Methanone, (4-methylphenyl)phenyl-

Other names:	Benzophenone, 4-methyl- p-Benzoyltoluene p-Methylbenzophenone Phenyl p-tolyl ketone 4-Methylbenzophenone p-Benzophenone, methyl- USAF DO-54 (4-Methylphenyl)(phenyl)methanone 4-Benzoyltoluene NSC 4898 4-Methylphenyl phenyl ketone
Inchi:	InChI=1S/C14H12O/c1-11-7-9-13(10-8-11)14(15)12-5-3-2-4-6-12/h2-10H,1H3
InchiKey:	WXPWZZHELZEVPO-UHFFFAOYSA-N
Formula:	C14H12O
SMILES:	Cc1ccc(C(=O)c2ccccc2)cc1
Mol. weight [g/mol]:	196.24
CAS:	134-84-9

Physical Properties

Property code	Value	Unit	Source
chs	-7146.00 ± 2.00	kJ/mol	NIST Webbook
gf	153.27	kJ/mol	Joback Method
hf	16.72	kJ/mol	Joback Method
hfs	-77.80 ± 2.10	kJ/mol	NIST Webbook
hfus	21.31	kJ/mol	Joback Method
hvap	58.72	kJ/mol	Joback Method
ie	9.13 ± 0.05	eV	NIST Webbook
log10ws	-3.91		Crippen Method
logp	3.226		Crippen Method
mcvol	162.170	ml/mol	McGowan Method
pc	2915.53	kPa	Joback Method
rinpol	1694.00		NIST Webbook
rinpol	1694.00		NIST Webbook
tb	599.20	K	NIST Webbook
tc	879.64	K	Joback Method
tf	327.00 ± 3.00	K	NIST Webbook
tf	327.00 ± 4.00	K	NIST Webbook

vc	0.610	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	466.07	J/mol×K	879.64	Joback Method
cpg	390.09	J/mol×K	631.93	Joback Method
cpg	405.63	J/mol×K	673.21	Joback Method
cpg	419.92	J/mol×K	714.50	Joback Method
cpg	433.04	J/mol×K	755.78	Joback Method
cpg	445.06	J/mol×K	797.07	Joback Method
cpg	456.04	J/mol×K	838.35	Joback Method
dvisc	0.0001874	Pa×s	631.93	Joback Method
dvisc	0.0017236	Pa×s	362.83	Joback Method
dvisc	0.0009716	Pa×s	407.68	Joback Method
dvisc	0.0006136	Pa×s	452.53	Joback Method
dvisc	0.0004210	Pa×s	497.38	Joback Method
dvisc	0.0003075	Pa×s	542.23	Joback Method
dvisc	0.0002356	Pa×s	587.08	Joback Method
hvapt	72.00	kJ/mol	471.00	NIST Webbook

Sources

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
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C134849&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

chs: Standard solid enthalpy of combustion
cpg: Ideal gas heat capacity
dvisc: Dynamic viscosity
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
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
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume