Peroxide, dibutyl

Other names:	Butyl peroxide
	Dibutyl peroxide
	(n-C4H9O)2
Inchi:	InChI=1S/C8H18O2/c1-3-5-7-9-10-8-6-4-2/h3-8H2,1-2H3
InchiKey:	PAOHAQSLJSMLAT-UHFFFAOYSA-N
Formula:	C8H18O2
SMILES:	CCCCOOCCCC
Mol. weight [g/mol]:	146.23
CAS:	3849-34-1

Physical Properties

Property code	Value	Unit	Source
chl	-5326.20 ± 5.00	kJ/mol	NIST Webbook
gf	-293.89	kJ/mol	Joback Method
hf	-525.73	kJ/mol	Joback Method
hfus	20.85	kJ/mol	Joback Method
hvap	40.00	kJ/mol	NIST Webbook
log10ws	-2.34		Crippen Method
logp	2.535		Crippen Method
mcvol	135.320	ml/mol	McGowan Method
pc	2391.19	kPa	Joback Method
tb	440.66	K	Joback Method
tc	612.33	K	Joback Method
tf	222.25	K	Joback Method
vc	0.509	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	274.26	J/mol×K	440.66	Joback Method
cpg	286.77	J/mol×K	469.27	Joback Method
cpg	298.83	J/mol×K	497.88	Joback Method
cpg	310.44	J/mol×K	526.49	Joback Method
cpg	321.60	J/mol×K	555.10	Joback Method

cpg	332.31	J/mol×K	583.71	Joback Method
cpg	342.58	J/mol×K	612.33	Joback Method
dvisc	0.0062439	Pa×s	222.25	Joback Method
dvisc	0.0024874	Pa×s	258.65	Joback Method
dvisc	0.0012435	Pa×s	295.05	Joback Method
dvisc	0.0007239	Pa×s	331.45	Joback Method
dvisc	0.0004691	Pa×s	367.86	Joback Method
dvisc	0.0003287	Pa×s	404.26	Joback Method
dvisc	0.0002442	Pa×s	440.66	Joback Method

Sources

McGowan Method: http://link.springer.com/article/10.1007/BF02311772
NIST Webbook: http://webbook.nist.gov/cgi/cbook.cgi?ID=C3849341&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

Legend

chl: Standard liquid enthalpy of combustion
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
tb: Normal Boiling Point Temperature
tc: Critical Temperature
tf: Normal melting (fusion) point
vc: Critical Volume