Pentaethylene glycol, decyl ether

Other names: 2-(2-(2-(2-(2-decyloxy-ethoxy)-ethoxy)-ethoxy)-ethoxy)-ethanol
Inchi: InChI=1S/C20H42O6/c1-2-3-4-5-6-7-8-9-11-22-13-15-24-17-19-26-20-18-25-16-14-23-12
InchiKey: QAXPOSPGRHYIHE-UHFFFAOYSA-N
Formula: C20H42O6
SMILES: CCCCCCCCCCOCCOCCOCCOCCOCCO
Mol. weight [g/mol]: 378.54

Physical Properties

Property code	Value	Unit	Source
gf	-544.30	kJ/mol	Joback Method
hf	-1269.46	kJ/mol	Joback Method
hfus	57.58	kJ/mol	Joback Method
hvap	88.84	kJ/mol	Joback Method
log10ws	-2.89		Crippen Method
logp	3.202		Crippen Method
mcvol	327.880	ml/mol	McGowan Method
pc	1020.08	kPa	Joback Method
rinpol	2733.70		NIST Webbook
rinpol	2733.70		NIST Webbook
tb	861.28	K	Joback Method
tc	1057.53	K	Joback Method
tf	487.13	K	Joback Method
vc	1.264	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1090.17	J/mol×K	861.28	Joback Method
cpg	1109.41	J/mol×K	893.99	Joback Method
cpg	1127.28	J/mol×K	926.70	Joback Method
cpg	1143.77	J/mol×K	959.41	Joback Method
cpg	1158.88	J/mol×K	992.11	Joback Method
cpg	1172.60	J/mol×K	1024.82	Joback Method
cpg	1184.92	J/mol×K	1057.53	Joback Method

dvisc	0.0002105	Pa×s	487.13	Joback Method
dvisc	0.0000734	Pa×s	549.49	Joback Method
dvisc	0.0000317	Pa×s	611.85	Joback Method
dvisc	0.0000160	Pa×s	674.20	Joback Method
dvisc	0.0000091	Pa×s	736.56	Joback Method
dvisc	0.0000056	Pa×s	798.92	Joback Method
dvisc	0.0000037	Pa×s	861.28	Joback Method

Sources

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=R184124&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
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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume