

Tetrafluorohydrazine

Other names:	1,1,2,2-Tetrafluorohydrazine Dinitrogen tetrafluoride Hydrazine, tetrafluoro- N2F4 Nitrogen fluoride Nitrogen fluoride (N2F4) Perfluorohydrazine
Inchi:	InChI=1S/F4N2/c1-5(2)6(3)4
InchiKey:	GFADZIUESKAXAK-UHFFFAOYSA-N
Formula:	F4N2
SMILES:	FN(F)N(F)F
Mol. weight [g/mol]:	104.01
CAS:	10036-47-2

Physical Properties

Property code	Value	Unit	Source
gf	-608.56	kJ/mol	Joback Method
hf	-692.71	kJ/mol	Joback Method
hfus	14.12	kJ/mol	Joback Method
hvap	16.41	kJ/mol	Joback Method
ie	11.94 ± 0.03	eV	NIST Webbook
ie	12.00 ± 0.10	eV	NIST Webbook
ie	12.04 ± 0.10	eV	NIST Webbook
ie	12.84	eV	NIST Webbook
ie	11.94 ± 0.03	eV	NIST Webbook
log10ws	-1.33		Crippen Method
logp	1.043		Crippen Method
mvol	37.900	ml/mol	McGowan Method
pc	3710.00 ± 81.06	kPa	NIST Webbook
tb	200.00 ± 2.00	K	NIST Webbook
tc	309.40 ± 0.10	K	NIST Webbook
tf	105.00 ± 1.50	K	NIST Webbook
vc	0.143	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	59.86	J/mol×K	221.36	Joback Method
cpg	63.56	J/mol×K	240.93	Joback Method
cpg	67.11	J/mol×K	260.51	Joback Method
cpg	70.50	J/mol×K	280.08	Joback Method
cpg	73.75	J/mol×K	299.66	Joback Method
cpg	76.84	J/mol×K	319.23	Joback Method
cpg	79.80	J/mol×K	338.81	Joback Method
hvapt	26.40	kJ/mol	200.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.50642e+01
Coeff. B	-2.19316e+03
Coeff. C	1.10000e+01
Temperature range (K), min.	111.65
Temperature range (K), max.	309.35

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C10036472&Units=SI
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

Legend

cpg:	Ideal gas heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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