

Phosphorus tribromide

Other names:	Extrema PBr ₃ Phosphorous bromide Phosphorous tribromide Phosphorus bromide Phosphorus bromide (PBr ₃) Phosphorus(III) bromide Tribromophosphine UN 1808
Inchi:	InChI=1S/Br3P/c1-4(2)3
InchiKey:	IPNPIHIZVLF AFP-UHFFFAOYSA-N
Formula:	Br ₃ P
SMILES:	BrP(Br)Br
Mol. weight [g/mol]:	270.69
CAS:	7789-60-8

Physical Properties

Property code	Value	Unit	Source
ea	1.59 ± 0.15	eV	NIST Webbook
ie	10.00	eV	NIST Webbook
ie	10.00 ± 0.03	eV	NIST Webbook
ie	9.96	eV	NIST Webbook
ie	10.00	eV	NIST Webbook
ie	9.99	eV	NIST Webbook
ie	10.00 ± 0.20	eV	NIST Webbook
ie	9.85	eV	NIST Webbook
ie	10.10 ± 0.10	eV	NIST Webbook
log10ws	0.06		Crippen Method
logp	3.398		Crippen Method
mvol	83.820	ml/mol	McGowan Method
tb	351.70 ± 3.00	K	NIST Webbook
tc	711.00 ± 0.50	K	NIST Webbook
tc	711.00 ± 2.00	K	NIST Webbook
vc	0.295 ± 0.005	m ³ /kmol	NIST Webbook
vc	0.300 ± 0.009	m ³ /kmol	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.49112e+01
Coeff. B	-4.33731e+03
Coeff. C	-2.47100e+01
Temperature range (K), min.	280.95
Temperature range (K), max.	446.10

Sources

The Yaws Handbook of Vapor Pressure:
Crippen Method:

<https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure>
<http://pubs.acs.org/doi/abs/10.1021/ci9903071>

Crippen Method:

https://www.chemeo.com/doc/models/crippen_log10ws

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C7789608&Units=SI>

Legend

ea:	Electron affinity
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
vc:	Critical Volume

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