

# Phosphine, tris(trifluoromethyl)-

**Other names:** Tris(trifluoromethyl)phosphine  
**Inchi:** InChI=1S/C3F9P/c4-1(5,6)13(2(7,8)9)3(10,11)12  
**InchiKey:** MXLDRFIVBLWESA-UHFFFAOYSA-N  
**Formula:** C3F9P  
**SMILES:** FC(F)(F)P(C(F)(F)F)C(F)(F)F  
**Mol. weight [g/mol]:** 237.99  
**CAS:** 432-04-2

## Physical Properties

Property code	Value	Unit	Source
ie	11.70	eV	NIST Webbook
ie	11.70	eV	NIST Webbook
ie	11.10	eV	NIST Webbook
ie	11.30 ± 0.10	eV	NIST Webbook
ie	11.57	eV	NIST Webbook
ie	11.70	eV	NIST Webbook
log10ws	-0.41		Crippen Method
logp	4.028		Crippen Method
mcvol	89.520	ml/mol	McGowan Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
hvapt	24.70	kJ/mol	266.50	NIST Webbook

## Sources

**Crippen Method:** <http://pubs.acs.org/doi/abs/10.1021/ci9903071>  
**Crippen Method:** [https://www.chemeo.com/doc/models/crippen\\_log10ws](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=C432042&Units=SI>

# Legend

<b>hvapt:</b>	Enthalpy of vaporization at a given temperature
<b>ie:</b>	Ionization energy
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mcvol:</b>	McGowan's characteristic volume

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