

CHEM 116 - Dr. Babb's Sections
Review Sheet

Acids, Bases, Electrolytes, Net Ionic Equations, Solubility, and Molarity of Ions in Soln.

- Define the following terms: strong acid, strong base, weak acid, weak base, strong electrolyte, weak electrolyte, non-electrolyte, soluble, insoluble, and solubility. List the seven strong acids. Define the following types of solutions: saturated, unsaturated and supersaturated.
- What types of substances can be classified as strong electrolytes? weak electrolytes? non-electrolytes?
- List the solubility rules and use them to determine whether the substances listed below are soluble or insoluble in water.

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|------------------------------------|---------------------------------|--|---|-----------------------------------|---------------------|
| AgNO ₃ | BaI ₂ | PbSO ₄ | Na ₂ CO ₃ | Sr(NO ₃) ₂ | Fe(OH) ₃ |
| CaCl ₂ | AgOH | Pb(C ₂ H ₃ O ₂) ₂ | (NH ₄) ₃ PO ₄ | FeBr ₃ | |
| Pb(ClO ₄) ₂ | Hg ₂ Br ₂ | K ₃ PO ₄ | CaSO ₄ | MgCO ₃ | |
| AgCl | BaSO ₄ | CuCl | CaS | Fe ₂ S ₃ | |
- What are the three types of equations that can be written for any chemical reaction? Predict products and write Net Ionic Equations for the following aqueous reactions:

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| A. FeBr ₃ + AgC ₂ H ₃ O ₂ | F. HClO + Ba(OH) ₂ |
| B. (NH ₄) ₂ SO ₄ + BaCl ₂ | G. Na ₂ CO ₃ + H ₂ SO ₄ |
| C. HNO ₃ + CsC ₂ H ₃ O ₂ | H. (NH ₄) ₂ CO ₃ + NaOH |
| D. HNO ₂ + CsC ₂ H ₃ O ₂ | I. Fe(NO ₃) ₃ + NH ₃ + H ₂ O |
| E. HClO ₄ + Ba(OH) ₂ | |
- What is the concentration of each ion in a 0.25 M CaCl₂ solution?
- How many moles of acetate ion are present in 300.mL of 0.100 M Pb(C₂H₃O₂)₂?
- How many grams of AlCl₃ are needed to prepare 500.mL of a solution that is 0.75M in the chloride ion?
- What volume (in mL) of 0.15 M Na₃PO₄ will provide 0.025 mol Na⁺?
- If 10.0g NaCl is added to 30.0 mL of 0.26 M Na₃PO₄, what is the molarity of Na⁺ in the resulting solution?
- When 250.mL of 0.20 M BaCl₂ is mixed with 350. mL of 0.20 M NaCl, what is the molarity of chloride ion in the final solution?