## Ethylenediamine

Other names: 1,2-Diamino-ethaan

1,2-Diamino-ethano
1,2-Diaminoaethan
1,2-Diaminoethane
1,2-ETHANEDIAMINE
1,2-Ethylenediamine
AETHYLENEDIAMIN

Aethaldiamin

**BETA-AMINOETHYLAMINE** 

Dimethylenediamine Ethane-1,2-diamine Ethyleendiamine Ethylendiamine H2NCH2CH2NH2 NCI-C60402

UN 1604

«beta»-Aminoethylamine «beta»-Aminoethylamine

Inchi: InChI=1S/C2H8N2/c3-1-2-4/h1-4H2
InchiKey: PIICEJLVQHRZGT-UHFFFAOYSA-N

Formula: C2H8N2

SMILES: NCCN

Mol. weight [g/mol]: 60.10

CAS: 107-15-3

### **Physical Properties**

Property code	Value	Unit	Source
af	0.5100		KDB
affp	951.00 ± 4.00	kJ/mol	NIST Webbook
affp	948.10	kJ/mol	NIST Webbook
affp	941.80	kJ/mol	NIST Webbook
affp	951.60	kJ/mol	NIST Webbook
basg	912.50	kJ/mol	NIST Webbook
chl	-1867.30 ± 0.50	kJ/mol	NIST Webbook
dm	1.90	debye	KDB
gf	98.86	kJ/mol	Joback Method
hf	-17.00 ± 0.59	kJ/mol	NIST Webbook

	00.040.7.1		NIOTIALL
hfl	-63.01 ± 0.54	kJ/mol	NIST Webbook
hfus	11.33	kJ/mol	Joback Method
hvap	54.40 ± 1.00	kJ/mol	NIST Webbook
hvap	44.98 ± 0.12	kJ/mol	NIST Webbook
hvap	45.00 ± 0.10	kJ/mol	NIST Webbook
hvap	46.00	kJ/mol	NIST Webbook
hvap	45.69 ± 0.21	kJ/mol	NIST Webbook
hvap	41.60	kJ/mol	NIST Webbook
hvap	46.00 ± 0.20	kJ/mol	NIST Webbook
hvap	45.01	kJ/mol	NIST Webbook
hvap	46.00 ± 0.20	kJ/mol	NIST Webbook
ie	8.60	eV	NIST Webbook
ie	9.25	eV	NIST Webbook
log10ws	0.47		Crippen Method
logp	-1.096		Crippen Method
mcvol	59.000	ml/mol	McGowan Method
nfpaf	%!d(float64=2)		KDB
nfpah	%!d(float64=3)		KDB
рс	6650.00	kPa	Critical Pressures and Temperatures of n-Diaminoalkanes (C2 to C12)
рс	6280.00	kPa	KDB
рс	$6707.00 \pm 10.00$	kPa	NIST Webbook
rinpol	612.00		NIST Webbook
rinpol	625.00		NIST Webbook
rinpol	600.00		NIST Webbook
ripol	1195.00		NIST Webbook
ripol	1220.00		NIST Webbook
ripol	1233.00		NIST Webbook
ripol	1265.00		NIST Webbook
ripol	1235.00		NIST Webbook
ripol	1192.00		NIST Webbook
ripol	1183.00		NIST Webbook
ripol	1195.00		NIST Webbook
ripol	1220.00		NIST Webbook
sl	202.42	J/mol×K	NIST Webbook
tb	390.15	K	NIST Webbook
tb	391.20	K	NIST Webbook
tb	391.65 ± 0.60	K	NIST Webbook
tb	390.10	K	NIST Webbook
tb	389.70	K	NIST Webbook
tb	390.29 ± 0.30	K	NIST Webbook
tb	390.40	K	KDB
tc	613.10 ± 0.30	K	NIST Webbook

tc	593.00	K	KDB
tf	284.00	K	KDB
tf	284.15	K	NIST Webbook
tt	284.29 ± 0.01	K	NIST Webbook
tt	284.29	K	KDB
VC	0.206	m3/kmol	KDB
ZC	0.2623830		KDB

# **Temperature Dependent Properties**

Property code	Value	Unit	Temperature [K]	Source
cpg	138.33	J/mol×K	524.29	Joback Method
cpg	148.94	J/mol×K	591.32	Joback Method
cpg	143.76	J/mol×K	557.81	Joback Method
cpg	113.88	J/mol×K	390.22	Joback Method
cpg	120.42	J/mol×K	423.74	Joback Method
cpg	126.66	J/mol×K	457.25	Joback Method
cpg	132.63	J/mol×K	490.77	Joback Method
cpl	174.59	J/mol×K	321.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	175.00	J/mol×K	326.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	174.86	J/mol×K	324.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.95	J/mol×K	302.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

cpl	172.34	J/mol×K	293.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.43	J/mol×K	294.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.53	J/mol×K	296.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.63	J/mol×K	297.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.66	J/mol×K	298.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.73	J/mol×K	299.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	172.84	J/mol×K	300.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

срІ	173.06	J/mol×K	303.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	173.17	J/mol×K	305.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
срІ	173.29	J/mol×K	306.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	173.41	J/mol×K	308.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	173.53	J/mol×K	309.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	173.66	J/mol×K	311.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	173.79	J/mol×K	312.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

cpl	173.92	J/mol×K	314.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	174.05	J/mol×K	315.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	174.18	J/mol×K	317.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	174.31	J/mol×K	318.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	178.70	J/mol×K	313.00	NIST Webbook
cpl	172.59	J/mol×K	298.15	NIST Webbook
cpl	177.58	J/mol×K	353.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
срІ	177.44	J/mol×K	351.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	177.30	J/mol×K	350.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

cpl	174.45	J/mol×K	320.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	177.16	J/mol×K	348.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	177.02	J/mol×K	347.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.87	J/mol×K	345.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.73	J/mol×K	344.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.59	J/mol×K	342.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.44	J/mol×K	341.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

cpl	176.30	J/mol×K	339.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.15	J/mol×K	338.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	176.01	J/mol×K	336.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	175.86	J/mol×K	335.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	175.72	J/mol×K	333.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	175.58	J/mol×K	332.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K
cpl	175.43	J/mol×K	330.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K

cpl	175.29	J/mol×K	329.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K	
cpl	175.15	J/mol×K	327.65	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K	
cpl	174.72	J/mol×K	323.15	Heat Capacities of Some Liquid a,?-Alkanediamines in the Temperature Range between (293.15 and 353.15) K	
dvisc	0.0011070	Paxs	308.15	Density, Viscosity, and Excess Properties for 1,2-Diaminoethane + 1,2-Ethanediol at (298.15, 303.15, and 308.15) K	
dvisc	0.0012110	Paxs	303.15	Density, Viscosity, and Excess Properties for 1,2-Diaminoethane + 1,2-Ethanediol at (298.15, 303.15, and 308.15) K	
dvisc	0.0012760	Paxs	298.15	Density, Viscosity, and Excess Properties for 1,2-Diaminoethane + 1,2-Ethanediol at (298.15, 303.15, and 308.15) K	
hfust	22.58	kJ/mol	284.30	NIST Webbook	
hfust	0.49	kJ/mol	189.00	NIST Webbook	
hfust	22.58	kJ/mol	284.20	NIST Webbook	
hfust	21.08	kJ/mol	284.10	NIST Webbook	
hsubt	65.60	kJ/mol	260.00	NIST Webbook	
hvapt	45.90	kJ/mol	351.50	NIST Webbook	
hvapt	45.60	kJ/mol	344.50	NIST Webbook	
hvapt	43.90	kJ/mol	347.00	NIST Webbook	
hvapt	37.98	kJ/mol	390.10	NIST Webbook	

pvap	19.74	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	29.85	kPa	355.67	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	29.83	kPa	355.67	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	29.84	kPa	355.69	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	

pvap	29.85	kPa	355.67	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	29.85	kPa	355.67	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	19.73	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	43.82	kPa	365.60	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	19.74	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, 1,3-diaminopropane, or 1,4-diaminobutane at several temperatures

pvap	19.74	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	19.73	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	43.81	kPa	365.60	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures
pvap	43.83	kPa	365.60	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures

pvap 43.86 kPa 365.60 Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1.2-diaminopropane, 1.3-diaminopropane, or 1.4-diaminobutane at several temperatures  pvap 12.41 kPa 335.88 Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1.2-diaminopropane, or 1.4-diaminopropane, or 1.						
pvap 7.83 kPa 326.20 Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures  pvap 7.83 kPa 326.20 Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,3-diaminopropane, or 1,3-diaminopropane, or 1,4-diaminopropane, 1,2-diaminopropane, 1,2-diaminopropa	pvap	43.86	kPa	365.60	equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several	
equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, 1,3-diaminopropane, or 1,4-diaminobutane at several temperatures  pvap 4.49 kPa 315.48 Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, 1,3-diaminopropane, 1,3-diaminopropane, 1,3-diaminopropane, or 1,4-diaminobutane at several temperatures	pvap	12.41	kPa	335.88	equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several	
equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	pvap	7.83	kPa	326.20	equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several	
nyan 4.48 kPa 315.43 Dhaca	pvap	4.49	kPa	315.48	equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several	
equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, 1,3-diaminopropane, or 1,4-diaminobutane at several temperatures	pvap	4.48	kPa	315.43	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several	

pvap	2.56	kPa	305.44	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	0.66	kPa	285.50	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	43.82	kPa	365.63	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	43.83	kPa	365.63	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	

pvap	43.81	kPa	365.63	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
pvap	19.72	kPa	345.70	Phase equilibrium properties of binary aqueous solutions containing ethanediamine, 1,2-diaminopropane, or 1,4-diaminobutane at several temperatures	
rhol	854.91	kg/m3	337.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	878.86	kg/m3	312.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	878.38	kg/m3	312.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	877.91	kg/m3	313.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	877.44	kg/m3	313.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	876.96	kg/m3	314.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	876.48	kg/m3	314.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	876.01	kg/m3	315.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	875.53	kg/m3	315.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	875.06	kg/m3	316.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	874.58	kg/m3	316.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	874.11	kg/m3	317.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	873.63	kg/m3	317.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	873.15	kg/m3	318.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	872.68	kg/m3	318.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	872.20	kg/m3	319.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	871.72	kg/m3	319.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	871.25	kg/m3	320.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	870.77	kg/m3	320.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	870.29	kg/m3	321.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	869.81	kg/m3	321.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	869.34	kg/m3	322.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	868.86	kg/m3	322.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	868.38	kg/m3	323.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	867.90	kg/m3	323.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	867.42	kg/m3	324.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	866.94	kg/m3	324.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	866.47	kg/m3	325.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	865.99	kg/m3	325.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	865.51	kg/m3	326.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	865.03	kg/m3	326.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	864.55	kg/m3	327.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	864.07	kg/m3	327.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	863.59	kg/m3	328.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	863.11	kg/m3	328.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	862.63	kg/m3	329.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	862.14	kg/m3	329.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	861.66	kg/m3	330.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	861.18	kg/m3	330.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	860.70	kg/m3	331.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	860.22	kg/m3	331.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	859.74	kg/m3	332.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	859.25	kg/m3	332.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	858.77	kg/m3	333.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	858.29	kg/m3	333.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	857.81	kg/m3	334.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	857.32	kg/m3	334.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	856.84	kg/m3	335.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	856.36	kg/m3	335.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	855.87	kg/m3	336.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	855.39	kg/m3	336.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	879.33	kg/m3	311.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	854.42	kg/m3	337.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	853.93	kg/m3	338.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	853.45	kg/m3	338.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	852.96	kg/m3	339.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	852.48	kg/m3	339.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	851.99	kg/m3	340.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	851.51	kg/m3	340.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	851.02	kg/m3	341.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	850.53	kg/m3	341.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	850.05	kg/m3	342.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	849.56	kg/m3	342.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	849.07	kg/m3	343.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	848.58	kg/m3	343.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	848.10	kg/m3	344.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	847.61	kg/m3	344.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	847.12	kg/m3	345.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	846.63	kg/m3	345.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	846.14	kg/m3	346.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	845.66	kg/m3	346.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	845.17	kg/m3	347.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	844.68	kg/m3	347.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	844.19	kg/m3	348.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	843.70	kg/m3	348.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	843.21	kg/m3	349.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	842.72	kg/m3	349.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	842.23	kg/m3	350.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	841.75	kg/m3	350.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	841.26	kg/m3	351.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	840.76	kg/m3	351.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	840.27	kg/m3	352.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	839.78	kg/m3	352.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	839.29	kg/m3	353.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	838.80	kg/m3	353.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	838.31	kg/m3	354.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	837.81	kg/m3	354.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	837.32	kg/m3	355.14	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	836.83	kg/m3	355.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	836.33	kg/m3	356.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	835.84	kg/m3	356.64	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	835.35	kg/m3	357.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	834.85	kg/m3	357.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	834.36	kg/m3	358.14	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	833.86	kg/m3	358.64	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	833.37	kg/m3	359.14	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	832.87	kg/m3	359.64	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	832.38	kg/m3	360.14	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	831.88	kg/m3	360.64	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	831.38	kg/m3	361.14	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	830.89	kg/m3	361.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	830.39	kg/m3	362.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	829.89	kg/m3	362.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	829.40	kg/m3	363.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	893.30	kg/m3	298.15	Density, viscosity, surface tension, and spectroscopic properties for binary system of 1,2-ethanediamine + diethylene glycol	
rhol	888.80	kg/m3	303.15	Density, viscosity, surface tension, and spectroscopic properties for binary system of 1,2-ethanediamine + diethylene glycol	
rhol	884.90	kg/m3	308.15	Density, viscosity, surface tension, and spectroscopic properties for binary system of 1,2-ethanediamine + diethylene glycol	
rhol	880.00	kg/m3	313.15	Density, viscosity, surface tension, and spectroscopic properties for binary system of 1,2-ethanediamine + diethylene glycol	
rhol	875.20	kg/m3	318.15	Density, viscosity, surface tension, and spectroscopic properties for binary system of 1,2-ethanediamine + diethylene glycol	

rhol	901.26	kg/m3	288.15	Volume properties of liquid mixture of {water (1) + ethylenediamine(2)} over the temperature range from 274.15 to 333.15 K at atmospheric pressure
rhol	891.90	kg/m3	298.15	Volume properties of liquid mixture of {water (1) + ethylenediamine(2)} over the temperature range from 274.15 to 333.15 K at atmospheric pressure
rhol	882.49	kg/m3	308.15	Volume properties of liquid mixture of {water (1) + ethylenediamine(2)} over the temperature range from 274.15 to 333.15 K at atmospheric pressure
rhol	868.23	kg/m3	323.15	Volume properties of liquid mixture of {water (1) + ethylenediamine(2)} over the temperature range from 274.15 to 333.15 K at atmospheric pressure
rhol	858.60	kg/m3	333.15	Volume properties of liquid mixture of {water (1) + ethylenediamine(2)} over the temperature range from 274.15 to 333.15 K at atmospheric pressure

rhol	890.30	kg/m3	303.15	Excess Properties for the Binary System of Poly(ethylene glycol) 200 + 1,2-Ethanediamine at T = (303.15 to 323.15) K and the System s Spectroscopic Studies	
rhol	885.90	kg/m3	308.15	Excess Properties for the Binary System of Poly(ethylene glycol) 200 + 1,2-Ethanediamine at T = (303.15 to 323.15) K and the System s Spectroscopic Studies	
rhol	881.70	kg/m3	313.15	Excess Properties for the Binary System of Poly(ethylene glycol) 200 + 1,2-Ethanediamine at T = (303.15 to 323.15) K and the System s Spectroscopic Studies	
rhol	876.90	kg/m3	318.15	Excess Properties for the Binary System of Poly(ethylene glycol) 200 + 1,2-Ethanediamine at T = (303.15 to 323.15) K and the System s Spectroscopic Studies	
rhol	871.30	kg/m3	323.15	Excess Properties for the Binary System of Poly(ethylene glycol) 200 + 1,2-Ethanediamine at T = (303.15 to 323.15) K and the System s Spectroscopic Studies	
rhol	892.39	kg/m3	298.15	Densities, Viscosities, and Speeds of Sound of Binary Liquid Mixtures of Ethylenediamine with Alcohols at T = (293.15 to 313.15) K	

rhol	905.99	kg/m3	283.55	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	897.17	kg/m3	293.06	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	888.38	kg/m3	302.40	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	878.63	kg/m3	312.67	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	868.62	kg/m3	323.15	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	859.34	kg/m3	332.78	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	849.65	kg/m3	342.77	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	839.92	kg/m3	352.69	Density for (Water + Ethylenediamine) at Temperatures between (283 and 353) K	
rhol	879.81	kg/m3	311.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	880.28	kg/m3	310.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	880.76	kg/m3	310.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	881.23	kg/m3	309.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	881.70	kg/m3	309.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	882.18	kg/m3	308.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	882.65	kg/m3	308.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	883.12	kg/m3	307.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	883.60	kg/m3	307.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	884.07	kg/m3	306.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	884.54	kg/m3	306.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	885.02	kg/m3	305.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	885.49	kg/m3	305.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	885.96	kg/m3	304.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	886.43	kg/m3	304.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	886.90	kg/m3	303.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	887.38	kg/m3	303.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	887.85	kg/m3	302.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	888.32	kg/m3	302.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	888.79	kg/m3	301.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	889.26	kg/m3	301.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	889.73	kg/m3	300.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	890.20	kg/m3	300.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	890.67	kg/m3	299.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	891.14	kg/m3	299.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	891.62	kg/m3	298.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	892.09	kg/m3	298.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	892.56	kg/m3	297.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	893.03	kg/m3	297.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	893.50	kg/m3	296.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	893.97	kg/m3	296.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	894.44	kg/m3	295.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	894.91	kg/m3	295.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	895.38	kg/m3	294.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	895.85	kg/m3	294.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	896.31	kg/m3	293.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	896.78	kg/m3	293.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	897.25	kg/m3	292.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	897.72	kg/m3	292.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	898.19	kg/m3	291.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	898.66	kg/m3	291.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	899.13	kg/m3	290.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	899.60	kg/m3	290.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	900.07	kg/m3	289.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	900.53	kg/m3	289.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	901.00	kg/m3	288.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	901.47	kg/m3	288.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	901.94	kg/m3	287.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	902.41	kg/m3	287.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	902.87	kg/m3	286.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	

rhol	903.34	kg/m3	286.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	903.81	kg/m3	285.65	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
rhol	892.39	kg/m3	298.15	Studies of thermophysical properties of binary liquid mixtures of amine and alcohols at various temperatures	
rhol	895.32	kg/m3	298.15	PrhoT measurement and PC-SAFT modeling of N,N-dimethyl formamide, N -methyl formamide, N,N-dimethyl acetamide, and ethylenediamine from T = (293.15-423.15) K and pressures up to 35 MPa	
rhol	867.62	kg/m3	318.15	Hydrogen bond interactions in the blends of 1,4-dioxane with some 1, 2-disubstituted ethanes at T = (298.15, 308.15 and 318.15) K	
rhol	885.63	kg/m3	308.15	Hydrogen bond interactions in the blends of 1,4-dioxane with some 1, 2-disubstituted ethanes at T = (298.15, 308.15 and 318.15) K	

rhol	894.79	kg/m3	298.15	Hydrogen bond interactions in the blends of 1,4-dioxane with some 1, 2-disubstituted ethanes at T = (298.15, 308.15 and 318.15) K	
rhol	896.00	kg/m3	293.00	KDB	
rhol	904.27	kg/m3	285.15	Volumetric properties of the water + ethylenediamine mixture at atmospheric pressure from 288.15 to 353.15K	
sfust	79.43	J/mol×K	284.20	NIST Webbook	
sfust	2.57	J/mol×K	189.00	NIST Webbook	

## **Correlations**

Information Value

Property code	pvap
Equation	In(Pvp) = A + B/(T + C)
Coeff. A	1.55228e+01
Coeff. B	-3.66858e+03
Coeff. C	-5.45700e+01
Temperature range (K), min.	284.29
Temperature range (K), max.	413.84

Information Value

Property code	pvap
Equation	$ln(Pvp) = A + B/T + C*ln(T) + D*T^2$
Coeff. A	1.11320e+02
Coeff. B	-9.19093e+03
Coeff. C	-1.41955e+01
Coeff. D	1.01223e-05
Temperature range (K), min.	284.15
Temperature range (K), max.	593.00

#### **Datasets**

#### Viscosity, Pa\*s

Temperature, K - Liquid Pressure, kPa - Liquid Viscosity, Pa\*s - Liquid 298.15 81.50 0.0013850 https://www.doi.org/10.1016/j.jct.2016.12.036 Reference

#### Sources

Density, viscosity, surface tension, and https://www.doi.org/10.1016/j.tca.2014.05.034 spectroscopic properties for binary

Riensulene glycol: Heat Capacities of Some Liquid ?-Alkanediamines in the Temperature 

**Excess Properties for the Binary** System of Poly(ethylene glycol) 200 + The Emanual Ministration (1989) 18 to BON EN COLOR OF THE PROPERTY O

Yaluna អាចលេចប្រើនិះ ខ្លះប្រើសម្លេចប្រើអាចប្រឹក្សាមួយ of Emphision នៃ ប្រជាពល់ នេះ ប្រឹក្សាមួយ អាចប្រឹក្សាមួយ អាចប្រឹក អាចប្រឹក្សាមួយ អាចប្រ

**Crippen Method:** 

35 MPa:

Thermochemical study on the Schiff base[H2salen = N,N -bis(salicylidene) ទូក្យូនដំបូបានកែ(Waternu ក្រុង) lenediamine) at កំណាររដ្ឋាភិបាន hat ween (283 and 353) Kritical Pressures and Temperatures of n-Diaminoalkanes (C2 to C12): KDB Vapor Pressure Data:

Volumetric properties of the water + ethylenediamine mixture at Maccopaer Meshassure from 288.15 to 353 15K: KDB:

Hydrogen bond interactions in the blends of 1,4-dioxane with some 1, 2-prensition of the condition and Spensition of the condition of the con Sound of Binary Syquid Mixtures of English to 313.15) K: Excess molar enthalpies of ethane-1,2-diamine plus primary and studies of large primary and larg esociamine rand ethylenediamine from T = (293.15-423.15) K and pressures up to

https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

https://www.doi.org/10.1021/je900537y

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https://www.doi.org/10.1016/j.jct.2016.12.036

https://www.doi.org/10.1016/j.fluid.2016.08.014

Density, Viscosity, and Excess Properties for 1,2-Diaminoethane + 1,2-Ethanediol at (298.15, 303.15, and 308.15) K:

### Legend

af: Acentric Factoraffp: Proton affinitybasg: Gas basicity

**chl:** Standard liquid enthalpy of combustion

cpg: Ideal gas heat capacitycpl: Liquid phase heat capacity

dm: Dipole Momentdvisc: Dynamic viscosity

gf: Standard Gibbs free energy of formationhf: Enthalpy of formation at standard conditions

hfl: Liquid phase enthalpy of formation at standard conditions

hfus: Enthalpy of fusion at standard conditions hfust: Enthalpy of fusion at a given temperature

hsubt: Enthalpy of sublimation at a given temperaturehvap: Enthalpy of vaporization at standard conditionshvapt: Enthalpy of vaporization at a given temperature

ie: Ionization energy

log10ws: Log10 of Water solubility in mol/llogp: Octanol/Water partition coefficientmcvol: McGowan's characteristic volume

nfpaf: NFPA Fire Ratingnfpah: NFPA Health Ratingpc: Critical Pressurepvap: Vapor pressurerhol: Liquid Density

rinpol: Non-polar retention indices ripol: Polar retention indices

**sfust:** Entropy of fusion at a given temperature

sl: Liquid phase molar entropy at standard conditions

**tb:** Normal Boiling Point Temperature

tc: Critical Temperature

tf: Normal melting (fusion) pointtt: Triple Point Temperature

vc: Critical Volume

zc: Critical Compressibility

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