

Phosphorus trifluoride

Other names:	PF3 Phosphorous fluoride Phosphorous-trifluoride- Phosphorus fluoride Phosphorus(III) fluoride TL 75 Trifluorophosphine
Inchi:	InChI=1S/F3P/c1-4(2)3
InchiKey:	WKFBZNUBXWCCHG-UHFFFAOYSA-N
Formula:	F3P
SMILES:	FP(F)F
Mol. weight [g/mol]:	87.97
CAS:	7783-55-3

Physical Properties

Property code	Value	Unit	Source
affp	695.30	kJ/mol	NIST Webbook
basg	662.80	kJ/mol	NIST Webbook
ie	11.66 ± 0.01	eV	NIST Webbook
ie	11.51	eV	NIST Webbook
ie	11.65	eV	NIST Webbook
ie	11.65 ± 0.07	eV	NIST Webbook
ie	11.40 ± 0.20	eV	NIST Webbook
ie	11.50 ± 0.10	eV	NIST Webbook
ie	11.60 ± 0.10	eV	NIST Webbook
ie	11.57 ± 0.01	eV	NIST Webbook
ie	11.44	eV	NIST Webbook
ie	11.56	eV	NIST Webbook
ie	11.70 ± 0.10	eV	NIST Webbook
ie	11.38 ± 0.01	eV	NIST Webbook
ie	12.20	eV	NIST Webbook
ie	12.28	eV	NIST Webbook
ie	12.23 ± 0.02	eV	NIST Webbook
ie	12.28	eV	NIST Webbook
ie	12.30	eV	NIST Webbook
ie	12.31	eV	NIST Webbook
ie	9.71	eV	NIST Webbook

ie	11.38 ± 0.10	eV	NIST Webbook
log10ws	1.79		Crippen Method
logp	2.122		Crippen Method
mcvol	36.630	ml/mol	McGowan Method
tb	171.60	K	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.42508e+01
Coeff. B	-1.50100e+03
Coeff. C	-1.58200e+01
Temperature range (K), min.	121.15
Temperature range (K), max.	271.20

Sources

The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	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=C7783553&Units=SI

Legend

affp:	Proton affinity
basg:	Gas basicity
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

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