



>>Entry Name: Gadolinium(III) chloride (GdCl₃)

Synonym(s): Gadolinium trichloride

CAS Registry Number: 10138-52-0

Related CAS Registry Numbers(s): 19423-81-5

GdCl₃

Molecular Formula: Cl₃Gd

Molecular Weight: 263.608

Accurate Mass: 262.830655

Percentage Composition: Cl 40.35%; Gd 59.65%

General Statement: UCl₃ struct. preferred phase below 95°, above this temp. has PuBr₃ struct.

Physical Description: Hygroscopic colourless cryst.

Melting Point: Mp 609° (602°)

Boiling Point: Bp 1580°

Solubility: Sol. H₂O, EtOH

Other Data: Ferromagnetic below 2.2K (*T_c*). Obeys Curie-Weiss law above Curie temp.

Aldrich: 43977-0

>>Derivative: Hexahydrate

Synonym(s): Hexaaquadichlorogadolinium(1+) chloride

CAS Registry Number: 13450-84-5

Molecular Formula: Cl₃GdH₁₂O₆

Molecular Weight: 371.699

Accurate Mass: 370.894045

Percentage Composition: Cl 28.61%; Gd 42.31%; H 3.25%; O 25.83%

Physical Description: Deliquescent white prismatic cryst.

Melting Point: Mp 158° (148°)

Solubility: Sol. H₂O, EtOH

Other Data: Formulated as [GdCl₂(OH₂)₆]⁽⁺⁾Cl⁽⁻⁾

Aldrich: 27852-1

Fluka: 48213

Sigma: G7532

>>Derivative: Bis-THF complex

see Trichlorobis(tetrahydrofuran)gadolinium, [MKQ79-X](#)

>>Derivative: Tris-THF complex

see Trichlorotris(tetrahydrofuran)gadolinium, [MKQ80-R](#)

>>Derivative: GdCl

see Gadolinium chloride (GdCl), [HVQ81-O](#)

>>Derivative: Gd₂Cl₃

see Gadolinium chloride (Gd₂Cl₃), [HVQ82-P](#)

References: