1,2-Cyclobutanedicarboxylic acid, trans-

Other names:	trans-1,2-Cyclobutanedicarboxylic Acid
	USAF st-3
	1,2-Cyclobutanedicarboxylic acid, (E)-
	(E)-1,2-Cyclobutanedicarboxylic acid
	trans-cyclobutane-1,2-dicarboxylic acid
Inchi:	InChI=1S/C6H8O4/c7-5(8)3-1-2-4(3)6(9)10/h3-4H,1-2H2,(H,7,8)(H,9,10)/t3-,4-/m0/s1
InchiKey:	SUSAGCZZQKACKE-IMJSIDKUSA-N
Formula:	C6H8O4
SMILES:	O=C(O)C1CCC1C(=O)O
Mol. weight [g/mol]:	144.13
CAS:	1124-13-6

Physical Properties

Property code	Value	Unit	Source
gf	-490.90	kJ/mol	Joback Method
hf	-650.49	kJ/mol	Joback Method
hfus	19.78	kJ/mol	Joback Method
hvap	75.58	kJ/mol	Joback Method
log10ws	0.06		Crippen Method
logp	0.182		Crippen Method
mcvol	99.420	ml/mol	McGowan Method
pc	5390.71	kPa	Joback Method
tb	635.12	K	Joback Method
tc	823.70	K	Joback Method
tf	389.06	K	Joback Method
vc	0.369	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	265.38	J/mol×K	635.12	Joback Method
cpg	273.33	J/mol×K	666.55	Joback Method
cpg	280.81	J/mol×K	697.98	Joback Method
cpg	287.84	J/mol×K	729.41	Joback Method

cpg	294.43	J/mol×K	760.84	Joback Method
cpg	300.61	J/mol×K	792.27	Joback Method
cpg	306.40	J/mol×K	823.70	Joback Method
dvisc	0.0055272	Pa×s	389.06	Joback Method
dvisc	0.0019472	Pa×s	430.07	Joback Method
dvisc	0.0008226	Pa×s	471.08	Joback Method
dvisc	0.0003989	Pa×s	512.09	Joback Method
dvisc	0.0002154	Pa×s	553.10	Joback Method
dvisc	0.0001266	Pa×s	594.11	Joback Method
dvisc	0.0000797	Pa×s	635.12	Joback Method

Sources

McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C1124136&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

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