Methanone, [4-(1-methylethyl)phenyl]phenyl-

Other names: Benzophenone, 4-isopropyl-
p-Isopropylbenzophenone
4-Isopropylbenzophenone
Inchi: InChI=1S/C16H16O/c1-12(2)13-8-10-15(11-9-13)16(17)14-6-4-3-5-7-14/h3-12H,1-2H3
InchiKey: CKFPWZPBRHQASN-UHFFFAOYSA-N
Formula: C16H16O
SMILES: CC(C)c1ccc(C(=O)c2ccccc2)cc1
Mol. weight [g/mol]: 224.30
CAS: 18864-76-1

Physical Properties

Property code	Value	Unit	Source
chl	-8464.00 ± 2.00	kJ/mol	NIST Webbook
gf	167.67	kJ/mol	Joback Method
hf	-29.84	kJ/mol	Joback Method
hfl	-119.00	kJ/mol	NIST Webbook
hfus	22.96	kJ/mol	Joback Method
hvap	62.78	kJ/mol	Joback Method
log10ws	-4.61		Crippen Method
logp	4.041		Crippen Method
mcvol	190.350	ml/mol	McGowan Method
pc	2412.37	kPa	Joback Method
tb	677.25	K	Joback Method
tc	919.42	K	Joback Method
tf	370.37	K	Joback Method
vc	0.716	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	492.14	J/mol×K	677.25	Joback Method
cpg	508.98	J/mol×K	717.61	Joback Method
cpg	524.51	J/mol×K	757.97	Joback Method
cpg	538.79	J/mol×K	798.34	Joback Method

cpg	551.91	J/mol×K	838.70	Joback Method
cpg	563.94	J/mol×K	879.06	Joback Method
cpg	574.96	J/mol×K	919.42	Joback Method
dvisc	0.0019166	Pa×s	370.37	Joback Method
dvisc	0.0009580	Pa×s	421.52	Joback Method
dvisc	0.0005564	Pa×s	472.66	Joback Method
dvisc	0.0003593	Pa×s	523.81	Joback Method
dvisc	0.0002508	Pa×s	574.96	Joback Method
dvisc	0.0001857	Pa×s	626.10	Joback Method
dvisc	0.0001439	Pa×s	677.25	Joback Method

Sources

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
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=C18864761&Units=SI

Legend

chl: Standard liquid 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
hfl: Liquid phase 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