Critical opalescence

Binary liquid system:

e.g. hexane and methanol

$T > T_c \approx 36°\text{C}$: fluids are miscible

$T < T_c$: fluids separate into two phases

$T \to T_c$: length scale ξ of fluctuations grows

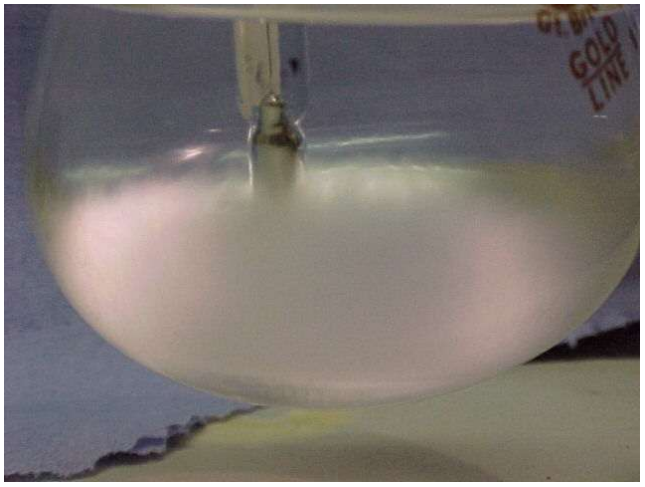
When ξ reaches the scale of a fraction of a micron (wavelength of light):

strong light scattering
fluid appears milky

Pictures taken from http://www.physicsofmatter.com

46°C

39°C



18°C