

Table 1. Interconversions between Quantities Used as Measures of Solubilities
c-component Systems Containing *c*-1 Solutes *i* and Single Solvent *c*

	x_i	w_i	m_i	c_i
$x_i =$	x_i	$\frac{1}{1 + \frac{M_i}{M_c} \left\{ \frac{1}{w_i} - 1 + \sum_{j \neq i}^{c-1} \left(\frac{M_c}{M_j} - 1 \right) \frac{w_j}{w_i} \right\}}$	$\frac{1}{1 + \frac{1}{m_i M_c} + \sum_{j \neq i}^{c-1} \frac{m_j}{m_i}}$	$\frac{1}{1 + \frac{1}{M_c} \left(\frac{\rho}{c_i} - M_i \right) + \sum_{j \neq i}^{c-1} \frac{c_j}{c_i} \left(1 - \frac{M_j}{M_c} \right)}$
$w_i =$	$\frac{1}{1 + \frac{M_c}{M_i} \left\{ \frac{1}{x_i} - 1 + \sum_{j \neq i}^{c-1} \left(\frac{M_j}{M_c} - 1 \right) \frac{x_j}{x_i} \right\}}$	w_i	$\frac{1}{1 + \frac{1}{m_i M_i} \left(1 + \sum_{j \neq i}^{c-1} m_j M_j \right)}$	$\frac{c_i M_i}{\rho}$
$m_i =$	$\frac{1}{M_c \left(\frac{1}{x_i} - 1 - \sum_{j \neq i}^{c-1} \frac{x_j}{x_i} \right)}$	$\frac{1}{M_i \left(\frac{1}{w_i} - 1 - \sum_{j \neq i}^{c-1} \frac{w_j}{w_i} \right)}$	m_i	$\frac{1}{\frac{1}{c_i} \left(\rho - \sum_{j \neq i}^{c-1} c_j M_j \right) - M_i}$
$c_i =$	$\frac{\rho}{M_i + M_c \left\{ \frac{1}{x_i} - 1 + \sum_{j \neq i}^{c-1} \left(\frac{M_j}{M_c} - 1 \right) \frac{x_j}{x_i} \right\}}$	$\frac{\rho w_i}{M_i}$	$\frac{\rho}{\frac{1}{m_i} \left(1 + \sum_{j \neq i}^{c-1} m_j M_j \right) + M_j}$	c_i

ρ - density of solution; M_i - molar masses of *i*. For relations for 2-component systems, set summations to 0.