Decane, 1,10-diiodo-

Other names:	1,10-Diiododecane
	Decamethylene diiodide
Inchi:	InChI=1S/C10H20I2/c11-9-7-5-3-1-2-4-6-8-10-12/h1-10H2
InchiKey:	CKJCTZAIDVFHCX-UHFFFAOYSA-N
Formula:	C10H20I2
SMILES:	ICCCCCCCCCCI
Mol. weight [g/mol]:	394.07
CAS:	16355-92-3

Physical Properties

Property code	Value	Unit	Source
gf	149.56	kJ/mol	Joback Method
hf	-95.99	kJ/mol	Joback Method
hfus	30.47	kJ/mol	Joback Method
hvap	56.60	kJ/mol	Joback Method
log10ws	-5.91		Crippen Method
logp	4.977		Crippen Method
mcvol	203.400	ml/mol	McGowan Method
pc	2025.41	kPa	Joback Method
tb	614.48	K	Joback Method
tc	832.11	K	Joback Method
tf	318.58	K	Joback Method
vc	0.771	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	436.84	J/mol×K	614.48	Joback Method
cpg	451.09	J/mol×K	650.75	Joback Method
cpg	464.51	J/mol×K	687.02	Joback Method
cpg	477.15	J/mol×K	723.29	Joback Method
cpg	489.06	J/mol×K	759.57	Joback Method
cpg	500.30	J/mol×K	795.84	Joback Method
cpg	510.92	J/mol×K	832.11	Joback Method

dvisc	0.0040782	Pa×s	318.58	Joback Method
dvisc	0.0017855	Pa×s	367.90	Joback Method
dvisc	0.0009503	Pa×s	417.21	Joback Method
dvisc	0.0005779	Pa×s	466.53	Joback Method
dvisc	0.0003865	Pa×s	515.85	Joback Method
dvisc	0.0002773	Pa×s	565.16	Joback Method
dvisc	0.0002099	Pa×s	614.48	Joback Method

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	471.70	K	1.60	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.52321e+01
Coeff. B	-5.34178e+03
Coeff. C	-1.08158e+02
Temperature range (K), min.	465.60
Temperature range (K), max.	646.61

Sources

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=C16355923&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/ci990307l

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

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