(S)-butan-2-ol

Other names:	(+) 2-Butanol
	2-butanol, (R)-(-)-
	L(-)-2-butanol
	R(-)-2-butanol
	l-2-butanol
	l-sec-butyl alcohol
Inchi:	InChI=1S/C4H10O/c1-3-4(2)5/h4-5H,3H2,1-2H3/t4-/m1/s1
InchiKey:	BTANRVKWQNVYAZ-SCSAIBSYSA-N
Formula:	C4H10O
SMILES:	CCC(C)O
Mol. weight [g/mol]:	74.12
CAS:	4221-99-2

Physical Properties

Property code	Value	Unit	Source
gf	-156.46	kJ/mol	Joback Method
hf	-283.40	kJ/mol	Joback Method
hfus	6.68	kJ/mol	Joback Method
hvap	40.79	kJ/mol	Joback Method
log10ws	-0.87		Crippen Method
logp	0.777		Crippen Method
mcvol	73.090	ml/mol	McGowan Method
pc	4432.62	kPa	Joback Method
tb	372.05 ± 0.50	K	NIST Webbook
tb	372.15 ± 1.00	K	NIST Webbook
tb	372.65 ± 0.30	K	NIST Webbook
tb	372.95 ± 0.50	K	NIST Webbook
tb	372.90 ± 0.50	K	NIST Webbook
tc	548.34	K	Joback Method
tf	180.66	K	Joback Method
tt	177.38 ± 0.10	K	NIST Webbook
tt	177.38 ± 0.02	K	NIST Webbook
vc	0.273	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	174.38	J/mol×K	548.34	Joback Method
cpg	168.31	J/mol×K	520.73	Joback Method
cpg	162.00	J/mol×K	493.11	Joback Method
cpg	155.45	J/mol×K	465.50	Joback Method
cpg	148.65	J/mol×K	437.89	Joback Method
cpg	141.59	J/mol×K	410.27	Joback Method
cpg	134.27	J/mol×K	382.66	Joback Method
dvisc	0.4179525	Pa×s	180.66	Joback Method
dvisc	0.0003304	Pa×s	382.66	Joback Method
dvisc	0.0006119	Pa×s	348.99	Joback Method
dvisc	0.0012927	Pa×s	315.33	Joback Method
dvisc	0.0032653	Pa×s	281.66	Joback Method
dvisc	0.0106075	Pa×s	247.99	Joback Method
dvisc	0.0498950	Pa×s	214.33	Joback Method
hfust	6.00	kJ/mol	177.40	NIST Webbook

Sources

Solid-liquid phase equilibrium and mixing properties of 2-Cyano-4'-methylbiphenyl in pure solvents: https://www.doi.org/10.1016/j.jct.2016.07.050

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=C4221992&Units=SI

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

hfust: Enthalpy of fusion at a given temperature

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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume