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| How do Odd Formula Ions Dissolve?  CλeMis+ry: http://genest.weebly.com  Stop in for help every day at lunch and Tues, Weds., &Thurs after school!  After-hours question? Email me at home: [eagenest@madison.k12.wi.us](mailto:eagenest@madison.k12.wi.us) |  | Name\_\_\_\_\_\_\_\_\_  Period\_\_\_\_\_\_\_\_ |

1. Circle the metallic element in each.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Circle any element that is a metal* | This substance is… |  | *Circle any element that is a metal* | This substance is… |
| CuSO4 | ionic / molecular |  | NaCH3COO | ionic / molecular |
| N2O4 | ionic / molecular |  | CoO | ionic / molecular |

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Draw three aluminum bromides in each beaker:   AlBr3  AlBr3  AlBr3 | http://www.clipartbest.com/cliparts/jix/Gg8/jixGg84iE.png  SOLID |  | http://www.clipartbest.com/cliparts/jix/Gg8/jixGg84iE.png  AQUEOUS |

1. **Draw a slash** through the molecule to show the half that would fall off. How many pieces will this fall apart into if made into an aqueous solution? (circle your choice)

|  |  |  |  |
| --- | --- | --- | --- |
| KI | 1? 2? 3? 4? 5? | AlBr3 | 1? 2? 3? 4? 5? |
| K2S | 1? 2? 3? 4? 5? | (NH4)2CO3 | 1? 2? 3? 4? 5? |
| MgCO3 | 1? 2? 3? 4? 5? | Ca(CH3COO)2 | 1? 2? 3? 4? 5? |
| Zn(NO3)2 | 1? 2? 3? 4? 5? | CH3OH | 1? 2? 3? 4? 5? |

1. True / False: Mark (T) true or (F) in each blank
   1. \_\_\_\_ solutions are heterogeneous mixtures
   2. \_\_\_\_ solutions are clear
   3. \_\_\_\_ the dissolved substance will eventually settle out of a solution
2. For each, write a dissociation equation (something like "A(s) -> B(aq) + C(aq)") .

Include charges (+1, +2, etc) and phase notation (s, L, g, aq)

* 1. K2S(s) dissolving. Show each ion separately.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

* 1. MgCO3(s) dissolving. Show each ion separately.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

* 1. K2S(s) dissolving. Show each ion separately.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

* 1. Zn(NO3)2 dissolving. Show each ion separately.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

1. Drawings!
   1. In the beaker on the left, draw the indicated solid, repeating the formula three times.
   2. In the beaker on the right, draw what the substance would look like with water added.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Draw three ammonium carbonates in each beaker:   (NH4)2CO3  (NH4)2CO3  (NH4)2CO3 | http://www.clipartbest.com/cliparts/jix/Gg8/jixGg84iE.png  SOLID |  | http://www.clipartbest.com/cliparts/jix/Gg8/jixGg84iE.png  AQUEOUS |

1. For each molecule below circle a choice to indicate how many particles you would

expect it to form in solution.

(a) C2H3OH 1 particle 2 particles 3 particles 4 particles 5 particles

(b) SO3 1 particle 2 particles 3 particles 4 particles 5 particles

(c) Li3PO4 1 particle 2 particles 3 particles 4 particles 5 particles

(d) FeF3 1 particle 2 particles 3 particles 4 particles 5 particles

1. Now try redoing your earlier anser with a coefficient in front of each particle*. For example, instead of writing Br- Br- Br- it is more common and esier to write a coefficient: 3Br-*
   1. K2S(s) dissolving. Use a coeffiecient where appropriate.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_

* 1. Zn(NO3)2 dissolving. Use a coeffiecient where appropriate.

\_\_\_\_\_\_\_\_ --> \_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_