Cyclopentane, chloro-

Other names: CHLOROCYCLOPENTANE
Cyclopentyl chloride
Inchi: InChI=1S/C5H9Cl/c6-5-3-1-2-4-5/h5H,1-4H2
InchiKey: NDTCXABJQNJPCF-UHFFFAOYSA-N
Formula: C5H9Cl
SMILES: ClC1CCCC1
Mol. weight [g/mol]: 104.58
CAS: 930-28-9

Physical Properties

Property code	Value	Unit	Source
gf	15.84	kJ/mol	Joback Method
hf	-101.79	kJ/mol	Joback Method
hfus	6.84	kJ/mol	Joback Method
hvap	38.79 ± 0.40	kJ/mol	NIST Webbook
hvap	38.80	kJ/mol	NIST Webbook
log10ws	-2.08		Crippen Method
logp	2.168		Crippen Method
mcvol	82.690	ml/mol	McGowan Method
pc	4135.61	kPa	Joback Method
rinpol	762.00		NIST Webbook
rinpol	804.00		NIST Webbook
rinpol	760.00		NIST Webbook
rinpol	760.00		NIST Webbook
rinpol	758.00		NIST Webbook
sl	238.04	J/mol×K	NIST Webbook
tb	387.20	K	NIST Webbook
tb	387.35 ± 0.20	K	NIST Webbook
tc	572.16	K	Joback Method
tf	178.85 ± 0.30	K	NIST Webbook
tt	180.00 ± 0.10	K	NIST Webbook
vc	0.305	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	140.78	J/mol×K	400.78	Joback Method
cpg	183.28	J/mol×K	537.88	Joback Method
cpg	152.33	J/mol×K	435.06	Joback Method
cpg	192.44	J/mol×K	572.16	Joback Method
cpg	163.25	J/mol×K	469.33	Joback Method
cpg	173.56	J/mol×K	503.61	Joback Method
cpg	128.57	J/mol×K	366.51	Joback Method
cpl	152.40	J/mol×K	298.15	NIST Webbook
dvisc	0.0004344	Pa×s	336.58	Joback Method
dvisc	0.0005579	Pa×s	306.65	Joback Method
dvisc	0.0011046	Pa×s	246.79	Joback Method
dvisc	0.0017902	Pa×s	216.86	Joback Method
dvisc	0.0033867	Pa×s	186.93	Joback Method
dvisc	0.0007566	Pa×s	276.72	Joback Method
dvisc	0.0003523	Pa×s	366.51	Joback Method
hfust	7.63	kJ/mol	169.40	NIST Webbook
hfust	0.64	kJ/mol	180.00	NIST Webbook
hfust	0.64	kJ/mol	180.00	NIST Webbook
hvapt	37.40	kJ/mol	354.50	NIST Webbook
hvapt	38.79	kJ/mol	298.15	NIST Webbook
sfust	3.54	J/mol×K	180.00	NIST Webbook
sfust	45.05	J/mol×K	169.40	NIST Webbook
svapt	130.10	J/mol×K	298.15	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.97435e+01
Coeff. B	-4.26454e+03
Coeff. C	-7.50310e+01
Temperature range (K), min.	294.22
Temperature range (K), max.	370.52

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	8.15692e+01
Coeff. B	-7.27943e+03
Coeff. C	-9.94014e+00
Coeff. D	7.40421e-06
Temperature range (K), min.	322.15
Temperature range (K), max.	386.15

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/files/research/kdb/mol/mol1756.mol
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C930289&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.cheric.org/research/kdb/hcprop/showprop.php?cmpid=1756
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

Legend

cpg:	Ideal gas heat capacity
cpl:	Liquid phase 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
hfust:	Enthalpy of fusion at a given temperature
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

sfust:	Entropy of fusion at a given temperature
sl:	Liquid phase molar entropy at standard conditions
svapt:	Entropy of vaporization at a given temperature
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume