



>>Entry Name: Zirconium chloride (ZrCl₄), 11Cl

Synonym(s): Zirconium tetrachloride

CAS Registry Number: 10026-11-6

Molecular Formula: Cl₄Zr

Molecular Weight: 233.035

Accurate Mass: 229.780111

Percentage Composition: Cl 60.85%; Zr 39.15%

Source/Synthesis: Manuf. by reaction of Cl₂ with ZrO₂ + C in a fluidised bed

Use/Importance: Commercially available. V. widely used catalyst, used in lasers and battery electrolytes and as starting material for many synths. including that of ZrO₂.
Lewis acid; precursor to many other Zr compds.

Physical Description: White solid. Easily hydrol.

Boiling Point: Subl. 331°

Solubility: Sol. alcohols, ethers

Aldrich: 45159-2

Fluka: 96600

>>Derivative: Compd. with graphite

CAS Registry Number: 89886-81-7

Source/Synthesis: Synth. by reaction of graphite with ZrCl₂ and Cl₂ either at high pressure (yields 1st stage compound) or in a vapour phase transport apparatus

Use/Importance: Has v. high electrical conductivity

>>Derivative: Diammine complex

Synonym(s): Diamminetetrachlorozirconium, 11Cl

CAS Registry Number: 87854-93-1

Molecular Formula: Cl₄H₆N₂Zr

Molecular Weight: 267.096

Accurate Mass: 263.833209

Percentage Composition: Cl 53.09%; H 2.26%; N 10.49%; Zr 34.15%

Source/Synthesis: Synth. from ZrCl₄ vapour + NH₃ at 300°

Other Data: In liq. NH₃, ZrCl₄ forms amides rather than NH₃ adducts

References:

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