

Solubility and Decomposition of Organic Compounds in Subcritical Water

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Table S1. Carbohydrates Solubilities in Subcritical Water.

Compound	Temperature range (K)	Pressure (bar)	Medium/Solvent	Solubility range (x_2) ^a	Empirical equations	Reference
Glucose				$4.45 \times 10^{-2} - 2.32 \times 10^{-1}$		
Maltose	293–453	N/A	Subcritical water	$2.44 \times 10^{-2} - 1.47 \times 10^{-1}$	The modified Apelblat equation or the A-UNIFAC model	[52]
Xylose				$5.08 \times 10^{-2} - 2.07 \times 10^{-1}$		

^a Mole fraction solubility of compounds.; N/A: Not Available

Table S2. Preservative Ingredient Solubilities in Subcritical Water.

Compound	Temperature range (K)	Pressure (bar)	Medium/Solvent	Solubility range (x_2) ^a	Empirical equations	Reference
Methyl paraben				$2.50 \times 10^{-4} - 1.50 \times 10^{-3}$		
Ethyl paraben	298–473	5–35	Subcritical water	$0.74 \times 10^{-4} - 0.91 \times 10^{-3}$	$\ln x_2 = \left(\frac{T_o}{T}\right) \ln x_2(T_o) + 0.5(C-1) \left(\frac{T_o}{T} - 1\right)$	[54]
Butyl paraben				$0.18 \times 10^{-4} - 0.41 \times 10^{-3}$		

^a Mole fraction solubility of compounds.