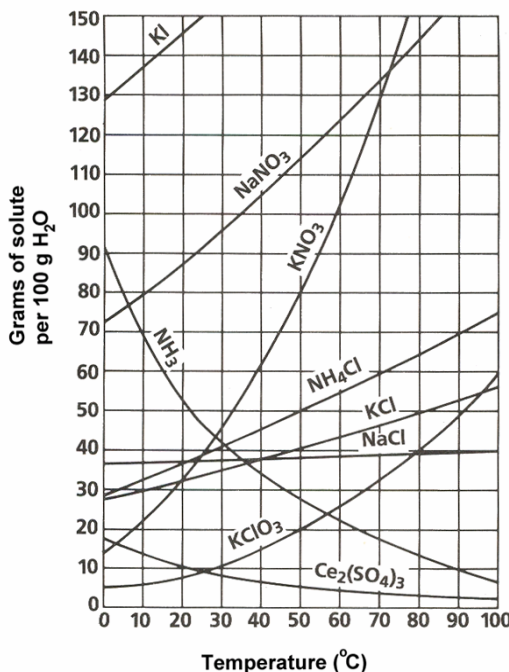


Solutions Quiz Review Sheet



Please use this chart to answer the questions below:

Graph from Saskatchewan Public Schools.

- 1) What is the molality of a saturated solution of NH₄Cl at 30° C?
- 2) If I boiled the solution from problem 1, what would I expect the boiling point of this solution to be? ($K_b(\text{H}_2\text{O}) = 0.52^\circ/\text{m}$)
- 3) If I were to heat a solution of cerium sulfate, what would I observe as the temperature rose?
- 4) Which would we expect to have a higher melting point, a 0.20 m solution of cerium sulfate or a 0.10 m solution of KNO₃? Explain your answer.

- 5) Explain why heating a solvent tends to increase the solubility of the solute. Are there any exceptions to this rule on the chart above? What do these compounds have in common with one another?

- 6) Explain why the vapor pressure of a liquid increases as its temperature increases.

- 7) Explain why adding a solute to a solvent causes the vapor pressure to decrease.

- 8) How would you expect the electrical conductivity of a saturated solution of potassium nitrate to change as the temperature decreases?

- 9) How would you expect the electrical conductivity of a 0.0010 M solution of potassium nitrate to change as the temperature was decreased from 100° C to 10° C?