



>>Entry Name: Phosphorus bromide (PBr₃)

Synonym(s): Phosphorous tribromide, 9Cl. Tribromophosphine. Tribromophosphorus(*III*)

CAS Registry Number: 7789-60-8

PBr₃

Molecular Formula: Br₃P

Molecular Weight: 270.686

Accurate Mass: 267.78877

Percentage Composition: Br 88.56%; P 11.44%

Source/Synthesis: Synth. from P + Br₂ in PBr₃

Use/Importance: Brominating agent. Used for conversion of alcohols into alkyl bromides

Physical Description: Colourless fuming liq. V. reactive to protic nucleophiles

Melting Point: Mp -41.5°

Boiling Point: Bp 173°

Density: d₄²⁰ 2.87. d₄⁰ 2.92

Other Data: Forms stable adducts with boron trihalides. $\Delta H_f^\circ -125 \text{ kJ mol}^{-1}$

Hazard & Toxicity: Reacts violently with H₂O. Corrosive

Aldrich: 28846-2

Fluka: 79660

>>Derivative: BBr₃ complex (1:1)

>>Derivative: BI₃ complex (1:1)

Molecular Formula: BBr₃I₃P

Molecular Weight: 662.21

Accurate Mass: 659.511494

Percentage Composition: B 1.63%; Br 36.20%; I 57.49%; P 4.68%

Physical Description: Solid

Melting Point: Mp 50 dec.°

References:

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