

Diffusion coefficient of benzene into cyclohexane and heptane at infinite dilution

3 Diffusion in Liquid Mixtures

3.1. Data

3.1.4. Diffusion in Ternary Mixtures at Infinite Dilution

C ₆ H ₆	(1)	benzene	71-43-2
C ₆ H ₁₂	(2)	cyclohexane	110-82-7
C ₇ H ₁₆	(3)	heptane	142-82-5
Diffusion coefficient at infinite dilution: $D^{\circ}_{1(23)}(x_i)$; Method: TAYLOR			Ref.: [2007S5]
$T = 298.15 \text{ K}; p = 101.325 \text{ kPa}$			
x_2	x_1	$D^{\circ}_{1(23)} \cdot 10^9 [\text{m}^2/\text{s}]$	
0.0000		$3.75 \pm 3\%$	
0.1013		$3.68 \pm 3\%$	
0.2027		$3.53 \pm 3\%$	
0.4037		$3.24 \pm 3\%$	
0.4998		$3.05 \pm 3\%$	
0.6018		$2.83 \pm 3\%$	
0.8024		$2.39 \pm 3\%$	
0.9002		$2.22 \pm 3\%$	
1.0000		$1.92 \pm 3\%$	

Symbols and Abbreviations

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

References

[2007S5] Safi A., Nicolas, C., Neau, E., Chevalier, J. L.: J. Chem. Eng. Data **52** (2007) 977–981.