Ethylamine

Other names:	1-Aminoethane
	AMINOETHANE
	Aethylamine
	C2H5NH2
	ETHANAMINE
	Etilamina
	Etyloamina
	MONOETHYLAMINE
	UN 1036
Inchi:	InChI=1S/C2H7N/c1-2-3/h2-3H2,1H3
InchiKey:	QUSNBJAOOMFDIB-UHFFFAOYSA-N
Formula:	C2H7N
SMILES:	CCN
Mol. weight [g/mol]:	45.08
CAS:	75-04-7

Physical Properties

Property code	Value	Unit	Source
af	0.2890		KDB
affp	912.00	kJ/mol	NIST Webbook
aigt	657.59	K	KDB
basg	878.00	kJ/mol	NIST Webbook
chl	-1715.00	kJ/mol	NIST Webbook
dm	1.30	debye	KDB
fll	3.50	% in Air	KDB
flu	14.00	% in Air	KDB
fpc	255.37	K	KDB
gf	37.30	kJ/mol	KDB
hf	-57.70	kJ/mol	NIST Webbook
hf	-46.05	kJ/mol	KDB
hfl	-84.50	kJ/mol	NIST Webbook
hfus	6.13	kJ/mol	Joback Method
hvap	30.69	kJ/mol	Joback Method
ie	8.80 ± 0.10	eV	NIST Webbook
ie	8.74	eV	NIST Webbook
ie	9.19	eV	NIST Webbook
ie	8.86 ± 0.02	eV	NIST Webbook

ie	9.50	eV	NIST Webbook
ie	9.50	eV	NIST Webbook
ie	9.47	eV	NIST Webbook
ie	8.90	eV	NIST Webbook
ie	9.44 ± 0.18	eV	NIST Webbook
ie	9.50	eV	NIST Webbook
ie	8.70	eV	NIST Webbook
ie	9.50	eV	NIST Webbook
log10ws	-0.09		Crippen Method
logp	-0.035		Crippen Method
mcvol	49.020	ml/mol	McGowan Method
nfpaf	%!d(float64=4)		KDB
nfpah	%!d(float64=3)		KDB
pc	5620.00	kPa	KDB
pc	5627.59 ± 40.53	kPa	NIST Webbook
rhoc	243.81 ± 9.92	kg/m3	NIST Webbook
rinpol	408.00		NIST Webbook
rinpol	410.00		NIST Webbook
rinpol	413.00		NIST Webbook
rinpol	390.00		NIST Webbook
rinpol	370.00		NIST Webbook
rinpol	408.00		NIST Webbook
rinpol	458.00		NIST Webbook
rinpol	458.00		NIST Webbook
rinpol	458.00		NIST Webbook
rinpol	379.00		NIST Webbook
rinpol	413.00		NIST Webbook
rinpol	441.00		NIST Webbook
ripol	712.00		NIST Webbook
ripol	717.00		NIST Webbook
ripol	717.00		NIST Webbook
tb	289.70	K	KDB
tc	456.00	K	KDB
tc	456.35 ± 1.50	K	NIST Webbook
tc	456.55 ± 1.00	K	NIST Webbook
tf	192.62	K	KDB
vc	0.182	m3/kmol	KDB
zc	0.2697780		KDB
zra	0.26		KDB

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	101.72	J/mol×K	469.20	Joback Method
cpg	106.20	J/mol×K	499.50	Joback Method
cpg	76.60	J/mol×K	317.69	Joback Method
cpg	82.00	J/mol×K	347.99	Joback Method
cpg	87.20	J/mol×K	378.29	Joback Method
cpg	92.22	J/mol×K	408.60	Joback Method
cpg	97.06	J/mol×K	438.90	Joback Method
hvapt	28.90	kJ/mol	240.00	NIST Webbook
hvapt	29.10	kJ/mol	281.50	NIST Webbook
hvapt	28.03	kJ/mol	289.80	KDB
hvapt	29.00	kJ/mol	255.00	NIST Webbook
hvapt	27.20	kJ/mol	369.50	NIST Webbook
hvapt	27.60	kJ/mol	339.00	NIST Webbook
hvapt	25.90	kJ/mol	416.50	NIST Webbook
rhol	683.00	kg/m3	293.00	KDB
srf	0.02	N/m	293.20	KDB

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.33148e+01
Coeff. B	-1.74825e+03
Coeff. C	-8.99710e+01
Temperature range (K), min.	224.17
Temperature range (K), max.	456.15

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	7.23914e+01
Coeff. B	-5.54724e+03
Coeff. C	-8.69511e+00

Coeff. D	7.84304e-06
Temperature range (K), min.	192.15
Temperature range (K), max.	456.15

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1256
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C75047&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/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1256
Thermodynamic Parameters of Anionic Surfactant-Additive Systems at the Cloud Point:	https://www.doi.org/10.1021/je100502b

Legend

af:	Acentric Factor
affp:	Proton affinity
aigt:	Autoignition Temperature
basg:	Gas basicity
chl:	Standard liquid enthalpy of combustion
cpg:	Ideal gas heat capacity
dm:	Dipole Moment
fll:	Lower Flammability Limit
flu:	Upper Flammability Limit
fpc:	Flash Point (Closed Cup Method)
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfl:	Liquid phase 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

nfpaf:	NFPA Fire Rating
nfpah:	NFPA Health Rating
pc:	Critical Pressure
pvap:	Vapor pressure
rhoc:	Critical density
rhol:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume
zc:	Critical Compressibility
zra:	Rackett Parameter