

N-Methylglycine

Other names:	(Methylamino)ethanoic acid Acetic acid, (methylamino)- CH3NHCH2COOH Glycine, N-methyl- Methylaminoacetic acid Methylglycine N-Methyl-glycocoll N-Methylaminoacetic acid Sar Sarcosin Sarcosinic acid sarcosine
Inchi:	InChI=1S/C3H7NO2/c1-4-2-3(5)6/h4H,2H2,1H3,(H,5,6)
InchiKey:	FSYKKLYZXJSNPZ-UHFFFAOYSA-N
Formula:	C3H7NO2
SMILES:	CNCC(=O)O
Mol. weight [g/mol]:	89.09
CAS:	107-97-1

Physical Properties

Property code	Value	Unit	Source
affp	921.20	kJ/mol	NIST Webbook
basg	888.70	kJ/mol	NIST Webbook
chs	-1672.30 ± 1.30	kJ/mol	NIST Webbook
chs	-1667.69 ± 0.15	kJ/mol	NIST Webbook
gf	-201.97	kJ/mol	Joback Method
hf	-367.20 ± 1.00	kJ/mol	NIST Webbook
hfs	-508.60 ± 1.30	kJ/mol	NIST Webbook
hfs	-513.24 ± 0.26	kJ/mol	NIST Webbook
hfus	20.60	kJ/mol	Thermophysical Study of Several alpha- and beta-Amino Acid Derivatives by Differential Scanning Calorimetry (DSC)
hsub	146.00 ± 1.00	kJ/mol	NIST Webbook
hsub	146.00 ± 1.00	kJ/mol	NIST Webbook
hvap	52.13	kJ/mol	Joback Method

ie	9.20	eV	NIST Webbook
ie	8.40	eV	NIST Webbook
log10ws	0.63		Crippen Method
logp	-0.710		Crippen Method
mcvol	70.550	ml/mol	McGowan Method
pc	5585.83	kPa	Joback Method
tb	464.26	K	Joback Method
tc	643.02	K	Joback Method
tf	286.98	K	Joback Method
vc	0.264	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	167.19	J/mol×K	583.43	Joback Method
cpg	172.27	J/mol×K	613.22	Joback Method
cpg	144.39	J/mol×K	464.26	Joback Method
cpg	150.47	J/mol×K	494.05	Joback Method
cpg	156.30	J/mol×K	523.85	Joback Method
cpg	161.87	J/mol×K	553.64	Joback Method
cpg	177.11	J/mol×K	643.02	Joback Method
cps	128.90	J/mol×K	298.15	NIST Webbook
hvapt	129.20	kJ/mol	298.15	Thermochemistry of sarcosine and sarcosine anhydride: Theoretical and experimental studies

Sources

Interaction of homologous series of amino acids with sarcosine in presence of denaturant: Volumetric and calorimetric approach: NIST Webbook.

Density, viscosity, and N2O solubility of aqueous amino acid salt and amine amine acid salt solutions: Crippen Method

Density and Solubility of CO2 in Aqueous Solutions of (Potassium Carbonate, Sodium Chloride and Potassium Sarcosine anhydride): Theoretical and experimental studies: The protein stabilizing agents: Trimethylamine-N-oxide, glycine and its N-methyl derivatives The volumetric and compressibility studies:

<https://www.doi.org/10.1016/j.jct.2013.09.009>

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

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C107971&Units=SI>

<https://www.doi.org/10.1016/j.jct.2011.09.012>

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

<https://www.doi.org/10.1021/je300782p>

<https://www.doi.org/10.1016/j.jct.2012.11.019>

<https://www.doi.org/10.1016/j.jct.2013.01.023>

Legend

affp:	Proton affinity
basg:	Gas basicity
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
hfus:	Enthalpy of fusion at standard conditions
hsub:	Enthalpy of sublimation 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
mccvol:	McGowan's characteristic volume
pc:	Critical Pressure
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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