

(-)-D-arginine hydrate

Other names:	D-Arginine L-arginine
Inchi:	InChI=1S/C6H14N4O2/c7-4(5(11)12)2-1-3-10-6(8)9/h4H,1-3,7H2,(H,11,12)(H4,8,9,10)/t4
InchiKey:	ODKSFYDXXFIFQN-BYPYZUCNSA-N
Formula:	C6H14N4O2
SMILES:	N=C(N)NCCCC(N)C(=O)O
Mol. weight [g/mol]:	174.20
CAS:	157-06-2

Physical Properties

Property code	Value	Unit	Source
chs	-3738.30 ± 1.30	kJ/mol	NIST Webbook
gf	157.35	kJ/mol	Joback Method
hf	-117.88	kJ/mol	Joback Method
hfs	-623.60 ± 1.30	kJ/mol	NIST Webbook
hvap	91.79	kJ/mol	Joback Method
log10ws	-1.51		Crippen Method
logp	-1.338		Crippen Method
mcvol	138.460	ml/mol	McGowan Method
ss	250.60	J/mol×K	NIST Webbook
tb	761.86	K	Joback Method
tf	541.09	K	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	82.60	J/mol×K	100.12	Joback Method
cpg	406.74	J/mol×K	761.86	Joback Method
cpg	82.60	J/mol×K	100.12	Joback Method
cpg	82.60	J/mol×K	100.12	Joback Method
cpg	82.60	J/mol×K	100.12	Joback Method
cpg	82.60	J/mol×K	100.12	Joback Method
cpg	82.60	J/mol×K	100.12	Joback Method
cps	232.80	J/mol×K	296.80	NIST Webbook

Sources

Study of thermodynamic properties of aqueous binary mixtures of L-histidine and L-phenylalanine	https://www.doi.org/10.1016/j.jct.2012.12.010
Volumetric and viscometric studies of amino acids in Mannitol + water solutions at the (298.15 to 323.15) K	https://www.doi.org/10.1021/je501178z
Solubility of the (298.15 to 323.15) K: Amino Acids in Water, Ethanol, and Ethanol + Water mixtures	https://www.doi.org/10.1021/acs.jced.7b00486
Transport properties of ternary solutions of L-serine and L-arginine in aqueous solutions	https://www.doi.org/10.1016/j.jct.2019.03.039
Volumetric and viscometric studies of amino acids in anisole + water at different temperatures	https://www.doi.org/10.1016/j.jct.2013.11.002
Volumetric and viscometric properties of amino acids in aqueous maltitol solutions at (298.15 to 323.15) K	https://www.doi.org/10.1016/j.jct.2017.02.024
Solubility of the (298.15 to 323.15) K: + xylitol + water Solutions at 293.15 K	https://www.doi.org/10.1021/acs.jced.6b00766
McGowan Method greater than 323.15:	http://link.springer.com/article/10.1007/BF02311772
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Studies on the Diffusion Coefficients of Amino Acids in Aqueous Solutions: Partial molar volumes and viscosity	https://www.doi.org/10.1021/je049582g
B-coefficients of arginine in aqueous solutions	https://www.doi.org/10.1016/j.jct.2004.07.030
Volumetric and viscometric studies of amino acids in 2-propanol + water	https://www.doi.org/10.1021/je500975a
Solubility of the (298.15 to 323.15) K: Amino Acids in Aqueous Solutions	https://www.doi.org/10.1021/je100190e
Probing solute-solute and solute-solvent interactions in (L-arginine + L-proline) mixtures	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Acetate in Aqueous Solutions: Probing solute-solute and solute-solvent interactions in (L-arginine + L-proline) mixtures	https://www.doi.org/10.1016/j.jct.2013.04.001
Volumetric and viscometric study of amino acids in aqueous solutions	https://www.doi.org/10.1016/j.jct.2015.10.002
Determination and Correlation of the Solubility of L-Fucose in Four Binary Ethanol Systems at the Temperature Range of 298.15 to 308.15 K	https://www.doi.org/10.1021/acs.jced.8b00361
Volumetric and viscometric studies of amino acids in aqueous solutions	https://www.doi.org/10.1021/je300953u
Acids in Aqueous Solutions at Temperatures (303.15 to 323.15) K:	https://www.doi.org/10.1007/s10765-011-1111-y
	http://webbook.nist.gov/cgi/cbook.cgi?ID=C157062&Units=SI

Legend

chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
cps:	Solid phase heat capacity
gf:	Standard Gibbs free energy of formation
hf:	Enthalpy of formation at standard conditions
hfs:	Solid phase enthalpy of formation 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
ss:	Solid phase molar entropy at standard conditions

tb: Normal Boiling Point Temperature

tf: Normal melting (fusion) point

Latest version available from:

<https://www.cheméo.com/cid/36-044-3/D-arginine-hydrate.pdf>

Generated by Cheméo on 2025-12-23 06:16:22.92167468 +0000 UTC m=+6218780.451715344.

Cheméo (<https://www.cheméo.com>) is the biggest free database of chemical and physical data for the process industry.