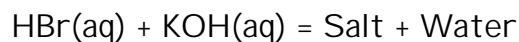


Solubility Rules for some ionic compounds in water

<i>Soluble Ionic Compounds</i>	
1.	All sodium (Na^+), potassium (K^+) and ammonium (NH_4^+) salts are SOLUBLE.
2.	All nitrate (NO_3^-), acetate (CH_3CO_2^-), chlorate (ClO_3^-), and perchlorate (ClO_4^-) salts are SOLUBLE.
3.	All chloride (Cl^-), bromide (Br^-), and iodide (I^-) salts are SOLUBLE - EXCEPT those also containing: lead, silver, or mercury (I), (Pb^{+2} , Ag^+ , Hg_2^{+2}) which are NOT soluble.
4.	All fluoride (F^-) salts are SOLUBLE - EXCEPT those also containing: magnesium, calcium, strontium, barium, or lead (Mg^{+2} , Ca^{+2} , Sr^{+2} , Ba^{+2} , Pb^{+2}) which are NOT soluble.
5.	All sulfate (SO_4^{-2}) salts are SOLUBLE - EXCEPT those also containing: calcium, silver, mercury (I), strontium, barium, or lead (Ca^{+2} , Ag^+ , Hg_2^{+2} , Sr^{+2} , Ba^{+2} , Pb^{+2}), which are NOT soluble.
<i>Not Soluble Ionic Compounds</i>	
6.	Hydroxide (OH^-) and oxide (O^{2-}) compounds are NOT SOLUBLE - EXCEPT those also containing: sodium, potassium or barium (Na^+ , K^+ , Ba^{+2}), which are soluble.
7.	Sulfide (S^{2-}) salts are NOT SOLUBLE - EXCEPT those also containing: sodium, potassium, ammonium, or barium (Na^+ , K^+ , NH_4^+ , Ba^{+2}), which are soluble.
8.	Carbonate (CO_3^{2-}) and phosphate (PO_4^{3-}) salts are NOT SOLUBLE EXCEPT those also containing: sodium, potassium or ammonium (Na^+ , K^+ , NH_4^+) which are soluble.

4.3 ... Net Ionic Equations ... Acids and Bases ... Example 1



- Write the formula for the products and determine from 'Solubility Guidelines' whether the salt is soluble or not.
- Balance the chemical equation.
- Identify the components that are actually in solution.
Is the acid a strong one, if so it dissociates to produce H^+ and what remains of the formula is the anion.
Is the acid a weak one, if so it remains essentially undissociated in solution.
- Remove the spectator ions.
- What remains is the 'Net Ionic Equation'.