cis-4-Decenal

Other names:	(4Z)-4-Decenal
	(Z)-4-Decen-1-al
	(Z)-4-Decenal
	(Z)-Dec-4-enal
	4-Decenal, (Z)-
	4-cis-Decenal
	4Z-Decenal
	cis-4-Decen-1-al
Inchi:	InChI=1S/C10H18O/c1-2-3-4-5-6-7-8-9-10-11/h6-7,10H,2-5,8-9H2,1H3/b7-6-
InchiKey:	CWRKZMLUDFBPAO-SREVYHEPSA-N
Formula:	C10H18O
SMILES:	CCCCCC=CCCC=O
Mol. weight [g/mol]:	154.25
CAS:	21662-09-9

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	59.30	kJ/mol	NIST Webbook
log10ws	-3.14		Crippen Method
logp	3.102		Crippen Method
mcvol	149.030	ml/mol	McGowan Method
pc	2374.90	kPa	Joback Method
rinpol	1199.00		NIST Webbook
rinpol	1171.00		NIST Webbook
rinpol	1170.00		NIST Webbook
rinpol	1170.00		NIST Webbook
rinpol	1169.70		NIST Webbook
rinpol	1194.40		NIST Webbook
rinpol	1188.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1197.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1205.00		NIST Webbook
rinpol	1177.00		NIST Webbook

rinpol	1192.00		NIST Webbook
rinpol	1177.00		NIST Webbook
rinpol	1205.00		NIST Webbook
rinpol	1170.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1193.00		NIST Webbook
rinpol	1200.00		NIST Webbook
ripol	1530.00		NIST Webbook
ripol	1542.00		NIST Webbook
ripol	1544.00		NIST Webbook
ripol	1546.00		NIST Webbook
ripol	1544.00		NIST Webbook
ripol	1525.00		NIST Webbook
ripol	1550.00		NIST Webbook
ripol	1544.00		NIST Webbook
ripol	1523.00		NIST Webbook
ripol	1542.00		NIST Webbook
ripol	1525.00		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

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.44415e+01
Coeff. B	-4.15084e+03
Coeff. C	-7.82400e+01
Temperature range (K), min.	371.50
Temperature range (K), max.	532.87

Sources

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=C21662099&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

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

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

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