2-Decenal, (Z)-

Other names: (Z)-2-Decenal
2Z-Decenal
(Z)-Dec-2-enal
Inchi: InChI=1S/C10H18O/c1-2-3-4-5-6-7-8-9-10-11/h8-10H,2-7H2,1H3/b9-8-
InchiKey: MMFCJPPRCYDLLZ-HJWRWDBZSA-N
Formula: C10H18O
SMILES: CCCCCCCC=CC=O
Mol. weight [g/mol]: 154.25
CAS: 2497-25-8

Physical Properties

Property code	Value	Unit	Source
gf	14.02	kJ/mol	Joback Method
hf	-218.09	kJ/mol	Joback Method
hfus	24.15	kJ/mol	Joback Method
hvap	44.53	kJ/mol	Joback Method
log10ws	-3.14		Crippen Method
logp	3.102		Crippen Method
mcvol	149.030	ml/mol	McGowan Method
pc	2374.90	kPa	Joback Method
rinpol	1250.00		NIST Webbook
rinpol	1252.00		NIST Webbook
rinpol	1227.00		NIST Webbook
rinpol	1252.00		NIST Webbook
rinpol	1250.00		NIST Webbook
rinpol	1229.00		NIST Webbook
rinpol	1254.00		NIST Webbook
rinpol	1253.00		NIST Webbook
rinpol	1250.00		NIST Webbook
rinpol	1263.00		NIST Webbook
rinpol	1267.00		NIST Webbook
rinpol	1228.00		NIST Webbook
rinpol	1249.00		NIST Webbook
rinpol	1250.00		NIST Webbook
rinpol	1280.00		NIST Webbook
rinpol	1249.00		NIST Webbook
rinpol	1251.00		NIST Webbook

rinpol	1252.00		NIST Webbook
rinpol	1244.00		NIST Webbook
rinpol	1254.00		NIST Webbook
rinpol	1263.00		NIST Webbook
rinpol	1259.00		NIST Webbook
rinpol	1264.00		NIST Webbook
rinpol	1272.00		NIST Webbook
rinpol	1250.00		NIST Webbook
rinpol	1250.00		NIST Webbook
rinpol	1229.00		NIST Webbook
rinpol	1252.00		NIST Webbook
rinpol	1264.00		NIST Webbook
rinpol	1250.00		NIST Webbook
ripol	1630.00		NIST Webbook
ripol	1627.00		NIST Webbook
ripol	1627.00		NIST Webbook
ripol	1591.00		NIST Webbook
ripol	1644.00		NIST Webbook
ripol	1644.00		NIST Webbook
ripol	1618.00		NIST Webbook
ripol	1605.00		NIST Webbook
ripol	1599.00		NIST Webbook
ripol	1591.00		NIST Webbook
ripol	1625.00		NIST Webbook
ripol	1601.00		NIST Webbook
tb	481.02	K	Joback Method
tc	657.18	K	Joback Method
tf	239.38	K	Joback Method
vc	0.593	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	326.08	J/mol×K	481.02	Joback Method
cpg	388.96	J/mol×K	627.82	Joback Method
cpg	377.54	J/mol×K	598.46	Joback Method
cpg	365.57	J/mol×K	569.10	Joback Method
cpg	353.02	J/mol×K	539.74	Joback Method
cpg	339.86	J/mol×K	510.38	Joback Method
cpg	399.85	J/mol×K	657.18	Joback Method
dvisc	0.0002437	Pa×s	481.02	Joback Method

dvisc	0.0003193	Pa×s	440.75	Joback Method
dvisc	0.0004415	Pa×s	400.47	Joback Method
dvisc	0.0006565	Pa×s	360.20	Joback Method
dvisc	0.0010787	Pa×s	319.93	Joback Method
dvisc	0.0020448	Pa×s	279.65	Joback Method
dvisc	0.0048073	Pa×s	239.38	Joback Method

Sources

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=C2497258&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

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
rinpol:	Non-polar retention indices
ripol:	Polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume