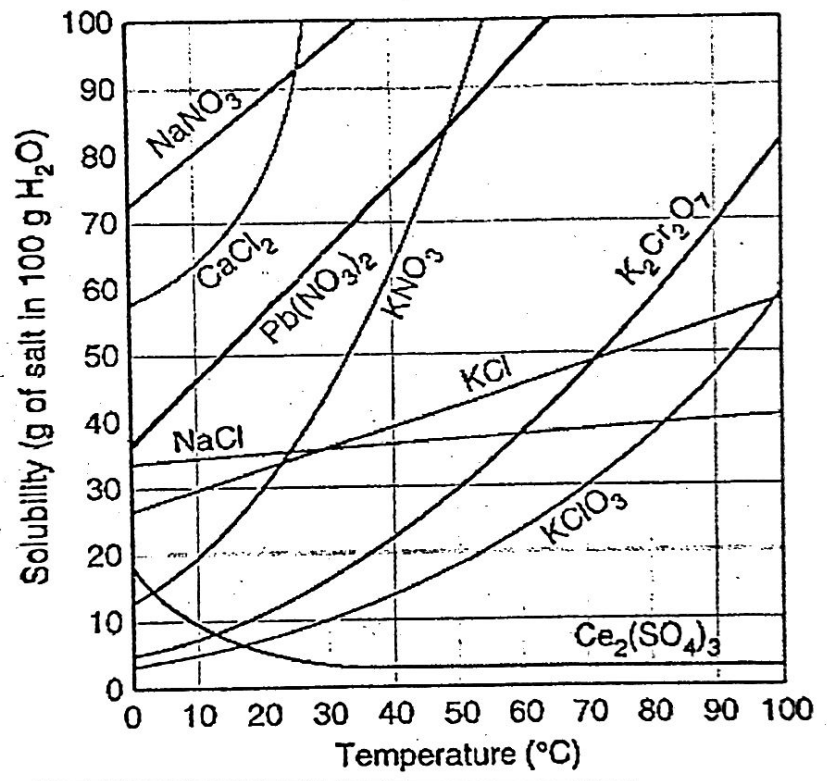


The effects of temperature on solubility

Directions: Answer the questions that relate to the graph on solubility.

Solubility of common compounds in grams solute per 100 grams of H₂O



1. What is a solute?

DISSOLVED SUBSTANCE

2. What is a solvent?

DISSOLVER

3. What is the solvent in this case?

H₂O

4. List all the solutes in the table.

NaNO₃, CaCl₂, Pb(NO₃)₂, KNO₃, NaCl,
KCl, K₂Cr₂O₇, KClO₃, Ce₂(SO₄)₃

5. Define Saturated and Solubility.

1. when a volume of solvent contains its maximum mass of solute
2. ability of a solute to be dissolved into a solvent

6. What is the maximum amount of NaCl that can be dissolved at 50°C?

≈ 35 g/100 mL

7. What happens when too much solute is put in a solvent? (above the lines)

oversaturated - some particles will not dissolve

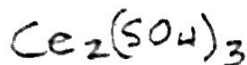
8. Can 50 grams of KCl be completely dissolved in at 40°C?

NO - point @ 40°C / 50 grams is above the saturation curve for KCl

9. At what temperature do NaNO and CaCl dissolve the same amount of solute?

≈ 25°C (curves for each substance cross there)

10. What compound dissolves less solute at a higher temperature?



11. Name one compound that has a liner relationship.

NaNO_3 , KCl , NaCl ,

12. Which compound can dissolve the most at 10°C?

NaNO_3 - its line is highest on Y axis

13. How much of it can dissolve?

≈ 80 g/100 mL

14. You put 20 grams of NaCl in the solvent at 90°C. How much more solvent can be added before the solution is saturated?

@ 90°C, saturation line of NaCl is approx.

@ 40g; (40g saturated) - (20g present) =

20 g of solute that can be added before saturation occurs