Tri-t-butylmethane

Inchi: InChI=1S/C13H28/c1-11(2,3)10(12(4,5)6)13(7,8)9/h10H,1-9H3
InchiKey: LVLOQIPOJWLAEB-UHFFFAOYSA-N
Formula: C13H28
SMILES: CC(C)(C)C(C(C)(C)C)C(C)(C)C
Mol. weight [g/mol]: 184.36
CAS: 35660-96-9

Physical Properties

Property code	Value	Unit	Source
chs	-8873.60 ± 2.70	kJ/mol	NIST Webbook
chs	-8825.00 ± 4.30	kJ/mol	NIST Webbook
gf	64.66	kJ/mol	Joback Method
hf	-235.20 ± 4.30	kJ/mol	NIST Webbook
hf	-236.00 ± 3.00	kJ/mol	NIST Webbook
hfs	-292.20 ± 4.30	kJ/mol	NIST Webbook
hfs	-244.00 ± 3.00	kJ/mol	NIST Webbook
hfus	3.66	kJ/mol	Joback Method
hsub	55.40	kJ/mol	NIST Webbook
hsub	7.70 ± 0.08	kJ/mol	NIST Webbook
hsub	57.00	kJ/mol	NIST Webbook
hsub	8.00	kJ/mol	NIST Webbook
hsub	57.03 ± 0.43	kJ/mol	NIST Webbook
hvap	40.26	kJ/mol	Joback Method
log10ws	-4.30		Crippen Method
logp	4.741		Crippen Method
mcvol	194.030	ml/mol	McGowan Method
pc	1734.67	kPa	Joback Method
tb	486.71	K	Joback Method
tc	680.73	K	Joback Method
tf	228.53	K	Joback Method
vc	0.725	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	543.06	J/mol×K	616.06	Joback Method
cpg	524.71	J/mol×K	583.72	Joback Method
cpg	576.46	J/mol×K	680.73	Joback Method
cpg	560.29	J/mol×K	648.39	Joback Method
cpg	462.17	J/mol×K	486.71	Joback Method
cpg	484.34	J/mol×K	519.05	Joback Method
cpg	505.16	J/mol×K	551.38	Joback Method
cps	354.80	J/mol×K	298.15	NIST Webbook
dvisc	0.0001778	Pa×s	486.71	Joback Method
dvisc	0.0009745	Pa×s	357.62	Joback Method
dvisc	0.0004893	Pa×s	400.65	Joback Method
dvisc	0.0002808	Pa×s	443.68	Joback Method
dvisc	0.0365097	Pa×s	228.53	Joback Method
dvisc	0.0074411	Pa×s	271.56	Joback Method
dvisc	0.0023434	Pa×s	314.59	Joback Method
hfust	3.53	kJ/mol	358.20	NIST Webbook
hsubt	7.70 ± 0.10	kJ/mol	312.50	NIST Webbook
hsubt	57.70 ± 2.80	kJ/mol	289.50	NIST Webbook
hsubt	57.00 ± 0.40	kJ/mol	292.00	NIST Webbook

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=C35660969&Units=SI
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Legend

chs: Standard solid enthalpy of combustion
cpg: Ideal gas heat capacity
cps: Solid phase heat capacity
dvisc: Dynamic viscosity
gf: Standard Gibbs free energy of formation
hf: Enthalpy of formation at standard conditions
hfs: Solid phase enthalpy of formation at standard conditions

hfus:	Enthalpy of fusion at standard conditions
hfust:	Enthalpy of fusion at a given temperature
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation 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
vc:	Critical Volume