Triphenylmethyl chloride

Other names: Benzene, 1,1',1''-(chloromethylidyne)tris-
chlorotriphenylmethane
methane, chlorotriphenyl-
triphenylchloromethane
trityl chloride
Inchi: InChI=1S/C19H15Cl/c20-19(16-10-4-1-5-11-16,17-12-6-2-7-13-17)18-14-8-3-9-15-18/h1-
InchiKey: JBWKIWSBJXDJDT-UHFFFAOYSA-N
Formula: C19H15Cl
SMILES: ClC(c1ccccc1)(c1ccccc1)c1ccccc1
Mol. weight [g/mol]: 278.77
CAS: 76-83-5

Physical Properties

Property code	Value	Unit	Source
chs	-9826.10	kJ/mol	NIST Webbook
gf	437.24	kJ/mol	Joback Method
hf	249.61	kJ/mol	Joback Method
hfs	183.00	kJ/mol	NIST Webbook
hfus	23.87	kJ/mol	Joback Method
hvap	67.81	kJ/mol	Joback Method
log10ws	-5.61		Crippen Method
logp	5.217		Crippen Method
mcvol	219.530	ml/mol	McGowan Method
pc	2340.56	kPa	Joback Method
tb	748.36	K	Joback Method
tc	1029.15	K	Joback Method
tf	382.40 ± 0.50	K	NIST Webbook
tf	381.00 ± 4.00	K	NIST Webbook
vc	0.814	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	660.29	J/mol×K	1029.15	Joback Method

cpg	578.49	J/mol×K	748.36	Joback Method
cpg	649.60	J/mol×K	982.35	Joback Method
cpg	638.03	J/mol×K	935.55	Joback Method
cpg	625.36	J/mol×K	888.75	Joback Method
cpg	611.37	J/mol×K	841.96	Joback Method
cpg	595.83	J/mol×K	795.16	Joback Method
cps	311.70	J/mol×K	298.50	NIST Webbook
cps	367.27	J/mol×K	298.15	NIST Webbook
dvisc	0.0002283	Pa×s	581.92	Joback Method
dvisc	0.0000842	Pa×s	748.36	Joback Method
dvisc	0.0006573	Pa×s	470.97	Joback Method
dvisc	0.0013782	Pa×s	415.49	Joback Method
dvisc	0.0001113	Pa×s	692.88	Joback Method
dvisc	0.0001545	Pa×s	637.40	Joback Method
dvisc	0.0003664	Pa×s	526.45	Joback Method
hfust	27.90	kJ/mol	376.80	NIST Webbook
hfust	27.90	kJ/mol	376.80	NIST Webbook
hfust	27.90	kJ/mol	376.80	NIST Webbook
sfust	74.10	J/mol×K	376.80	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	505.70	K	2.70	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=C76835&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l
Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
Solubility of Triphenylmethyl Chloride and Triphenyltin Chloride in Supercritical Carbon Dioxide:	https://www.doi.org/10.1021/je9000944

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
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
sfust:	Entropy of fusion at a given temperature
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume