

Unit 9: Ch 15 – Interpreting Solubility Curves

REVIEW: SOLUBILITY

- **Solubility** - _____ of _____ *dissolved* in given _____ of _____
at a set _____ and _____.

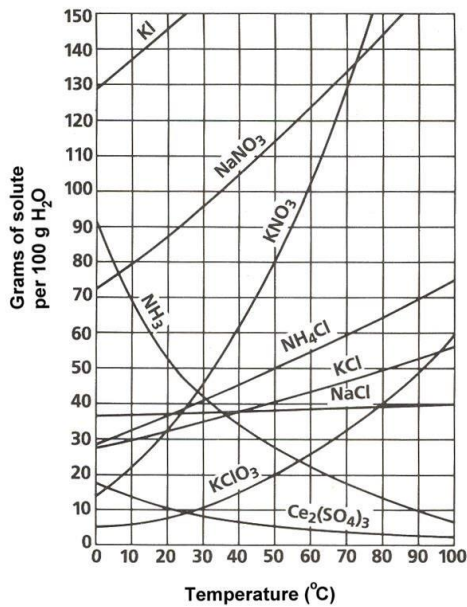
SOLUBILITY:

- **UNSATURATED Solution** –
- **SATURATED Solution** –
- **SUPERSATURATED Solution** –
- Formed at _____ temperature and cooled very _____.
 - Solute *remains* _____ in solution at a _____ temperature.
 - Very _____ solution.
 - Any *tiny* amount of _____ *added* to the solution will cause the _____
solute to _____ out.

FACTORS AFFECTING SOLUBILITY:

- 1. _____
- _____ solutes: _____ temperature = _____ solubility
 - Due to *increased* _____
 - _____ solutes: _____ temperature = _____ solubility
- 2. _____
- _____ solutes: _____ pressure = _____ solubility
 - **Henry's Law:**

INTERPRETING SOLUBILITY CURVES:



➤ #1:

○ **A:** Point _____ curve = _____ of *solute* dissolved in _____ (100mL) of _____ at said _____.

○ **B:** Point _____ curve = _____ solution at _____.

▪ This is its _____ at that set temp.

➤ #2: Point _____ curve = _____ solution at _____.

➤ #3:

○ **A:** Point _____ curve = _____ solution at _____.

▪ Where _____ solute is also _____.

○ **B:** Point _____ curve = But _____ all dissolved is *originally* _____.

▪ Solute settles on the bottom as _____.

➤ #4: _____ slope = _____ solute

➤ #5: _____ slope = _____ solute

PRACTICE EXAMPLES:

Ex #1: If sodium nitrate solution is saturated at 20.0 °C, how many *grams* of solute must be added to saturate solution at 50.0 °C.

Ex #2: What is the *smallest* volume of water (*mL*) needed to saturate 39.0 g of potassium nitrate at 10.0 °C?

Ex #3: How many *grams* of potassium chlorate can you dissolve in 450 g of water at 80.0 °C?

Ex #4: Saturated, unsaturated, or supersaturated?:

- 40.0 g KCl in 100 g water at 80.0 °C → _____
- 120 g KNO₃ in 100 g water at 60.0 °C → _____
- 20.0 g NaNO₃ in 25 g water at 10.0 °C → _____