3-Decen-2-one

Other names: Dec-3-en-2-one
Heptylidene acetone
Oenanthylidene acetone
Inchi: InChI=1S/C10H18O/c1-3-4-5-6-7-8-9-10(2)11/h8-9H,3-7H2,1-2H3/b9-8+
InchiKey: JRPDANVNRUIUAB-CMDGGOBGSA-N
Formula: C10H18O
SMILES: CCCCCCC=CC(C)=O
Mol. weight [g/mol]: 154.25
CAS: 10519-33-2

Physical Properties

Property code	Value	Unit	Source
gf	-15.38	kJ/mol	Joback Method
hf	-245.09	kJ/mol	Joback Method
hfus	23.46	kJ/mol	Joback Method
hvap	44.56	kJ/mol	Joback Method
log10ws	-3.14		Crippen Method
logp	3.102		Crippen Method
mcvol	149.030	ml/mol	McGowan Method
pc	2349.64	kPa	Joback Method
rinpol	1243.00		NIST Webbook
rinpol	1233.00		NIST Webbook
rinpol	1243.00		NIST Webbook
rinpol	1233.00		NIST Webbook
rinpol	1233.00		NIST Webbook
tb	486.23	K	Joback Method
tc	666.81	K	Joback Method
tf	247.31	K	Joback Method
vc	0.582	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	325.30	J/mol×K	486.23	Joback Method

cpg	339.42	J/mol×K	516.33	Joback Method
cpg	352.89	J/mol×K	546.42	Joback Method
cpg	365.74	J/mol×K	576.52	Joback Method
cpg	377.98	J/mol×K	606.62	Joback Method
cpg	389.65	J/mol×K	636.71	Joback Method
cpg	400.76	J/mol×K	666.81	Joback Method
dvisc	0.0042181	Pa×s	247.31	Joback Method
dvisc	0.0018451	Pa×s	287.13	Joback Method
dvisc	0.0009872	Pa×s	326.95	Joback Method
dvisc	0.0006050	Pa×s	366.77	Joback Method
dvisc	0.0004081	Pa×s	406.59	Joback Method
dvisc	0.0002953	Pa×s	446.41	Joback Method
dvisc	0.0002253	Pa×s	486.23	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.30692e+01
Coeff. B	-3.64175e+03
Coeff. C	-7.48620e+01
Temperature range (K), min.	359.78
Temperature range (K), max.	544.30

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C10519332&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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume