1,12-Dodecanediamine

Other names:	1,12-Diamindodecane
	1,12-Diamino-n-dodecane
	1,12-Dodecamethylenediamine
	1,12-Dodecylenediamine
	1,12-diaminododecane
	1,12-n-Dodecanediamine
	Dodecylenediamine
	NSC 55050
	NSC 59861
	dodecamethylenediamine
Inchi:	InChI=1S/C12H28N2/c13-11-9-7-5-3-1-2-4-6-8-10-12-14/h1-14H2
InchiKey:	QFTYSVGGYOXFRQ-UHFFFAOYSA-N
Formula:	C12H28N2
SMILES:	NCCCCCCCCCCCCN
Mol. weight [g/mol]:	200.36
CAS:	2783-17-7

Physical Properties

Property code	Value	Unit	Source
basg	946.00 ± 21.00	kJ/mol	NIST Webbook
gf	183.06	kJ/mol	Joback Method
hf	-223.43	kJ/mol	Joback Method
hfus	82.70	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	82.28	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	81.87	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	81.87	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	81.46	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines

hfus	82.70	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	81.05	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	81.04	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	82.29	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	80.21	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	79.80	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	79.40	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	67.05	kJ/mol	Solid-Liquid Equilibria of Naphthalene + Alkanediamine Mixtures
hfus	81.45	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hfus	80.63	kJ/mol	Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines
hvap	63.59	kJ/mol	Joback Method
log10ws	-3.71		Crippen Method
logp	2.805		Crippen Method
mcvol	199.900	ml/mol	McGowan Method
pc	2010.00	kPa	Critical Pressures and Temperatures of n-Diaminoalkanes (C2 to C12)
tb	619.02	K	Joback Method
tc	799.85	K	Joback Method
tf	391.52	K	Joback Method
vc	0.765	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	551.78	J/mol×K	619.02	Joback Method
cpg	568.21	J/mol×K	649.16	Joback Method
cpg	583.88	J/mol×K	679.30	Joback Method
cpg	598.83	J/mol×K	709.44	Joback Method
cpg	613.06	J/mol×K	739.58	Joback Method
cpg	626.61	J/mol×K	769.72	Joback Method
cpg	639.51	J/mol×K	799.85	Joback Method

Sources

Solid-Liquid Equilibria of Naphthalene + Alkanediamine Mixtures:	https://www.doi.org/10.1021/je0502851
Activity Coefficients at Infinite Dilution by GLC in Alkanediamines as Stationary Phases:	https://www.doi.org/10.1021/je200628n
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Critical Pressures and Temperatures of n-Diaminoalkanes (C2 to C12):	https://www.doi.org/10.1021/je050424e
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Vapor pressure and enthalpy of vaporization of linear aliphatic alkanediamines:	https://www.doi.org/10.1016/j.jct.2011.06.008
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2783177&Units=SI

Legend

basg:	Gas basicity
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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature

tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume