Glucose

Other names:	(+)-Glucose
	(2R,3S,4R,5R)-2,3,4,5,6-pentahydroxyhexanal
	.alpha.-D-glucopyranose
	.alpha.-D-glucose
	.alpha.-dextrose
	Anhydrous dextrose
	Blood sugar
	Cartose
	Cerelose
	Cerelose 2001
	Corn sugar
	D(+)-glucose
	D-(+)-Glucose
	D-Glucose
	D-Glucose, anhydrous
	Dextropur
	Dextrose
	Dextrose, anhydrous
	Dextrosol
	Glucolin
	Glucose (D)
	Glucose liquid
	Glucose, anhydrous
	Glucosteril
	Goldsugar
	Grape sugar
	Maxim Energy Gel
	Roferose ST
	Staleydex 111
	Staleydex 333
	Sugar, grape
	Tabfine 097(HS)
	Vadex
	glucopyranose, .alpha.-D-
Inchi:	InChI=1S/C6H12O6/c7-1-3(9)5(11)6(12)4(10)2-8/h1,3-6,8-12H,2H2/t3-,4+,5+,6+/m0/s1
InchiKey:	GZCGUPFRVQAUEE-SLPGGIOYSA-N
Formula:	C6H12O6
SMILES:	O=CC(O)C(O)C(O)C(O)CO
Mol. weight [g/mol]:	180.16
CAS:	50-99-7

Physical Properties

Property code	Value	Unit	Source
gf	-793.74	kJ/mol	Joback Method
hf	-1035.02	kJ/mol	Joback Method
hfus	19.93	kJ/mol	Joback Method
hvap	117.51	kJ/mol	Joback Method
log10ws	0.74		Estimated Solubility Method
log10ws	0.74		Aqueous Solubility Prediction Method
logp	-3.379		Crippen Method
mcvol	126.320	ml/mol	McGowan Method
pc	6631.37	kPa	Joback Method
tb	844.48	K	Joback Method
tc	1034.02	K	Joback Method
tf	414.00 ± 2.00	K	NIST Webbook
tf	435.25	K	Artificial neural networks as a supporting tool for compatibility study based on thermogravimetric data
tf	423.00 ± 3.00	K	NIST Webbook
tf	420.00 ± 4.00	K	NIST Webbook
tf	399.25	K	Aqueous Solubility Prediction Method
vc	0.460	m3/kmol	Joback Method

Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	419.64	J/mol×K	1034.02	Joback Method
cpg	415.49	J/mol×K	1002.43	Joback Method
cpg	411.06	J/mol×K	970.84	Joback Method
cpg	406.32	J/mol×K	939.25	Joback Method
cpg	401.25	J/mol×K	907.66	Joback Method
cpg	395.83	J/mol×K	876.07	Joback Method
cpg	390.04	J/mol×K	844.48	Joback Method
dvisc	0.0017994	Pa×s	443.48	Joback Method
dvisc	4.8974616e-08	Pa×s	844.48	Joback Method

dvisc	0.0000001	Pa×s	777.65	Joback Method
dvisc	0.0000004	Pa×s	710.81	Joback Method
dvisc	0.0000018	Pa×s	643.98	Joback Method
dvisc	0.0000107	Pa×s	577.15	Joback Method
dvisc	0.0000991	Pa×s	510.31	Joback Method
hvapt	138.70	kJ/mol	391.50	Thermodynamic properties of starch and glucose

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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
tb:	Normal Boiling Point Temperature
tc:	Critical Temperature
tf:	Normal melting (fusion) point
vc:	Critical Volume