

Cyclopentane, 1,3-dimethyl-, cis-

Other names:	1,3-Dimethylcyclopentane cis 1,CIS-3-DIMETHYLCYCLOPENTANE 1-cis-3-Dimethylcyclopentane CIS-1,3-DIMETHYLCYCLOPENTANE c-1,3-Dimethylcyclopentane
Inchi:	InChI=1S/C7H14/c1-6-3-4-7(2)5-6/h6-7H,3-5H2,1-2H3/t6-,7+
InchiKey:	XAZKFISIRYLAEE-KNVOCYPGSA-N
Formula:	C7H14
SMILES:	CC1CCC(C)C1
Mol. weight [g/mol]:	98.19
CAS:	2532-58-3

Physical Properties

Property code	Value	Unit	Source
chl	-4587.30 ± 1.40	kJ/mol	NIST Webbook
gf	36.90	kJ/mol	Joback Method
hf	-133.60 ± 1.50	kJ/mol	NIST Webbook
hfl	-168.20 ± 1.40	kJ/mol	NIST Webbook
hfus	8.89	kJ/mol	Joback Method
hvap	34.20	kJ/mol	NIST Webbook
hvap	34.60	kJ/mol	NIST Webbook
hvap	34.30	kJ/mol	NIST Webbook
hvap	34.30	kJ/mol	NIST Webbook
log10ws	-2.16		Crippen Method
logp	2.442		Crippen Method
mcvol	98.630	ml/mol	McGowan Method
pc	3291.59	kPa	Joback Method
rinpol	685.80		NIST Webbook
rinpol	677.48		NIST Webbook
rinpol	686.00		NIST Webbook
rinpol	677.60		NIST Webbook
rinpol	683.00		NIST Webbook
rinpol	684.00		NIST Webbook
rinpol	686.00		NIST Webbook
rinpol	679.00		NIST Webbook
rinpol	681.00		NIST Webbook
rinpol	678.00		NIST Webbook

rinpol	684.00	NIST Webbook
rinpol	684.00	NIST Webbook
rinpol	680.40	NIST Webbook
rinpol	683.90	NIST Webbook
rinpol	675.00	NIST Webbook
rinpol	687.30	NIST Webbook
rinpol	685.50	NIST Webbook
rinpol	685.60	NIST Webbook
rinpol	685.60	NIST Webbook
rinpol	684.00	NIST Webbook
rinpol	685.30	NIST Webbook
rinpol	683.30	NIST Webbook
rinpol	687.50	NIST Webbook
rinpol	682.70	NIST Webbook
rinpol	686.00	NIST Webbook
rinpol	681.00	NIST Webbook
rinpol	684.00	NIST Webbook
rinpol	688.00	NIST Webbook
rinpol	681.90	NIST Webbook
rinpol	685.40	NIST Webbook
rinpol	684.00	NIST Webbook
rinpol	685.00	NIST Webbook
rinpol	685.00	NIST Webbook
rinpol	681.70	NIST Webbook
rinpol	683.40	NIST Webbook
rinpol	685.10	NIST Webbook
rinpol	686.80	NIST Webbook
rinpol	680.00	NIST Webbook
rinpol	681.00	NIST Webbook
rinpol	682.00	NIST Webbook
rinpol	684.00	NIST Webbook
rinpol	686.00	NIST Webbook
rinpol	688.00	NIST Webbook
rinpol	685.50	NIST Webbook
rinpol	685.80	NIST Webbook
rinpol	684.00	NIST Webbook
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rinpol	686.00		NIST Webbook
rinpol	689.00		NIST Webbook
rinpol	686.00		NIST Webbook
rinpol	689.00		NIST Webbook
rinpol	681.50		NIST Webbook
rinpol	682.00		NIST Webbook
rinpol	680.80		NIST Webbook
rinpol	674.96		NIST Webbook
rinpol	675.65		NIST Webbook
rinpol	687.90		NIST Webbook
rinpol	679.90		NIST Webbook
rinpol	677.60		NIST Webbook
rinpol	677.66		NIST Webbook
rinpol	681.00		NIST Webbook
rinpol	677.50		NIST Webbook
rinpol	677.64		NIST Webbook
rinpol	678.00		NIST Webbook
rinpol	677.48		NIST Webbook
rinpol	683.00		NIST Webbook
rinpol	683.00		NIST Webbook
rinpol	687.00		NIST Webbook
rinpol	683.00		NIST Webbook
rinpol	684.00		NIST Webbook
rinpol	682.00		NIST Webbook
rinpol	692.00		NIST Webbook
rinpol	683.00		NIST Webbook
rinpol	680.80		NIST Webbook
tb	364.11 ± 0.50	K	NIST Webbook
tb	363.85 ± 0.50	K	NIST Webbook
tb	363.90 ± 0.50	K	NIST Webbook

tb	363.85 ± 0.60	K	NIST Webbook
tb	363.70 ± 0.40	K	NIST Webbook
tb	364.05 ± 0.20	K	NIST Webbook
tb	364.87 ± 0.02	K	NIST Webbook
tb	363.95 ± 0.30	K	NIST Webbook
tb	363.90	K	NIST Webbook
tb	364.00	K	NIST Webbook
tc	551.90	K	NIST Webbook
tf	139.46 ± 0.10	K	NIST Webbook
tf	139.35 ± 0.40	K	NIST Webbook
tf	139.40 ± 0.30	K	NIST Webbook
tf	134.55 ± 4.00	K	NIST Webbook
tf	139.44 ± 0.05	K	NIST Webbook
tf	139.46 ± 0.02	K	NIST Webbook
tf	139.39 ± 0.20	K	NIST Webbook
tf	139.39 ± 0.07	K	NIST Webbook
tf	139.44 ± 0.05	K	NIST Webbook
tf	139.44 ± 0.05	K	NIST Webbook
tf	139.44 ± 0.03	K	NIST Webbook
tf	136.40 ± 1.50	K	NIST Webbook
tt	139.48 ± 0.07	K	NIST Webbook
vc	0.367	m ³ /kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	172.23 ± 0.34	J/mol×K	375.20	NIST Webbook
cpg	190.57 ± 0.38	J/mol×K	415.20	NIST Webbook
cpg	207.77 ± 0.42	J/mol×K	455.20	NIST Webbook
cpg	226.12 ± 0.45	J/mol×K	500.20	NIST Webbook
cpg	161.69 ± 0.32	J/mol×K	352.20	NIST Webbook
dvisc	0.0002650	Paxs	370.17	Joback Method
dvisc	0.0017720	Paxs	175.31	Joback Method
dvisc	0.0010080	Paxs	207.79	Joback Method
dvisc	0.0006678	Paxs	240.26	Joback Method
dvisc	0.0004881	Paxs	272.74	Joback Method
dvisc	0.0003124	Paxs	337.69	Joback Method
dvisc	0.0003813	Paxs	305.22	Joback Method
hvapt	30.40	kJ/mol	363.90	NIST Webbook
hvapt	34.20	kJ/mol	330.50	NIST Webbook
hvapt	32.83 ± 0.00	kJ/mol	322.62	NIST Webbook

hvapt	32.80 ± 0.10	kJ/mol	323.00	NIST Webbook
hvapt	31.70 ± 0.10	kJ/mol	342.00	NIST Webbook
hvapt	30.40 ± 0.10	kJ/mol	364.00	NIST Webbook
hvapt	34.00	kJ/mol	332.50	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/(T + C)$
Coeff. A	1.44248e+01
Coeff. B	-3.27206e+03
Coeff. C	-3.03370e+01
Temperature range (K), min.	261.79
Temperature range (K), max.	389.38

Information	Value
Property code	pvap
Equation	$\ln(P_{vp}) = A + B/T + C \cdot \ln(T) + D \cdot T^2$
Coeff. A	6.40317e+01
Coeff. B	-6.01095e+03
Coeff. C	-7.41243e+00
Coeff. D	6.01324e-06
Temperature range (K), min.	139.45
Temperature range (K), max.	551.00

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2532583&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.thermo.com/research/kdb/hcprop/showprop.php?cmpid=475
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci9903071
Crippen Method:	https://www.chemo.com/doc/models/crippen_log10ws
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.thermo.com/research/kdb/hcprop/showprop.php?cmpid=475
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume

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