

# Diffusion coefficient of diethyl ether in trichloro-methane

## 3 Diffusion in Liquid Mixtures

### 3.1. Data

#### 3.1.1. Diffusion in Binary Mixtures

C <sub>4</sub> H <sub>10</sub> O	(1)	diethyl ether	60-29-7
C H Cl <sub>3</sub>	(2)	trichloro-methane	67-66-3
Mutual Diffusion Coefficient: $D_{12}(x_i)$ ; $T = 298.15$ K; Method: DIA			Ref.: [1971S5]
$x_1$	$p$ [kPa]	$D \cdot 10^9$ [m <sup>2</sup> /s]	
0.0	101.32	2.131	
0.1	101.32	2.550	
0.2	101.32	2.930	
0.3	101.32	3.331	
0.4	101.32	3.685	
0.5	101.32	4.001	
0.6	101.32	4.212	
0.7	101.32	4.353	
0.8	101.32	4.380	
0.9	101.32	4.420	
1.0	101.32	4.475	
Comment: mean deviation: $\pm 1$ –2%; identical data set published in [1973S3]			
Mutual Diffusion Coefficient: $D_{12}(x_i)$ ; $T = 298.15$ K; Method: MZ-INT			Ref.: [1961A1]
$x_1$	$p$ [kPa]	$D \cdot 10^9$ [m <sup>2</sup> /s]	
0.00435	101.32	2.147	
0.2044	101.32	2.909	
0.404	101.32	3.683	
0.601	101.32	4.211	
0.794	101.32	4.381	
0.794	101.32	4.442	
0.896	101.32	4.488	
0.997	101.32	4.509	

## Symbols and Abbreviations

Short Form	Full Form
$D$	diffusion coefficient
$p$	pressure
$T$	temperature
$x_i$	mole fraction
INT	interferometry
DIA	diaphragm cell

## References

- [1961A1] Anderson, D. K., Babb, A. L.: J. Phys. Chem. **65** (1961) 1281–1283.  
 [1971S5] Sanni, S. A., Fell, C. J. D., Hutchison, H. P.: J. Chem. Eng. Data **16** (1971) 424–427.  
 [1973S3] Sanni, S. A., Hutchison, P.: J. Chem. Eng. Data **18** (1973) 317–322.