2-Butene-1,4-diol, (Z)-

Other names:	(Z)-2-BUTENE-1,4-DIOL
	CIS-2-BUTENE-1,4-DIOL
	CIS-BUTENEDIOL
	cis-1,4-Dihydroxy-2-butene
Inchi:	InChI=1S/C4H8O2/c5-3-1-2-4-6/h1-2,5-6H,3-4H2/b2-1-
InchiKey:	ORTVZLZNOYNASJ-UPHRSURJSA-N
Formula:	C4H8O2
SMILES:	OCC=CCO
Mol. weight [g/mol]:	88.11
CAS:	6117-80-2

Physical Properties

Property code	Value	Unit	Source
gf	-210.62	kJ/mol	Joback Method
hf	-313.13	kJ/mol	Joback Method
hfus	14.49	kJ/mol	Joback Method
hvap	57.81	kJ/mol	Joback Method
log10ws	0.12		Crippen Method
logp	-0.473		Crippen Method
mcvol	74.660	ml/mol	McGowan Method
pc	5359.18	kPa	Joback Method
tb	508.20	K	NIST Webbook
tc	644.82	K	Joback Method
tf	284.20 ± 0.50	K	NIST Webbook
vc	0.278	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	186.90	J/mol×K	644.82	Joback Method
cpg	155.46	J/mol×K	479.44	Joback Method
cpg	161.35	J/mol×K	507.00	Joback Method
cpg	166.95	J/mol×K	534.57	Joback Method
cpg	172.30	J/mol×K	562.13	Joback Method

cpg	177.40	J/mol×K	589.69	Joback Method
cpg	182.26	J/mol×K	617.25	Joback Method
dvisc	0.0001049	Pa×s	479.44	Joback Method
dvisc	0.2463890	Pa×s	251.40	Joback Method
dvisc	0.0289003	Pa×s	289.41	Joback Method
dvisc	0.0055752	Pa×s	327.41	Joback Method
dvisc	0.0015145	Pa×s	365.42	Joback Method
dvisc	0.0005259	Pa×s	403.43	Joback Method
dvisc	0.0002191	Pa×s	441.43	Joback Method
hvapt	74.70	kJ/mol	440.50	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	405.20	K	2.10	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	2.06264e+01
Coeff. B	-8.33944e+03
Coeff. C	1.27540e+01
Temperature range (K), min.	397.27
Temperature range (K), max.	531.78

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	2.11722e+02
Coeff. B	-1.71176e+04
Coeff. C	-2.86125e+01
Coeff. D	1.87469e-05
Temperature range (K), min.	284.15
Temperature range (K), max.	677.88

Sources

Joback Method:	https://en.wikipedia.org/wiki/Joback_method
KDB:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=914
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C6117802&Units=SI
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=914
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume

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