



>>Entry Name: Zinc perchlorate (Zn(ClO₄)₂)

CAS Registry Number: 13637-61-1

Zn(ClO₄)₂

Molecular Formula: Cl₂O₈Zn

Molecular Weight: 264.291

Accurate Mass: 261.826169

Percentage Composition: Cl 26.83%; O 48.43%; Zn 24.74%

Source/Synthesis: Synth. by dec. of NO₂[Zn(ClO₄)₃] and careful dehydration of the dihydrate

Use/Importance: Component of battery electrolytes; cross-linking catalysts; explosive emulsions

Physical Description: White cryst.: α-form by desolvation of dihydrate or di-MeNO₂ < 100°. β-form is formed at higher temps.

Melting Point: Mp 0 262°

Solubility: Sol. H₂O

Hazard & Toxicity: Explosive

>>Derivative: Dihydrate

CAS Registry Number: 17031-35-5

Source/Synthesis: Obt. by dehydration of the hexahydrate

Physical Description: Cryst. (H₂O, > 25°)

Melting Point: Mp 195-200°

Other Data: Dec. at 130° to ZnCl₂; can be dehydrated to anhydrous salt with care. ClO₄ groups are monodentate: octahedral zinc

>>Derivative: Tetrahydrate

CAS Registry Number: 114896-28-5

Source/Synthesis: Obt. by hydration of dihydrate in the presence of 83% H₂SO₄ *in vacuo* at 200°

Physical Description: Cryst.

Melting Point: Mp 105-110°

>>Derivative: Hexahydrate

Synonym(s): Hexaaquazinc(2+) perchlorate

CAS Registry Number: 10025-64-6

Source/Synthesis: From ZnO and 77% aq. HClO₄

Physical Description: Cryst. (H₂O at 20-50°)

Melting Point: Mp 163°

Other Data: Dehydrates at 160° or 80° *in vacuo* to dihydrate. Formulated as [Zn(OH₂)₆](ClO₄)₂

Aldrich: 40143-9

Sigma: Z0753

>>Derivative: Heptahydrate

Physical Description: Cryst. (H₂O)

References:

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Li, Z.F. *et al.*, J. Solution Chem., 1982, **11**, 17, (Zn-67 nmr)
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