Arsine

Other names:	Arsenic hydrid
	Arsenic hydride
	Arsenic hydride (AsH3)
	Arsenic trihydride
	Arseniuretted hydrogen
	Arsenous hydride
	Arsenowodor
	Arsenwasserstoff
	AsH3
	Hydrogen arsenide
	UN 2188
Inchi:	InChI=1S/AsH3/h1H3
InchiKey:	RBFQJDQYXXHULB-UHFFFAOYSA-N
Formula:	AsH3
SMILES:	[AsH3]
Mol. weight [g/mol]:	77.95
CAS:	7784-42-1

Physical Properties

Property code	Value	Unit	Source
affp	747.90	kJ/mol	NIST Webbook
basg	712.00	kJ/mol	NIST Webbook
ie	10.03	eV	NIST Webbook
ie	10.58 ± 0.05	eV	NIST Webbook
ie	9.89	eV	NIST Webbook
ie	10.06 ± 0.03	eV	NIST Webbook
log10ws	3.33		Crippen Method
logp	-1.184		Crippen Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
hvapt	16.70	kJ/mol	210.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.38469e+01
Coeff. B	-1.81915e+03
Coeff. C	-1.35500e+01
Temperature range (K), min.	156.23
Temperature range (K), max.	373.00

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/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C7784421&Units=SI

Legend

affp:	Proton affinity
basg:	Gas basicity
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
pvap:	Vapor pressure