Methane, bis(2-chloroethoxy)-

Other names:	2,2-Dichloroethylformal
	Bis(2-chloroethoxy)methane
	Bis(2-chloroethyl) formal
	Bis(«beta»-chloroethyl) formal
	Bis(Â«betaÂ»-chloroethyl) formal
	Di-2-chloroethyl formal
	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
	Formaldehyde bis(2-chloroethyl) acetal
	Formaldehyde bis(«beta»-chloroethyl) acetal
	Formaldehyde bis(Â«betaÂ»-chloroethyl) acetal
	NSC 5212
	Rcra waste number U024
Inchi:	InChI=1S/C5H10Cl2O2/c6-1-3-8-5-9-4-2-7/h1-5H2
InchiKey:	NLXGURFLBLRZRO-UHFFFAOYSA-N
Formula:	C5H10Cl2O2
SMILES:	ClCCOCOCCCl
Mol. weight [g/mol]:	173.04
CAS:	111-91-1

Physical Properties

Property code	Value	Unit	Source
gf	-242.64	kJ/mol	Joback Method
hf	-442.45	kJ/mol	Joback Method
hfus	19.48	kJ/mol	Joback Method
hvap	40.31	kJ/mol	Joback Method
log10ws	-0.89		Crippen Method
logp	1.455		Crippen Method
mcvol	117.530	ml/mol	McGowan Method
pc	3065.95	kPa	Joback Method
rinpol	1164.00		NIST Webbook
rinpol	194.00		NIST Webbook
rinpol	1164.00		NIST Webbook
tb	433.50	K	Joback Method
tc	614.33	K	Joback Method
tf	250.41	K	Joback Method
vc	0.450	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	264.64	J/mol×K	614.33	Joback Method
cpg	217.67	J/mol×K	433.50	Joback Method
cpg	226.10	J/mol×K	463.64	Joback Method
cpg	234.30	J/mol×K	493.78	Joback Method
cpg	242.26	J/mol×K	523.91	Joback Method
cpg	249.98	J/mol×K	554.05	Joback Method
cpg	257.44	J/mol×K	584.19	Joback Method
dvisc	0.0002516	Pa×s	433.50	Joback Method
dvisc	0.0025283	Pa×s	250.41	Joback Method
dvisc	0.0013967	Pa×s	280.93	Joback Method
dvisc	0.0008667	Pa×s	311.44	Joback Method
dvisc	0.0005857	Pa×s	341.95	Joback Method
dvisc	0.0004220	Pa×s	372.47	Joback Method
dvisc	0.0003195	Pa×s	402.99	Joback Method
hvapt	54.20	kJ/mol	407.00	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.49589e+01
Coeff. B	-5.24330e+03
Coeff. C	-1.15200e+01
Temperature range (K), min.	326.00
Temperature range (K), max.	555.01

Sources

The Yaws Handbook of Vapor Pressure: https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
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
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C111911&Units=SI

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
hvapt:	Enthalpy of vaporization at a given temperature
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
rinpol:	Non-polar retention indices
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume