

③ 25ml 15M HNO_3 \rightarrow _____ ml 3M soln

start $M \times Q =$ end $M \times Q$
 $(15)(25) = 3(\text{ml})$

+100ml H_2O \rightarrow 125ml

Mar 11-9:26 AM

Molality = $\frac{\text{moles solute}}{\text{Kg solvent}} = m$

25g A + 200g B Find m

\uparrow
 Solvent is ALWAYS present
 in greater amount.

Mar 11-9:36 AM

300g NaCl in 0.5L H₂O @ 25°C
 0.5Kg (500g) $\rho_{H_2O} = 1g/ml$

$$m = \frac{\text{Moles solute}}{\text{Kg solvent}}$$

$$\frac{1g \times 1000}{1ml \times 1000} = \frac{1Kg}{1L}$$

$$\frac{300g \text{ NaCl} \left(\frac{\text{Mole NaCl}}{58g \text{ NaCl}} \right)}{0.5Kg} = \frac{10.34 \text{ mole}}{Kg} = 10.34 \text{ m}$$

Molal Soln

Mar 11-9:39 AM

Steps to make a solute dissolve
 Quicker in the solvent

- ① $\uparrow T$ (Heat da wawa) $\uparrow KE$ (More collisions)
- ② STIR
- ③ $\uparrow P$ of a gas, (on a gas)
- ④ \uparrow Surface area (cube \rightarrow granulated \rightarrow powder SUGAR)
- ⑤ \downarrow concentration already in soln.

Mar 11-9:48 AM

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|--|---|--|
| <p><u>Unsaturated</u></p> <p>Under \odot line</p> <ul style="list-style-type: none"> - solvent can still hold/dissolve more solute. - seats available in the theater. | <p><u>Saturated</u></p> <p>\odot - on the line</p> <ul style="list-style-type: none"> - solvent can <u>NOT</u> hold/dissolve any more solute. - FULL Theater - Max Capacity | <p><u>"Super saturated"</u></p> <p>SPECIAL condition</p> <p>Add <u>HEAT</u></p> <p>"expand" solvent temporarily hold more solute.</p> |
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Mar 11-9:54 AM

Soln packet p22
+
Problem set

Mar 11-10:03 AM