

## Ionic Compound Nomenclature

Fill in the formulas and names of the ionic compounds

|                    | $\text{Li}^+$ | $\text{Mg}^{2+}$ | $\text{Al}^{3+}$ | $\text{NH}_4^+$ | $\text{Fe}^{2+}$ | $\text{Pb}^{4+}$ |
|--------------------|---------------|------------------|------------------|-----------------|------------------|------------------|
| $\text{Cl}^-$      |               |                  |                  |                 |                  |                  |
| $\text{O}^{2-}$    |               |                  |                  |                 |                  |                  |
| $\text{N}^{3-}$    |               |                  |                  |                 |                  |                  |
| $\text{OH}^-$      |               |                  |                  |                 |                  |                  |
| $\text{NO}_3^-$    |               |                  |                  |                 |                  |                  |
| $\text{SO}_4^{2-}$ |               |                  |                  |                 |                  |                  |
| $\text{PO}_4^{3-}$ |               |                  |                  |                 |                  |                  |

Fill in the blanks

| Formula                      | Name              |
|------------------------------|-------------------|
| $\text{MgCl}_2$              |                   |
|                              | Aluminum sulfide  |
|                              | Ammonium sulfate  |
| $\text{Fe}_3(\text{PO}_4)_2$ |                   |
|                              | Calcium hydroxide |
| $\text{Na}_3\text{PO}_4$     |                   |
|                              | Copper (I) oxide  |
|                              | Magnesium nitride |
| $\text{PbSO}_4$              |                   |
| $\text{Fe}(\text{NO}_3)_2$   |                   |

## Ionic Compound Nomenclature

### ANSWERS

|                    | $\text{Li}^+$                           | $\text{Mg}^{2+}$                     | $\text{Al}^{3+}$                    | $\text{NH}_4^+$                            | $\text{Fe}^{2+}$                     | $\text{Pb}^{4+}$                     |
|--------------------|-----------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------------|--------------------------------------|--------------------------------------|
| $\text{Cl}^-$      | LiCl – lithium chloride                 | $\text{MgCl}_2$ – magnesium chloride | $\text{AlCl}_3$ – aluminum chloride | $\text{NH}_4\text{Cl}$ – ammonium chloride | $\text{FeCl}_2$ – iron (II) chloride | $\text{PbCl}_4$ – lead (IV) chloride |
| $\text{O}^{2-}$    | $\text{Li}_2\text{O}$ – lithium oxide   | $\text{MgS}$                         | $\text{Al}_2\text{S}_3$             | $(\text{NH}_4)_2\text{S}$                  | $\text{FeS}$                         | $\text{PbS}_2$                       |
| $\text{N}^{3-}$    | $\text{Li}_3\text{N}$ – lithium nitride | $\text{Mg}_3\text{N}_2$              | $\text{AlN}$                        | $(\text{NH}_4)_3\text{N}$                  | $\text{Fe}_3\text{N}_2$              | $\text{Pb}_3\text{N}_4$              |
| $\text{OH}^-$      | $\text{LiOH}$ – lithium hydroxide       | $\text{Mg}(\text{OH})_2$             | $\text{Al}(\text{OH})_3$            | $\text{NH}_4\text{OH}$                     | $\text{Fe}(\text{OH})_2$             | $\text{Pb}(\text{OH})_4$             |
| $\text{NO}_3^-$    | $\text{LiNO}_3$                         | $\text{Mg}(\text{NO}_3)_2$           | $\text{Al}(\text{NO}_3)_3$          | $\text{NH}_4\text{NO}_3$                   | $\text{Fe}(\text{NO}_3)_2$           | $\text{Pb}(\text{NO}_3)_4$           |
| $\text{SO}_4^{2-}$ | $\text{Li}_2\text{SO}_4$                | $\text{Mg SO}_4$                     | $\text{Al}_2(\text{SO}_4)_3$        | $(\text{NH}_4)_2\text{SO}_4$               | $\text{Fe SO}_4$                     | $\text{Pb}(\text{SO}_4)_2$           |
| $\text{PO}_4^{3-}$ | $\text{Li}_3\text{PO}_4$                | $\text{Mg}_3(\text{PO}_4)_2$         | $\text{Al PO}_4$                    | $(\text{NH}_4)_3\text{PO}_4$               | $\text{Fe}_3(\text{PO}_4)_2$         | $\text{Pb}_3(\text{PO}_4)_4$         |

| Formula                      | Name                |
|------------------------------|---------------------|
| $\text{MgCl}_2$              | Magnesium chloride  |
| $\text{Al}_2\text{S}_3$      | Aluminum sulfide    |
| $(\text{NH}_4)_2\text{SO}_4$ | Ammonium sulfate    |
| $\text{Fe}_3(\text{PO}_4)_2$ | Iron (II) phosphate |
| $\text{Ca}(\text{OH})_2$     | Calcium hydroxide   |
| $\text{Na}_3\text{PO}_4$     | Sodium phosphate    |
| $\text{Cu}_2\text{O}$        | Copper (I) oxide    |
| $\text{Mg}_3\text{N}_2$      | Magnesium nitride   |
| $\text{PbSO}_4$              | Lead (II) sulfate   |
| $\text{Fe}(\text{NO}_3)_2$   | Iron (II) nitrate   |