me₂CO, EtOAc; sl. sol. Et₂O

Other Data: Loses H₂O between 70-200°

Aldrich: 22178-3

Fluka: 61175

Sigma: C6917

>>Derivative: Tetrakis-tetrathiafulvalene complex

Synonym(s): TTF-CuCl₂

Molecular Formula: C₂₄H₁₆Cl₂CuS₁₆

Molecular Weight: 951.898

Accurate Mass: 948.555622

Percentage Composition: C 30.28%; H 1.69%; Cl 7.45%; Cu 6.68%; S 53.90%

Source/Synthesis: Synth. by reaction of TTF with Cu(sparteine)Cl₂ in CH₂Cl₂

Use/Importance: Semiconducting charge-transfer complex with rel. high elect. conductivity

Physical Description: Deep purple solid (CH₂Cl₂)

Solubility: Sol. CH₂Cl₂

Other Data: Struct. contains columnar stacks of TTF molecules

>>Derivative: Compd. with graphite

CAS Registry Number: 12707-64-1

Source/Synthesis: Synth. from CuCl₂ + graphite

Other Data: Intercalation compd.

References: