

Ethanone, 1-(4-methylphenyl)-

Other names:	(4-methylphenyl) methyl ketone
	1-(4-methylphenyl)-1-ethanone
	1-(4-methylphenyl)-ethanone
	1-(4-methylphenyl)ethanone
	1-Methyl-4-acetylbenzene
	1-acetyl-4-methylbenzene
	1-p-tolylethanone
	4'-methylacetophenone
	4-Acetyltoluene
	4-Methylacetophenone
	4-methylphenyl methyl ketone
	NSC 9401
	acetophenone, 4'-methyl-
	melilotal
	methyl 4-methylphenyl ketone
	methyl p-tolyl ketone
	p-Acetotoluene
	p-acetyltoluene
	p-methylacetophenone
	p-tolyl methyl ketone
	para-Methyl-acetophenone
Inchi:	InChI=1S/C9H10O/c1-7-3-5-9(6-4-7)8(2)10/h3-6H,1-2H3
InchiKey:	GNKZMNRKLCTJAY-UHFFFAOYSA-N
Formula:	C9H10O
SMILES:	CC(=O)c1ccc(C)cc1
Mol. weight [g/mol]:	134.18
CAS:	122-00-9

Physical Properties

Property code	Value	Unit	Source
affp	875.50	kJ/mol	NIST Webbook
basg	843.60	kJ/mol	NIST Webbook
gf	-1.24	kJ/mol	Joback Method
hf	-116.61	kJ/mol	Joback Method
hfus	14.32	kJ/mol	Joback Method
hvap	45.31	kJ/mol	Joback Method

ie	9.12	eV	NIST Webbook
ie	9.38	eV	NIST Webbook
ie	9.14	eV	NIST Webbook
ie	9.17 ± 0.02	eV	NIST Webbook
ie	8.85	eV	NIST Webbook
log10ws	-2.61		Crippen Method
logp	2.198		Crippen Method
mcvol	115.480	ml/mol	McGowan Method
pc	3448.03	kPa	Joback Method
rinpol	1182.00		NIST Webbook
rinpol	1180.00		NIST Webbook
rinpol	1191.00		NIST Webbook
rinpol	1158.00		NIST Webbook
rinpol	1156.00		NIST Webbook
rinpol	1164.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1158.00		NIST Webbook
rinpol	1166.00		NIST Webbook
rinpol	1168.00		NIST Webbook
rinpol	1177.00		NIST Webbook
rinpol	1184.00		NIST Webbook
rinpol	1163.00		NIST Webbook
rinpol	1188.00		NIST Webbook
rinpol	1179.00		NIST Webbook
rinpol	1188.00		NIST Webbook
rinpol	1184.00		NIST Webbook
rinpol	1182.00		NIST Webbook
rinpol	1183.00		NIST Webbook
rinpol	1199.00		NIST Webbook
rinpol	1179.00		NIST Webbook
rinpol	1152.00		NIST Webbook
rinpol	1150.00		NIST Webbook
rinpol	1166.00		NIST Webbook
rinpol	1181.00		NIST Webbook
rinpol	1166.00		NIST Webbook
rinpol	1182.00		NIST Webbook
rinpol	1183.00		NIST Webbook
rinpol	1183.00		NIST Webbook
rinpol	1160.00		NIST Webbook
rinpol	1182.00		NIST Webbook
rinpol	1180.00		NIST Webbook
rinpol	1158.00		NIST Webbook
rinpol	1154.00		NIST Webbook
rinpol	1187.00		NIST Webbook

rinpol	1186.10	NIST Webbook
rinpol	1151.00	NIST Webbook
rinpol	1132.00	NIST Webbook
rinpol	1180.00	NIST Webbook
rinpol	1178.20	NIST Webbook
rinpol	1183.00	NIST Webbook
rinpol	1188.00	NIST Webbook
rinpol	1182.00	NIST Webbook
rinpol	1168.00	NIST Webbook
rinpol	1179.00	NIST Webbook
rinpol	1180.00	NIST Webbook
rinpol	1132.00	NIST Webbook
rinpol	1158.00	NIST Webbook
rinpol	1183.00	NIST Webbook
rinpol	1150.00	NIST Webbook
rinpol	1166.00	NIST Webbook
rinpol	1178.00	NIST Webbook
rinpol	1161.00	NIST Webbook
rinpol	1161.00	NIST Webbook
rinpol	1162.70	NIST Webbook
rinpol	1163.60	NIST Webbook
rinpol	1157.00	NIST Webbook
rinpol	1181.70	NIST Webbook
rinpol	1175.50	NIST Webbook
rinpol	1187.00	NIST Webbook
rinpol	1190.00	NIST Webbook
rinpol	1175.50	NIST Webbook
rinpol	1160.00	NIST Webbook
rinpol	1166.00	NIST Webbook
rinpol	1178.00	NIST Webbook
rinpol	1183.00	NIST Webbook
rinpol	1157.00	NIST Webbook
rinpol	1189.00	NIST Webbook
rinpol	1181.00	NIST Webbook
rinpol	1190.00	NIST Webbook
rinpol	1165.00	NIST Webbook
rinpol	1183.00	NIST Webbook
rinpol	1180.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1785.00	NIST Webbook
ripol	1763.00	NIST Webbook
ripol	1794.00	NIST Webbook
ripol	1750.00	NIST Webbook
ripol	1793.00	NIST Webbook

ripol	1794.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1795.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1750.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1771.00	NIST Webbook
ripol	1771.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1808.00	NIST Webbook
ripol	1791.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1794.00	NIST Webbook
ripol	1789.00	NIST Webbook
ripol	1747.00	NIST Webbook
ripol	1785.00	NIST Webbook
ripol	1765.00	NIST Webbook
ripol	1815.00	NIST Webbook
ripol	1752.00	NIST Webbook
ripol	1770.00	NIST Webbook
ripol	1763.00	NIST Webbook
ripol	1759.00	NIST Webbook
ripol	1778.00	NIST Webbook
ripol	1794.00	NIST Webbook
ripol	1794.00	NIST Webbook
ripol	1752.00	NIST Webbook
ripol	1750.00	NIST Webbook
ripol	1797.00	NIST Webbook
ripol	1746.00	NIST Webbook
ripol	1797.00	NIST Webbook

tb	499.20	K	NIST Webbook
tc	710.50	K	Joback Method
tf	208.75 ± 0.40	K	NIST Webbook
vc	0.438	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	289.09	J/mol×K	673.89	Joback Method
cpg	298.20	J/mol×K	710.50	Joback Method
cpg	233.60	J/mol×K	490.85	Joback Method
cpg	246.11	J/mol×K	527.46	Joback Method
cpg	257.89	J/mol×K	564.07	Joback Method
cpg	268.96	J/mol×K	600.67	Joback Method
cpg	279.35	J/mol×K	637.28	Joback Method
dvisc	0.0003246	Pa×s	455.72	Joback Method
dvisc	0.0002611	Pa×s	490.85	Joback Method
dvisc	0.0021873	Pa×s	280.06	Joback Method
dvisc	0.0012598	Pa×s	315.19	Joback Method
dvisc	0.0008105	Pa×s	350.32	Joback Method
dvisc	0.0005651	Pa×s	385.45	Joback Method
dvisc	0.0004185	Pa×s	420.59	Joback Method
hvapt	59.60	kJ/mol	310.50	NIST Webbook
hvapt	60.70	kJ/mol	298.15	Calorimetric study of 20-methylacetophenone and 40-methylacetophenone
rho1	996.30	kg/m ³	308.15	Ultrasonic Studies of Binary Mixtures of Some Aromatic Ketones with N-Methyl-acetamide at 308.15 K
speedsl	1438.00	m/s	308.15	Ultrasonic studies on binary mixtures of some aromatic ketones with acetonitrile at T = 308.15 K

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	498.20	K	98.10	NIST Webbook

Datasets

Viscosity, Pa*s

Temperature, K - Liquid	Pressure, kPa - Liquid	Viscosity, Pa*s - Liquid
308.15	101.30	0.0015360
Reference		https://www.doi.org/10.1016/j.jct.2005.05.006

Sources

Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
Ultrasonic studies on binary mixtures of some aromatic ketones with N-methylacetamide at T = 308.15 K:	https://www.doi.org/10.1016/j.jct.2006.01.009
THERMODYNAMIC PROPERTIES OF DONOR ACCEPTOR COMPLEXES OF N-METHYL-AMINE: WITH ARYL KETONES IN HEXANE MEDIUM:	https://www.doi.org/10.1016/j.tca.2012.02.018
Density and viscosity of binary liquid systems of N-methylacetamide with aromatic ketones at T = 308.15 K:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	https://www.doi.org/10.1016/j.jct.2005.05.006
Calorimetric study of 20-methylacetophenone and 40-methylacetophenone:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C122009&Units=SI
Crippen Method:	https://www.doi.org/10.1016/j.jct.2012.08.034
Ultrasonic Studies of Binary Mixtures of Some Aromatic Ketones with N-Methyl-acetamide at 308.15 K:	https://www.chemeo.com/doc/models/crippen_log10ws
	https://www.doi.org/10.1021/je040008e

Legend

affp:	Proton affinity
basg:	Gas basicity

cpg:	Ideal gas heat capacity
dvisc:	Dynamic viscosity
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
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
rho:	Liquid Density
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
speedsl:	Speed of sound in fluid
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

Latest version available from:

<https://www.cheméo.com/cid/38-367-3/Ethanone-1-4-methylphenyl.pdf>

Generated by Cheméo on 2025-12-05 10:05:15.134433864 +0000 UTC m=+4677312.664474522.

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