

Answers: Naming and Writing Formulas for Ionic Compounds and Acids

The name of simple binary ionic compounds (a metal and a non-metal) end with the suffix "ide".

The formula for a polyatomic compound (a metal ion and a polyatomic ion i.e. Ca^{2+} and NO_3^-) place the polyatomic ion in brackets if there is more than one in the formula.

All acids contain hydrogen and have (aq) written after the formula.

The names of all acids end with "ic acid".

Only the name of binary acids (H and a non-metal i.e. H and Cl) begin with the prefix "hydro".

Oxyacids also contain oxygen and do not begin with the prefix "hydro".

Complete the following:

| Name of Compound | Symbols and charges | Chemical Formula |
|---------------------|-------------------------------------|------------------------------------|
| Sodium sulfide | Na^+ S^{2-} | Na_2S |
| potassium carbonate | K^+ CO_3^{2-} | K_2CO_3 |
| Sulfuric acid | H^+ SO_4^{2-} | $\text{H}_2\text{SO}_4(\text{aq})$ |
| Aluminum phosphate | Al^{3+} PO_4^{3-} | AlPO_4 |
| Hydrochloric acid | H^+ Cl^- | $\text{HCl}(\text{aq})$ |
| Copper (II) sulfate | Cu^{2+} SO_4^{2-} | CuSO_4 |
| Silver nitrate | Ag^+ NO_3^- | AgNO_3 |
| Zinc hydroxide | Zn^{2+} OH^- | $\text{Zn}(\text{OH})_2$ |
| Hydrobromic acid | H^+ Br^- | $\text{HBr}(\text{aq})$ |

| | |
|----------------------------|------------------------------------|
| Magnesium oxide | MgO |
| lithium hydroper carbonate | LiHCO ₃ |
| phosphoric acid | H ₃ PO _{4(aq)} |
| gold (III) bromide | AuBr ₃ |
| calcium nitride | Ca ₃ N ₂ |
| carbonic acid | H ₂ CO _{3(aq)} |
| iron (II) chloride | FeCl ₂ |