N-Ethylmorpholine

Other names:	4-ethylmorpholine Dabco NEM Ethylmorpholine Morpholine, 4-ethyl- N-Ethylmorfolin NEM NSC 6110 Texacat NEM Toyocat NEM morpholine, N-ethyl-
Inchi:	InChI=1S/C6H13NO/c1-2-7-3-5-8-6-4-7/h2-6H2,1H3
InchiKey:	HVCNXQOWACZAFN-UHFFFAOYSA-N
Formula:	C6H13NO
SMILES:	CCN1CCOCC1
Mol. weight [g/mol]:	115.17
CAS:	100-74-3

Physical Properties

Property code	Value	Unit	Source
hvap	42.10 ± 0.30	kJ/mol	NIST Webbook
log10ws	0.11		Crippen Method
logp	0.339		Crippen Method
mcvol	100.390	ml/mol	McGowan Method
rinpol	878.00		NIST Webbook
rinpol	871.00		NIST Webbook
rinpol	871.00		NIST Webbook
rinpol	878.00		NIST Webbook
rinpol	871.00		NIST Webbook
tb	411.70	K	NIST Webbook
tb	411.75	K	NIST Webbook
tf	210.15	K	NIST Webbook

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpl	230.20	J/mol×K	355.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	228.00	J/mol×K	350.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	225.90	J/mol×K	345.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	223.80	J/mol×K	340.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	221.90	J/mol×K	335.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	219.90	J/mol×K	330.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	217.70	J/mol×K	325.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation

cpl	215.50	J/mol×K	320.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	213.40	J/mol×K	315.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	211.60	J/mol×K	310.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	209.90	J/mol×K	305.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	208.20	J/mol×K	300.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	206.40	J/mol×K	295.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	204.50	J/mol×K	290.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation

cpl	202.80	J/mol×K	285.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	201.10	J/mol×K	280.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	199.60	J/mol×K	275.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
cpl	198.10	J/mol×K	270.00	Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation
hvapt	42.30 ± 0.30	kJ/mol	293.50	NIST Webbook
pvap	18.92	kPa	353.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	12.75	kPa	343.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions

pvap	8.35	kPa	333.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	5.30	kPa	323.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	3.25	kPa	313.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	1.92	kPa	303.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	1.08	kPa	293.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions

pvap	0.58	kPa	283.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	28.78	kPa	363.86	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	18.88	kPa	353.90	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	13.07	kPa	343.88	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	8.70	kPa	333.91	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions

pvap	5.30	kPa	323.78	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	1.99	kPa	303.86	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	1.99	kPa	303.86	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	1.14	kPa	293.93	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions
pvap	0.63	kPa	283.98	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions

pvap	27.37	kPa	363.15	Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C100743&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Measurement and correlation of the (vapor + liquid) equilibria of pure 4-ethylmorpholine, 1,2-dimethylisopropylamine and N,N-dimethylethanolamine, and their binary aqueous solutions:	https://www.doi.org/10.1016/j.jct.2013.03.020
Vapor Pressure of 4-Ethylmorpholine Revisited: Thermodynamically Consistent Vapor Pressure Equation:	https://www.doi.org/10.1021/acs.jced.8b01159

Legend

cpl:	Liquid phase heat capacity
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tf:	Normal melting (fusion) point