2H-Pyran-2,6(3H)-dione, dihydro-

Other names:	ANHYDRID KYSELINY GLUTAROVE
	Dihydro-2H-pyran-2,6(3H)-dione
	GLUTARIC ACID ANHYDRIDE
	Glutaric anhydride
	PENTANEDIOIC ANHYDRIDE
	pentanedioic acid, anhydride
Inchi:	InChI=1S/C5H6O3/c6-4-2-1-3-5(7)8-4/h1-3H2
InchiKey:	VANNPISTIUFMLH-UHFFFAOYSA-N
Formula:	C5H6O3
SMILES:	O=C1CCCC(=O)O1
Mol. weight [g/mol]:	114.10
CAS:	108-55-4

Physical Properties

Property code	Value	Unit	Source
chs	-2206.50 ± 0.60	kJ/mol	NIST Webbook
gf	-307.92	kJ/mol	Joback Method
hf	-532.40 ± 1.80	kJ/mol	NIST Webbook
hfs	-618.50 ± 0.90	kJ/mol	NIST Webbook
hfus	6.47	kJ/mol	Joback Method
hsub	86.10	kJ/mol	NIST Webbook
hsub	86.10 ± 1.60	kJ/mol	NIST Webbook
hsub	86.10 ± 1.60	kJ/mol	NIST Webbook
hvap	40.47	kJ/mol	Joback Method
ie	11.17	eV	NIST Webbook
log10ws	-0.45		Crippen Method
logp	0.240		Crippen Method
mcvol	79.460	ml/mol	McGowan Method
pc	5109.34	kPa	Joback Method
tb	560.15	K	NIST Webbook
tc	749.54	K	Joback Method
tf	325.15	K	NIST Webbook

tt	329.20	K	Solubility Determination and Thermodynamic Modeling of Glutaric Anhydride in Diverse Solvent Systems Consisting of Acetic Acid, Ethanoic Anhydride, and Tetrachloromethane from T = (278.45 to 324.45) K
vc	0.284	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	226.82	J/mol×K	708.05	Joback Method
cpg	171.81	J/mol×K	500.61	Joback Method
cpg	183.79	J/mol×K	542.10	Joback Method
cpg	195.35	J/mol×K	583.59	Joback Method
cpg	206.42	J/mol×K	625.08	Joback Method
cpg	216.93	J/mol×K	666.56	Joback Method
cpg	236.02	J/mol×K	749.54	Joback Method
hsubt	85.90 ± 1.60	kJ/mol	309.00	NIST Webbook
hvapt	60.90	kJ/mol	466.50	NIST Webbook

Pressure Dependent Properties

Property code	Value	Unit	Pressure [kPa]	Source
tbrp	423.20	K	1.30	NIST Webbook
tbrp	440.50 ± 2.50	K	2.70	NIST Webbook

Correlations

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/(T + C)
Coeff. A	1.60108e+01
Coeff. B	-5.80167e+03
Coeff. C	-5.48940e+01

Temperature range (K), min.	423.88
Temperature range (K), max.	597.14

Information	Value
Property code	pvap
Equation	ln(Pvp) = A + B/T + C*ln(T) + D*T^2
Coeff. A	9.65423e+01
Coeff. B	-1.19239e+04
Coeff. C	-1.13780e+01
Coeff. D	4.18011e-06
Temperature range (K), min.	328.00
Temperature range (K), max.	838.00

Sources

Crippen Method:	https://www.chemeo.com/doc/models/crippen_log10ws
KDB:	https://www.cheric.org/files/research/kdb/mol/mol990.mol
KDB Vapor Pressure Data:	https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=990
The Yaws Handbook of Vapor Pressure:	https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure
Joback Method:	https://en.wikipedia.org/wiki/Joback_method
McGowan Method:	http://link.springer.com/article/10.1007/BF02311772
Solubility Determination and Thermodynamic Modeling of Glutaric Anhydride in Diverse Solvent Systems Consisting of Acetic Acid, Ethanoic Anhydride, and Tetrachloromethane from T = (278.45 to 324.45) K:	https://www.doi.org/10.1021/acs.jced.8b00496
NIST Webbook:	http://webbook.nist.gov/cgi/cbook.cgi?ID=C108554&Units=SI
Crippen Method:	http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

chs:	Standard solid enthalpy of combustion
cpg:	Ideal gas heat capacity
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
hsub:	Enthalpy of sublimation at standard conditions
hsubt:	Enthalpy of sublimation at a given temperature
hvap:	Enthalpy of vaporization at standard conditions
hvapt:	Enthalpy of vaporization at a given temperature

ie:	Ionization energy
log10ws:	Log10 of Water solubility in mol/l
logp:	Octanol/Water partition coefficient
mcvol:	McGowan's characteristic volume
pc:	Critical Pressure
pvap:	Vapor pressure
tb:	Normal Boiling Point Temperature
tbrp:	Boiling point at reduced pressure
tc:	Critical Temperature
tf:	Normal melting (fusion) point
tt:	Triple Point Temperature
vc:	Critical Volume