2-Propanol, 1-amino-, (R)-

Other names:	(2S)-1-amino-2-propanol
	(R)-(-)-1-Amino-2-propanol
	(R)-(-)-1-aminopropan-2-ol
	(S)-(+)-1-amino-2-propanol
	(S)-1-aminopropan-2-ol
Inchi:	InChI=1S/C3H9NO/c1-3(5)2-4/h3,5H,2,4H2,1H3/t3-/m0/s1
InchiKey:	HXKKHQJGJAFBHI-VKHMYHEASA-N
Formula:	C3H9NO
SMILES:	CC(O)CN
Mol. weight [g/mol]:	75.11
CAS:	2799-16-8

Physical Properties

Property code	Value	Unit	Source
gf	-98.43	kJ/mol	Joback Method
hf	-228.97	kJ/mol	Joback Method
hfus	9.29	kJ/mol	Joback Method
hvap	49.20	kJ/mol	Joback Method
log10ws	0.11		Crippen Method
logp	-0.674		Crippen Method
mcvol	68.980	ml/mol	McGowan Method
pc	5495.11	kPa	Joback Method
tb	433.20	K	NIST Webbook
tc	613.40	K	Joback Method
tf	252.65	K	Joback Method
vc	0.245	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	142.31	J/mol×K	432.31	Joback Method
cpg	149.06	J/mol×K	462.49	Joback Method
cpg	155.54	J/mol×K	492.67	Joback Method
cpg	161.74	J/mol×K	522.85	Joback Method

cpg	167.68	J/mol×K	553.03	Joback Method
cpg	173.36	J/mol×K	583.21	Joback Method
cpg	178.78	J/mol×K	613.40	Joback Method
speedsl	1527.85	m/s	303.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K
speedsl	1544.07	m/s	298.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K
speedsl	1560.07	m/s	293.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K

speedsl	1511.56	m/s	308.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K	
speedsl	1495.14	m/s	313.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K	
speedsl	1478.68	m/s	318.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K	

speedsl	1462.09	m/s	323.15	Density, Speed of Sound, Isentropic Compressibility, and Excess Volume of Binary Mixtures of 1-Amino-2-propanol or 3-Amino-1-propanol with 2-Amino-2-methyl-1-propanol, Diethanolamine, or Triethanolamine from (293.15 to 323.15) K
srf	0.04	N/m	293.15	Density, Speed of Sound, Refractive Index, Viscosity, Surface Tension, and Excess Volume of N-Methyl-2-pyrrolidone + 1-Amino-2-propanol {or Bis(2-hydroxypropyl)amine} from T = (293.15 to 323.15) K
srf	0.04	N/m	303.15	Density, Speed of Sound, Refractive Index, Viscosity, Surface Tension, and Excess Volume of N-Methyl-2-pyrrolidone + 1-Amino-2-propanol {or Bis(2-hydroxypropyl)amine} from T = (293.15 to 323.15) K
srf	0.04	N/m	313.15	Density, Speed of Sound, Refractive Index, Viscosity, Surface Tension, and Excess Volume of N-Methyl-2-pyrrolidone + 1-Amino-2-propanol {or Bis(2-hydroxypropyl)amine} from T = (293.15 to 323.15) K

| srf | 0.04 | N/m | 323.15 | Density, Speed of Sound, Refractive Index, Viscosity, Surface Tension, and Excess Volume of N-Methyl-2-pyrrolidone + 1-Amino-2-propanol {or Bis(2-hydroxypropyl)amine} from T = (293.15 to 323.15) K |

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.61162e+01
Coeff. B	-4.27299e+03
Coeff. C	-6.15660e+01
Temperature range (K), min.	297.65
Temperature range (K), max.	457.04

Sources

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

Density, Speed of Sound, Refractive Index, Viscosity, Surface Tension, and Excess Volume of Sound, Isentropic Compressibility and Excess Volume of Amino-2-propanol (or 1-Amino-2-propanol or 3-Amino-1-propanol with from T = Joback Method: 1-propanol, McGowan Method: 1-propanol, Diethanolamine, or Triethanolamine NIST Webbook: from (293.15 to 323.15) K:

https://www.doi.org/10.1021/je200121f

https://www.doi.org/10.1021/je900739x

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

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

http://webbook.nist.gov/cgi/cbook.cgi?ID=C2799168&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

Legend

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
pvap:	Vapor pressure
speedsl:	Speed of sound in fluid
srf:	Surface Tension
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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https://www.chemeo.com/cid/61-225-4/2-Propanol-1-amino-R.pdf