

Cyanamide

Other names:	H2NCN carbamonitrile Amidocyanogen Carbimide Cyanoamine Cyanogen nitride Cyanogenamide Hydrogen cyanamide N-Cyanoamine USAF EK-1995 Alzogur Deurbraak Dormex NSC 24133 TsAKS
Inchi:	InChI=1S/CH2N2/c2-1-3/h2H2
InchiKey:	XZMCDFZZKTWFGF-UHFFFAOYSA-N
Formula:	CH2N2
SMILES:	N#CN
Mol. weight [g/mol]:	42.04
CAS:	420-04-2

Physical Properties

Property code	Value	Unit	Source
affp	805.60	kJ/mol	NIST Webbook
basg	774.90	kJ/mol	NIST Webbook
chs	-738.14	kJ/mol	NIST Webbook
gf	157.17	kJ/mol	Joback Method
hf	134.70	kJ/mol	Joback Method
hfs	58.79	kJ/mol	NIST Webbook
hfus	5.05	kJ/mol	Joback Method
hsub	75.20	kJ/mol	NIST Webbook
hvap	38.94	kJ/mol	Joback Method
ie	10.40	eV	NIST Webbook
ie	10.40	eV	NIST Webbook
ie	10.65	eV	NIST Webbook
ie	10.40	eV	NIST Webbook

log10ws	-0.04		Crippen Method
logp	-0.574		Crippen Method
mvol	36.310	ml/mol	McGowan Method
pc	6084.49	kPa	Joback Method
tb	396.89	K	Joback Method
tc	610.74	K	Joback Method
tf	249.28	K	Joback Method
tt	318.71 ± 0.02	K	NIST Webbook
vc	0.146	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	65.32	J/mol×K	539.46	Joback Method
cpg	67.20	J/mol×K	575.10	Joback Method
cpg	56.94	J/mol×K	396.89	Joback Method
cpg	59.17	J/mol×K	432.53	Joback Method
cpg	61.31	J/mol×K	468.17	Joback Method
cpg	63.36	J/mol×K	503.81	Joback Method
cpg	68.99	J/mol×K	610.74	Joback Method
cps	78.20	J/mol×K	300.00	NIST Webbook
hfust	7.27	kJ/mol	318.71	NIST Webbook
hfust	8.76	kJ/mol	317.20	NIST Webbook
hsubt	75.90	kJ/mol	258.00	NIST Webbook
sfust	22.82	J/mol×K	318.71	NIST Webbook

Sources

McGowan Method:

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

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C420042&Units=SI>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

Crippen Method:

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

Joback Method:

https://en.wikipedia.org/wiki/Joback_method

Legend

affp:	Proton affinity
basg:	Gas basicity
chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation at standard conditions
hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume

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