



>>Entry Name: Zirconium bromide (ZrBr₄), 11Cl

Synonym(s): Zirconium tetrabromide

CAS Registry Number: 13777-25-8

Related CAS Registry Numbers(s): 97396-40-2

ZrBr₄

Molecular Formula: Br₄Zr

Molecular Weight: 410.84

Accurate Mass: 405.658047

Percentage Composition: Br 77.80%; Zr 22.20%

Source/Synthesis: Synth. by bromination of ZrO₂ + C at 560°, or by reaction of ZrCl₄ with BBr₃

Use/Importance: Used as an absorber in artificial kidneys. Commercially available

Melting Point: Mp 450°

Boiling Point: Subl. 250°

Other Data: $\Delta H_f -760 \text{ kJ mol}^{-1}$

Aldrich: 40056-4

>>Derivative: Ammoniate

CAS Registry Number: 97549-60-5

Physical Description: At -30°, ZrBr₄ forms three adducts in liq. NH₃. ZrBr₄(NH₃)₆ is stable at 20°, while ZrBr₄(NH₃)₂ is stable at 200°

UV: [neutral] λ_{max} 231 (ϵ 16000) (MeOH) (Berdy)

Other Data: Four compositions known, ZrBr₄(NH₃)_n where $n = 2, 6, 12$ or 17

References:

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Girichev, G.V. *et al.*, *Izv. Vyssh. Uchebn. Zaved., Khim. Khim. Tekhnol.*, 1975, **18**, 1646; *CA*, **84**, 52478r, (ed)

Taylor, R.C. *et al.*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 293, (ir, Raman)

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