

Diffusion coefficient of benzene into propan-2-one and cyclohexane 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 ₃ H ₆ O	(2)	propan-2-one	67-64-1
C ₆ H ₁₂	(3)	cyclohexane	110-82-7
Diffusion coefficient at infinite dilution: $D_{1(23)}^{\circ}(x_i)$; Method: TAYLOR			Ref.: [2008S4]
$T = 298.15 \text{ K}; p = 101.325 \text{ kPa}$			
x_2	x_1	$D_{1(23)}^{\circ} \cdot 10^9 \text{ [m}^2/\text{s]}$	
0.0000		$1.92 \pm 3\%$	
0.1900		$2.46 \pm 3\%$	
0.3000		$2.71 \pm 3\%$	
0.5033		$3.21 \pm 3\%$	
0.7449		$3.80 \pm 3\%$	
0.8777		$4.10 \pm 3\%$	
1.0000		$4.25 \pm 3\%$	

Symbols and Abbreviations

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

References

[2008S4] Safi A., Nicolas, C., Neau, E., Chevalier, J. L.: J. Chem. Eng. Data **53** (2008) 444–448.