(Z)-2-pentenal

Other names: cis-2-Pentenal
Inchi: InChI=1S/C5H8O/c1-2-3-4-5-6/h3-5H,2H2,1H3/b4-3-
InchiKey: DTCCTIQRPGSLPT-ARJAWSKDSA-N
Formula: C5H8O
SMILES: CCC=CC=O
Mol. weight [g/mol]: 84.12
CAS: 1576-86-9

Physical Properties

Property code	Value	Unit	Source
gf	-28.08	kJ/mol	Joback Method
hf	-114.89	kJ/mol	Joback Method
hfus	11.20	kJ/mol	Joback Method
hvap	33.40	kJ/mol	Joback Method
log10ws	-1.05		Crippen Method
logp	1.151		Crippen Method
mcvol	78.580	ml/mol	McGowan Method
pc	4046.64	kPa	Joback Method
rinpol	727.00		NIST Webbook
ripol	1125.00		NIST Webbook
ripol	1095.00		NIST Webbook
ripol	1105.00		NIST Webbook
ripol	1115.00		NIST Webbook
ripol	1088.00		NIST Webbook
ripol	1088.00		NIST Webbook
ripol	1105.00		NIST Webbook
ripol	1142.00		NIST Webbook
ripol	1097.00		NIST Webbook
ripol	1105.00		NIST Webbook
ripol	1106.00		NIST Webbook
ripol	1110.00		NIST Webbook
ripol	1088.00		NIST Webbook
ripol	1105.00		NIST Webbook
ripol	1092.00		NIST Webbook
ripol	1088.00		NIST Webbook
tb	366.62	K	Joback Method
tc	548.86	K	Joback Method

tf	183.03	K	Joback Method
vc	0.312	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	130.02	J/mol×K	366.62	Joback Method
cpg	138.10	J/mol×K	396.99	Joback Method
cpg	145.79	J/mol×K	427.37	Joback Method
cpg	153.10	J/mol×K	457.74	Joback Method
cpg	160.05	J/mol×K	488.11	Joback Method
cpg	166.65	J/mol×K	518.49	Joback Method
cpg	172.92	J/mol×K	548.86	Joback Method
dvisc	0.0033669	Pa×s	183.03	Joback Method
dvisc	0.0016007	Pa×s	213.63	Joback Method
dvisc	0.0009169	Pa×s	244.23	Joback Method
dvisc	0.0005946	Pa×s	274.82	Joback Method
dvisc	0.0004205	Pa×s	305.42	Joback Method
dvisc	0.0003168	Pa×s	336.02	Joback Method
dvisc	0.0002502	Pa×s	366.62	Joback Method

Sources

NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C1576869&Units=SI
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
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