

Diffusion coefficient of decane in dodecane

3 Diffusion in Liquid Mixtures

3.1. Data

3.1.1. Diffusion in Binary Mixtures

C ₁₀ H ₂₂	(1)	decane	124-18-5
C ₁₂ H ₂₆	(2)	dodecane	112-40-3
Mutual Diffusion Coefficient: $D_{12}(w_i)$; $T = 298.15$ K; Method: OEC			Ref.: [2008B3]
w_1	p [kPa]	$D \cdot 10^9$ [m ² /s]	
0.50	101.32	1.18 ± 0.12	
Mutual Diffusion Coefficient: $D_{12}(w_i)$; $T = 298.15$ K; Method: OEC			Ref.: [2007L2]
w_1	p [kPa]	$D \cdot 10^9$ [m ² /s]	
0.50	101.32	1.18 ± 0.12	
Intradiffusion Coefficient: $D_{1T}(T)$; Method: TAYLOR			Ref.: [1989E7]
T [K]	p [MPa]	$D \cdot 10^9$ [m ² /s]	
304	1.38	1.09 ± 0.04	
373	1.38	2.95 ± 0.12	
443	1.38	5.83 ± 0.06	

Symbols and Abbreviations

Short Form	Full Form
D	diffusion coefficient
p	pressure
T	temperature
TAYLOR	Taylor dispersion technique
OEC	open ended capillary
w_i	mass fraction

References

- [1989E7] Erkey, C., Rodden, J. B., Matthews, M. A., Akgerman, A.: Int. J. Thermophys. **10** (1989) 953–962.
 [2007L2] Leahy-Dios A., Firoozabadi, A.: J. Phys. Chem. B **111** (2007) 191–198.
 [2008B3] Blanco P., Polyakov, P., Bou-Ali, M. M., Wiegand, S.: J. Phys. Chem. B **112** (2008) 8340–8345.