

1-Methyl-4-(1-methylethyl)-cyclohexane

Other names:	1-Isopropyl-4-methyl-cyclohexane, trans 1-Methyl-4-(1-methylethyl)-cyclohexane, trans 1-Methyl-4-iso-propylcyclohexane,c&t 1-Methyl-4-isopropylcyclohexane 1-Methyl-4-isopropylcyclohexane (c,t) 1-Methyl-trans-4-isopropylcyclohexane 1-isopropyl-4-methylcyclohexane Cyclohexane, 1-methyl-4-(1-methylethyl)- Cyclohexane, 1-methyl-4-isopropyl, trans p-Menthane p-Menthane E p-Menthane, trans- para-Menthane trans-1-Isopropyl-4-methylcyclohexane trans-1-Methyl-4-isopropylcyclohexane trans-p-Menthane
Inchi:	InChI=1S/C10H20/c1-8(2)10-6-4-9(3)5-7-10/h8-10H,4-7H2,1-3H3/t9-,10-
InchiKey:	CFJYNSNXFLKNS-MGCOHNPYSA-N
Formula:	C10H20
SMILES:	CC1CCC(C(C)C)CC1
Mol. weight [g/mol]:	140.27
CAS:	99-82-1

Physical Properties

Property code	Value	Unit	Source
gf	47.62	kJ/mol	Joback Method
hf	-221.03	kJ/mol	Joback Method
hfus	11.04	kJ/mol	Joback Method
hvap	37.59	kJ/mol	Joback Method
ie	9.32	eV	NIST Webbook
log10ws	-3.18		Crippen Method
logp	3.469		Crippen Method
mcvol	140.900	ml/mol	McGowan Method
pc	2505.01	kPa	Joback Method
rinpol	973.00		NIST Webbook
rinpol	973.00		NIST Webbook
rinpol	978.00		NIST Webbook

rinpol	977.00		NIST Webbook
rinpol	979.00		NIST Webbook
rinpol	945.00		NIST Webbook
rinpol	999.00		NIST Webbook
rinpol	970.00		NIST Webbook
rinpol	973.00		NIST Webbook
rinpol	1000.00		NIST Webbook
rinpol	970.00		NIST Webbook
rinpol	976.00		NIST Webbook
rinpol	997.00		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	982.00		NIST Webbook
rinpol	997.00		NIST Webbook
rinpol	1017.00		NIST Webbook
rinpol	983.90		NIST Webbook
rinpol	979.40		NIST Webbook
rinpol	970.00		NIST Webbook
rinpol	945.00		NIST Webbook
rinpol	1008.00		NIST Webbook
rinpol	979.40		NIST Webbook
rinpol	988.00		NIST Webbook
rinpol	968.00		NIST Webbook
rinpol	970.00		NIST Webbook
ripol	1035.00		NIST Webbook
ripol	1122.00		NIST Webbook
tb	444.74 ± 0.40	K	NIST Webbook
tb	443.73 ± 0.30	K	NIST Webbook
tb	440.50 ± 0.50	K	NIST Webbook
tb	443.80	K	NIST Webbook
tb	440.00 ± 4.00	K	NIST Webbook
tb	440.00 ± 3.00	K	NIST Webbook
tb	443.00 ± 3.00	K	NIST Webbook
tb	442.00 ± 6.00	K	NIST Webbook
tb	441.00 ± 4.00	K	NIST Webbook
tb	445.15 ± 4.00	K	NIST Webbook
tb	445.00 ± 4.00	K	NIST Webbook
tb	442.00 ± 5.00	K	NIST Webbook
tb	443.85 ± 1.00	K	NIST Webbook
tb	445.55 ± 1.50	K	NIST Webbook
tb	443.00 ± 4.00	K	NIST Webbook
tb	443.85 ± 0.50	K	NIST Webbook
tb	444.45 ± 0.50	K	NIST Webbook
tc	643.71	K	Joback Method
tf	155.15 ± 2.00	K	NIST Webbook

tf	186.78 ± 0.03	K	NIST Webbook
tf	186.79 ± 0.02	K	NIST Webbook
tf	186.80 ± 0.01	K	NIST Webbook
vc	0.521	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	407.97	J/mol×K	643.71	Joback Method
cpg	299.72	J/mol×K	442.64	Joback Method
cpg	320.07	J/mol×K	476.15	Joback Method
cpg	339.46	J/mol×K	509.66	Joback Method
cpg	357.93	J/mol×K	543.18	Joback Method
cpg	375.49	J/mol×K	576.69	Joback Method
cpg	392.17	J/mol×K	610.20	Joback Method
dvisc	0.0002527	Paxs	442.64	Joback Method
dvisc	0.0082413	Paxs	190.60	Joback Method
dvisc	0.0027291	Paxs	232.61	Joback Method
dvisc	0.0012673	Paxs	274.61	Joback Method
dvisc	0.0007213	Paxs	316.62	Joback Method
dvisc	0.0004685	Paxs	358.63	Joback Method
dvisc	0.0003331	Paxs	400.63	Joback Method
hvapt	43.60	kJ/mol	412.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.44114e+01
Coeff. B	-3.71437e+03
Coeff. C	-6.45120e+01
Temperature range (K), min.	327.50
Temperature range (K), max.	472.69

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1678826&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307I
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
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
pvap:	Vapor pressure
rinpolar:	Non-polar retention indices
ripolar:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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