Component	M	ρ (g/cm^3)	V_b cm^3/mol)	r (Å)	T_c (K)	$\frac{\epsilon}{k_B}$ (K)
TCE	131.38	1.46	-	-	571	-
Air	28.97	-	29.9	3.617	-	97

Table 1:

1 Temperature Dependent Diffusion Coefficients

The liquid and gas diffusion coefficients are calculated using the Wilke-Lee's equation (1) and Wilke-Chang's equation (6). It is important that the inconsistent units listed in Table 1 are used consistently.

1.1 Gas

The gas diffusivity D_G, cm^2/s is calculated using

$$D_G = \frac{BT^{3/2}\sqrt{1/M_1 + 1/M_2}}{Pr_{12}^2 I_D} \tag{1}$$

where $B = (10.85 - 2.50\sqrt{1/M_1 + 1/M_2}) \cdot 10^{-4}$, M_1 and M_2 are the molar masses in g/mol of the two components, T is the temperature in K,

$$\frac{\epsilon}{k_B} = 0.77 T_c \tag{2}$$

$$\frac{\epsilon}{k_B} = 1.15 T_b \tag{3}$$

$$\frac{\epsilon}{k_B} = 1.92 T_m \tag{4}$$

$$\frac{\epsilon_{12}}{k_B} = \sqrt{\frac{\epsilon_1}{k_B}\frac{\epsilon_2}{k_B}} \tag{5}$$

1.2 Liquid

$$\frac{D_L \mu}{T} = 7.4 \cdot 10^{-8} \frac{\sqrt{XM}}{V_b^{0.6}} \tag{6}$$