

Unit 5: Ch 10 – Reactions in Aqueous Solutions: Net Ionic Equations

AQUEOUS SOLUTIONS:

➤ DEFINITION →

- Compounds separate _____ into *individual* _____.
- _____ *aqueous* (_____) solutions can _____!
- If NOT (_____) solution: Compound _____ in its current *state* - _____.

HOW TO DETERMINE IF (AQUEOUS) OR NOT:

- 1. Use the _____ → *Soluble* (_____) OR *Insoluble* (_____).
- Ex) ___ Ba(NO₃)₂ () + ___ (NH₄)₃PO₄ () → ___ Ba₃(PO₄)₂ () + ___ NH₄NO₃ ()

HOW TO WRITE A COMPLETE IONIC EQUATION (C.I.E.):

- 2a. Write the _____ (**C.I.E.**) to show _____ dissociated _____ non-dissociated *chemical formulas*.
- 2b. Carry through **AND** distribute _____ to **ALL** _____.

C.I.E. = _____

- 2b. Notice that _____ **AND** _____ appear _____ on _____ sides of the equation.

HOW TO IDENTIFY SPECTATOR IONS:

- 3a. _____ identical _____ from both sides of the equation.
- 3b. _____ ions _____ out _____ *actively* participate in the reaction.

C.I.E. Spectator Ions: $3 \text{Ba}^{2+}_{(aq)} + 6 \text{NO}_3^{-}_{(aq)} + 6 \text{NH}_4^{+}_{(aq)} + 2 \text{PO}_4^{3-}_{(aq)} \rightarrow 1 \text{Ba}_3(\text{PO}_4)_2(s) + 6 \text{NH}_4^{+}_{(aq)} + 6 \text{NO}_3^{-}_{(aq)}$

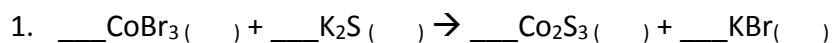
HOW TO WRITE A NET IONIC EQUATION (N.I.E.):

- 4a. Write the _____ (N.I.E.) → _____
ions actively involved in the reaction (*what is left over*).

N.I.E. = _____

- 4b. The net ionic equation (N.I.E.) _____ still be _____ **AND**
_____ if possible.

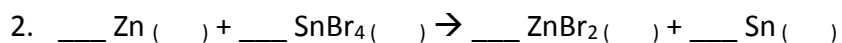
PRACTICE EXAMPLES:



a. C.I.E. = _____

b. S.I. = _____

c. N.I.E. = _____



a. C.I.E. = _____

b. S.I. = _____

c. N.I.E. = _____



a. C.I.E. = _____

b. S.I. = _____

c. N.I.E. = _____