2-Butenal, (Z)-

Other names:	(2Z)-2-Butenal
	(Z)-2-Butenal
	(Z)-Crotonaldehyde
	Crotonaldehyde, (Z)-
	cis-Crotonaldehyde
Inchi:	InChI=1S/C4H6O/c1-2-3-4-5/h2-4H,1H3/b3-2-
InchiKey:	MLUCVPSAIODCQM-IHWYPQMZSA-N
Formula:	C4H6O
SMILES:	CC=CC=O
Mol. weight [g/mol]:	70.09
CAS:	15798-64-8

Physical Properties

Property code	Value	Unit	Source
gf	-36.50	kJ/mol	Joback Method
hf	-94.25	kJ/mol	Joback Method
hfus	8.61	kJ/mol	Joback Method
hvap	31.18	kJ/mol	Joback Method
log10ws	-0.63		Crippen Method
logp	0.761		Crippen Method
mcvol	64.490	ml/mol	McGowan Method
pc	4590.15	kPa	Joback Method
ripol	1035.00		NIST Webbook
tb	343.74	K	Joback Method
tc	526.38	K	Joback Method
tf	171.76	K	Joback Method
vc	0.257	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	97.86	J/mol×K	343.74	Joback Method
cpg	127.50	J/mol×K	495.94	Joback Method
cpg	122.18	J/mol×K	465.50	Joback Method

cpg	116.57	J/mol×K	435.06	Joback Method
cpg	110.66	J/mol×K	404.62	Joback Method
cpg	104.42	J/mol×K	374.18	Joback Method
cpg	132.55	J/mol×K	526.38	Joback Method
dvisc	0.0002298	Pa×s	343.74	Joback Method
dvisc	0.0002883	Pa×s	315.08	Joback Method
dvisc	0.0003783	Pa×s	286.41	Joback Method
dvisc	0.0005275	Pa×s	257.75	Joback Method
dvisc	0.0007992	Pa×s	229.09	Joback Method
dvisc	0.0013638	Pa×s	200.42	Joback Method
dvisc	0.0027814	Pa×s	171.76	Joback Method

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.46487e+01
Coeff. B	-3.32715e+03
Coeff. C	-4.54420e+01
Temperature range (K), min.	277.12
Temperature range (K), max.	401.77

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=C15798648&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

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