

<u>Solution</u>	<u>Suspension</u>	<u>Colloid</u>
<ul style="list-style-type: none"> <li>- Homogeneous mixture.</li> <li>- Particles and concentration are uniform throughout.</li> <li>- <u>NEVER</u> settles out.</li> <li>Particle sizes <u>VERY</u> small.</li> </ul>	<p>SNOW GLOBE</p> <ul style="list-style-type: none"> <li>- Large particles settle out quickly.</li> </ul>	<p>DUST in The Wind.</p> <p>sol &lt; <sup>particle</sup> size &lt; susp.</p> <p>settles out slowly</p>

Jan 10-8:13 AM

0.25g unknown in 40g CCl<sub>4</sub>  
 BP ↑ by 0.357°C  
 K<sub>b</sub> = 5.02 °C/m

Calc. molar mass of unknown.

$$\Delta T = (K \times m) i$$

$$0.357 = (5.02 \times m) i$$

$$m = 0.0711m$$

$$m = \frac{g}{MW} \times Kg$$

$$0.0711 = \frac{0.25}{MW} \times 0.04 Kg$$

$$\frac{0.02844}{1} = \frac{0.25}{MW}$$

$$\frac{MW}{1} = \frac{0.25}{0.02844} = 87.9 g/mol$$

Jan 10-8:51 AM

(14)  $\frac{0.195g}{100ml}$        $\frac{386g}{mole}$        $M = \frac{mols}{l}$

0.195g	1 mole	$= 5.05 \times 10^{-3} M$
0.1 l	386g	

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(15)  $\frac{1.12g}{1ml}$        $Molar = \frac{mole}{Kg} \leftarrow$        $1ml = 1.12g$   
 $1l =$        $Kg$

$M = \frac{\frac{g}{mL}}{Kg} = \frac{\frac{0.195}{386}}{0.112 Kg}$

<del>100ml</del>	<del>1.12g</del>	$=$
<del>112g</del>		

Jan 10-9:04 AM

(20)  $H_2O$

6.0 kJ	1 mole	50g	$\circledast 16.7 kJ$
mole	18g		
$H_f$		m	

Melt at  $0^\circ C$   
 $A \rightarrow B$

75.2 J	22K	1 mole	50g
$\Delta T = 22$		18g	

$B \rightarrow C$   
 $0^\circ C \rightarrow 22^\circ C$   
 $l \rightarrow l$

$4600 J$   
 $4.6 kJ$

Jan 10-9:12 AM

(26)

FP pure ethanol  $-114.6^{\circ}$

$\frac{46g}{mole}$

$K_f = 2^{\circ}/m$

\*  $\frac{Moles\ glycerine}{Kg\ eth.}$   $\rightarrow$  50g glycerine + 200g ethanol  
 92g/mole

$$\Delta T = (K \times m) i$$

$$\Delta T = \left( 2 \times \frac{\frac{50g}{92}}{0.2} \right) i = 5.4$$

$-114.6$   
 $+ 5.4$   


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 $-120^{\circ}$

Jan 10-9:27 AM