

2-Methyl-5-nitrobenzoic acid

Other names:	Benzoic acid, 2-methyl-5-nitro-5-nitro-o-toluic acid
Inchi:	InChI=1S/C8H7NO4/c1-5-2-3-6(9(12)13)4-7(5)8(10)11/h2-4H,1H3,(H,10,11)
InchiKey:	DJRFJAVPROZZFL-UHFFFAOYSA-N
Formula:	C8H7NO4
SMILES:	<chem>Cc1ccc([N+](=O)[O-])cc1C(=O)O</chem>
Mol. weight [g/mol]:	181.15
CAS:	1975-52-6

Physical Properties

Property code	Value	Unit	Source
gf	-120.56	kJ/mol	Joback Method
hf	-270.43	kJ/mol	Joback Method
hfus	26.79	kJ/mol	Joback Method
hvap	77.02	kJ/mol	Joback Method
log10ws	-2.66		Crippen Method
logp	1.601		Crippen Method
mcvol	124.680	ml/mol	McGowan Method
pc	4339.67	kPa	Joback Method
tb	716.97	K	Joback Method
tc	947.46	K	Joback Method
tf	485.74	K	Joback Method
vc	0.482	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	314.41	J/molxK	716.97	Joback Method
cpg	322.66	J/molxK	755.38	Joback Method
cpg	330.28	J/molxK	793.80	Joback Method
cpg	337.28	J/molxK	832.21	Joback Method
cpg	343.70	J/molxK	870.63	Joback Method
cpg	349.56	J/molxK	909.04	Joback Method
cpg	354.89	J/molxK	947.46	Joback Method

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1975526&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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