Pentane, 1,5-diiodo-

Other names:	1,5-Diiodopentane
	Pentamethylene diiodide
Inchi:	InChI=1S/C5H10I2/c6-4-2-1-3-5-7/h1-5H2
InchiKey:	IAEOYUUPFYJXHN-UHFFFAOYSA-N
Formula:	C5H10I2
SMILES:	ICCCCCI
Mol. weight [g/mol]:	323.94
CAS:	628-77-3

Physical Properties

Property code	Value	Unit	Source
gf	107.46	kJ/mol	Joback Method
hf	7.21	kJ/mol	Joback Method
hfus	17.52	kJ/mol	Joback Method
hvap	45.47	kJ/mol	Joback Method
log10ws	-3.81		Crippen Method
logp	3.027		Crippen Method
mcvol	132.950	ml/mol	McGowan Method
pc	3295.37	kPa	Joback Method
tb	500.08	K	Joback Method
tc	739.07	K	Joback Method
tf	262.23	K	Joback Method
vc	0.491	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	213.41	J/mol×K	500.08	Joback Method
cpg	222.70	J/mol×K	539.91	Joback Method
cpg	231.35	J/mol×K	579.74	Joback Method
cpg	239.40	J/mol×K	619.58	Joback Method
cpg	246.90	J/mol×K	659.41	Joback Method
cpg	253.90	J/mol×K	699.24	Joback Method
cpg	260.46	J/mol×K	739.07	Joback Method

dvisc	0.0056592	Pa×s	262.23	Joback Method
dvisc	0.0026807	Pa×s	301.87	Joback Method
dvisc	0.0015104	Pa×s	341.51	Joback Method
dvisc	0.0009588	Pa×s	381.15	Joback Method
dvisc	0.0006631	Pa×s	420.80	Joback Method
dvisc	0.0004886	Pa×s	460.44	Joback Method
dvisc	0.0003779	Pa×s	500.08	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	422.20	K	2.70	NIST Webbook
tbrp	374.70	K	0.40	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.33708e+01
Coeff. B	-4.17109e+03
Coeff. C	-8.75860e+01
Temperature range (K), min.	406.40
Temperature range (K), max.	605.14

Sources

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/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=C628773&Units=SI

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
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume