

Formulas and Names of Complex Salts

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Complex Salts

Polyatomic Ions

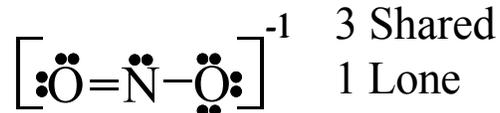
- Polyatomic ions are *molecules* with a charge

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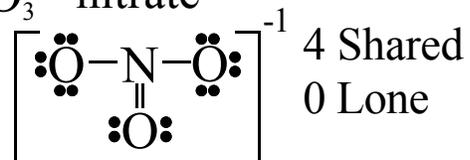
Complex Salts

Polyatomic Ions

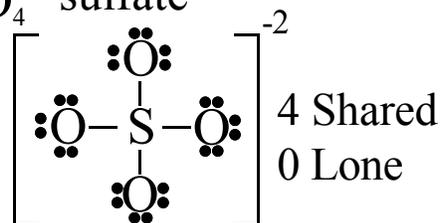
NO_2^{-1} nitrite



NO_3^{-1} nitrate



SO_4^{-2} sulfate

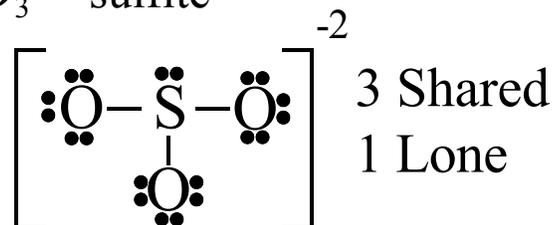


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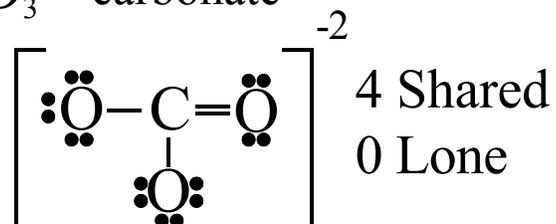
Complex Salts

Polyatomic Ions

SO_3^{-2} sulfite



CO_3^{-2} carbonate



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Complex Salts

Polyatomic Ions

- Polyatomic ions are *molecules* with a charge
- Their names usually don't end in -ide
 - hydroxide
 - cyanide
 - peroxide
- They are treated just like any other ion
 - Their charges must be balanced when writing chemical formulas
 - If you need more than one polyatomic ion, put it in parentheses
 - If you only need one polyatomic ions, **don't** use parentheses

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Complex Salts

Polyatomic Ions

Calcium Sulfate

Magnesium Nitrate

Nickel III Hydroxide

Ammonium Phosphate

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Complex Salts

Naming Salts

- When naming a salt, first determine if the cation can have more than one charge
 - If it doesn't have more than one possible charge....
 - Simply name the cation and the anion
 - If it does have more than one possible charge....
 - Working it backwards
 - Multiply
 - Equal
 - Divide

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Complex Salts

Naming Salts



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Complex Salts

Solubility

- Solubility is a measure of a substance's ability to dissolve in a liquid, generally water.
- If a salt doesn't dissolve, we call it a precipitate.
- Are the following substances soluble in water?
 - potassium hydroxide
 - CoCl_2
 - FeC_2O_4