



>>Entry Name: Ytterbium(III) bromide (YbBr₃)

Synonym(s): Ytterbium tribromide

CAS Registry Number: 13759-89-2

YbBr₃

Molecular Formula: Br₃Yb

Molecular Weight: 412.752

Accurate Mass: 408.750386

Percentage Composition: Br 58.08%; Yb 41.92%

Source/Synthesis: Can be synth. from YbH₂ + Br₂ at 450-500° or by heating (NH₄)₃YbBr₆ *in vacuo* at 350°

Physical Description: Colourless cryst.

Melting Point: Mp 956 (940°) dec.°

Solubility: Sol. H₂O

Aldrich: 45132-0

>>Derivative: Hexahydrate

CAS Registry Number: 15163-03-8

Molecular Formula: Br₃H₁₂O₆Yb

Molecular Weight: 520.843

Accurate Mass: 516.813776

Percentage Composition: Br 46.02%; H 2.32%; O 18.43%; Yb 33.22%

Physical Description: Colourless cryst.

Solubility: Sol. H₂O

Other Data: Isostructural with corresp. chloride. Loses H₂O on controlled heating *in vacuo*

>>Derivative: Tris-THF complex

Synonym(s): Tribromotris(tetrahydrofuran)ytterbium

CAS Registry Number: 16921-41-8

Molecular Formula: C₁₂H₂₄Br₃O₃Yb

Molecular Weight: 629.072

Accurate Mass: 624.922931

Percentage Composition: C 22.91%; H 3.85%; Br 38.11%; O 7.63%; Yb 27.51%

Use/Importance: Useful compd. in sepn. of bromide from oxybromide

Physical Description: Colourless cryst.

Solubility: Sl. sol. THF

Other Data: Dec. >100°. Compds. of similar stoichiometry formed by Lu, Tm. Forms anhyd. bromide at *ca.* 200°

References:

- Mayer, I. *et al.*, *J. Inorg. Nucl. Chem.*, 1965, **27**, 1905, (*hexahydrate, synth, tga*)
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