Decane, 1-iodo-

Other names:	1-Decyl iodide
	1-Iod0decane
	1-Iododecane
	Decyl iodide
	n-Decyl iodide
Inchi:	InChI=1S/C10H21I/c1-2-3-4-5-6-7-8-9-10-11/h2-10H2,1H3
InchiKey:	SKIDNYUZJPMKFC-UHFFFAOYSA-N
Formula:	C10H21I
SMILES:	CCCCCCCCCCI
Mol. weight [g/mol]:	268.18
CAS:	2050-77-3

Physical Properties

Property code	Value	Unit	Source
gf	91.44	kJ/mol	Joback Method
hf	-172.86	kJ/mol	Joback Method
hfus	26.06	kJ/mol	Joback Method
hvap	69.80	kJ/mol	NIST Webbook
log10ws	-4.96		Crippen Method
logp	4.562		Crippen Method
mcvol	177.580	ml/mol	McGowan Method
pc	2066.12	kPa	Joback Method
rinpol	1433.00		NIST Webbook
rinpol	1433.00		NIST Webbook
ripol	1706.00		NIST Webbook
ripol	1705.00		NIST Webbook
ripol	1734.00		NIST Webbook
ripol	1734.00		NIST Webbook
tb	521.34	K	Joback Method
tc	712.37	K	Joback Method
tf	260.52	K	Joback Method
vc	0.683	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	380.50	J/mol×K	521.34	Joback Method
cpg	395.60	J/mol×K	553.18	Joback Method
cpg	409.98	J/mol×K	585.02	Joback Method
cpg	423.67	J/mol×K	616.86	Joback Method
cpg	436.69	J/mol×K	648.70	Joback Method
cpg	449.07	J/mol×K	680.54	Joback Method
cpg	460.85	J/mol×K	712.37	Joback Method
dvisc	0.0023427	Pa×s	303.99	Joback Method
dvisc	0.0056611	Pa×s	260.52	Joback Method
dvisc	0.0012089	Pa×s	347.46	Joback Method
dvisc	0.0007228	Pa×s	390.93	Joback Method
dvisc	0.0004789	Pa×s	434.40	Joback Method
dvisc	0.0003421	Pa×s	477.87	Joback Method
dvisc	0.0002584	Pa×s	521.34	Joback Method
hvapt	57.40	kJ/mol	489.00	NIST Webbook
hvapt	58.10	kJ/mol	497.50	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	405.20	K	2.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.37437e+01
Coeff. B	-4.22636e+03
Coeff. C	-9.03940e+01
Temperature range (K), min.	404.48
Temperature range (K), max.	591.61

Sources

NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C2050773&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
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
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
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume