Diffusion coefficient of mannose in water at infinite dilution

3 Diffusion in Liquid Mixtures

3.1. Data

3.1.2. Diffusion in Binary Mixtures at Infinite Dilution

$C_6 H_{12} O_6$	(1)	mannose	3458-28-4
$H_2 O$	(2)	water	7732-18-5
Diffusion Coefficient at infinite dilution: $D^0{}_{1(2)}$ (T); Method: TAYLOR			Ref.: [2007M1]
Equation: $D = A \cdot \exp[-B/RT]$			Range: 273 < T/K < 353
Comment: B in [kJ/mole]; $D^0{}_{1(2)}$ [m^2/s] = D			
Parameter:	$A \cdot 10^6$	B	Std-Dev
	1.377	18.82	2.8%
Diffusion Coefficient at infinite dilution: p = 101.325 kPa; Method: TAYLOR			Ref.: [2007M1]
T [K]	Type	$D \cdot 10^9$ [m^2/s]	
273.2 ± 0.1	$D^0{}_{1(2)}$	0.334 ± 2.5%	
293.2 ± 0.1	$D^0{}_{1(2)}$	0.620 ± 2.5%	
298.2 ± 0.1	$D^0{}_{1(2)}$	0.704 ± 2.5%	
313.2 ± 0.1	$D^0{}_{1(2)}$	1.02 ± 2.5%	
333.2 ± 0.1	$D^0{}_{1(2)}$	1.59 ± 2.5%	
353.2 ± 0.2	$D^0{}_{1(2)}$	2.16 ± 2.5%	

Symbols and Abbreviations

Short Form	Full Form
D	diffusion coefficient
p	pressure
T	temperature
TAYLOR	Taylor dispersion technique

References

[2007M1] Mogi N., Sugai, E., Fuse, Y., Funazukuri, T.: J. Chem. Eng. Data **52** (2007) 40–43.

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