d-Mannose

Other names: Carubinose; Mannose; Mannose, d-; Seminose; d(+)-Mannose.

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-/m1/s1

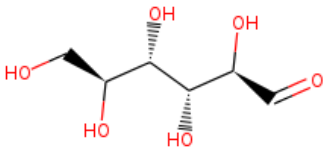
InChI Key: GZCGUPFRVQAUEE-KVTDHHQDSA-N

Formula: C6H12O6

SMILES: O=CC(O)C(O)C(O)C(O)CO

Molecular Weight: 180.16

CAS: 3458-28-4



Physical Properties

Property	Value	Unit	Source
$\Delta_c H°_{solid}$	-2812.67 ± 0.93	kJ/mol	NIST Webbook
$\Delta_c H°_{solid}$	-2813.00 ± 3.40	kJ/mol	NIST Webbook
$\Delta_f G°$	-793.74	kJ/mol	Joback Method
$\Delta_f H°_{gas}$	-1035.02	kJ/mol	Joback Method
$\Delta_f H°_{solid}$	-1263.40 ± 1.20	kJ/mol	NIST Webbook
$\Delta_{fus} H°$	19.93	kJ/mol	Joback Method
$\Delta_{vap} H°$	117.51	kJ/mol	Joback Method
$logP_{oct/wat}$	-3.379		Crippen Method
P_c	6631.37	kPa	Joback Method
T_{boil}	844.48	K	Joback Method
T_c	1034.02	K	Joback Method
T_{fus}	443.48	K	Joback Method
V_c	0.460	m^3/kg-mol	Joback Method

Temperature Dependent Properties

Property	Value	Unit	Temperature (K)	Source
$C_{p,gas}$	390.04	J/mol×K	844.48	Joback Method
$C_{p,solid}$	214.20	J/mol×K	300.0	NIST Webbook
$C_{p,solid}$	216.00	J/mol×K	303.0	NIST Webbook
η	0.0000000	Pa×s	844.48	Joback Method

Sources

Joback Method: https://en.wikipedia.org/wiki/Joback_method
NIST Webbook: http://webbook.nist.gov/cgi/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-/m1/s1
Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

Legend

Δ_c**H°**$_{solid}$: Standard solid enthalpy of combustion (kJ/mol).
C$_{p,gas}$: Ideal gas heat capacity (J/mol×K).
C$_{p,solid}$: Solid phase heat capacity (J/mol×K).
η: Dynamic viscosity (Pa×s).
Δ_f**G°**: Standard Gibbs free energy of formation (kJ/mol).
Δ_f**H°**$_{gas}$: Enthalpy of formation at standard conditions (kJ/mol).
Δ_f**H°**$_{solid}$: Solid phase enthalpy of formation at standard conditions (kJ/mol).
Δ_{fus}**H°**: Enthalpy of fusion at standard conditions (kJ/mol).
Δ_{vap}**H°**: Enthalpy of vaporization at standard conditions (kJ/mol).
***log*P**$_{oct/wat}$: Octanol/Water partition coefficient .
P$_c$: Critical Pressure (kPa).
T$_{boil}$: Normal Boiling Point Temperature (K).
T$_c$: Critical Temperature (K).
T$_{fus}$: Normal melting (fusion) point (K).
V$_c$: Critical Volume (m^3/kg-mol).

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