



**>>Entry Name: Phosphorus bromide (PBr<sub>3</sub>)**

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

**CAS Registry Number:** 7789-60-8

PBr<sub>3</sub>

**Molecular Formula:** Br<sub>3</sub>P

**Molecular Weight:** 270.686

**Accurate Mass:** 267.78877

**Percentage Composition:** Br 88.56%; P 11.44%

**Source/Synthesis:** Synth. from P + Br<sub>2</sub> in PBr<sub>3</sub>

**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:** d<sub>4</sub><sup>20</sup> 2.87. d<sub>4</sub><sup>0</sup> 2.92

**Other Data:** Forms stable adducts with boron trihalides.  $\Delta H_f^\circ$  -125 kJ mol<sup>-1</sup>

**Hazard & Toxicity:** Reacts violently with H<sub>2</sub>O. Corrosive

**Aldrich:** 28846-2

**Fluka:** 79660

**>>Derivative:** BBr<sub>3</sub> complex (1:1)

**>>Derivative:** BI<sub>3</sub> complex (1:1)

**Molecular Formula:** BBr<sub>3</sub>I<sub>3</sub>P

**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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