



Acids and Bases

Unit 11 Page 4

Content Objective:

I can name and write the formulas of acids and bases using (IUPAC) nomenclature rules.

Criteria for Success:

I can identify an acid as a binary acid or an oxyacid.

I can name common binary acids, oxyacids, and bases given their chemical formula.

I can write the formula for common binary acids, oxyacids, and bases given their chemical name.

Notes

A. Binary Acid Nomenclature

1. The name of a binary acid begins with the prefix _____.
2. The _____ of the name of the second element follows this prefix.
3. The name then ends with the suffix _____.

B. Oxyacid Nomenclature

1. An _____ is an acid that is a compound of hydrogen, oxygen, and a third element, usually a nonmetal.

- a. Nomenclature for oxyacids typically follow the name of the _____ ion involved in the acid formula.

Name of oxyacid		Name of polyatomic anion	
Prefix	Suffix	Prefix	Suffix
hypo-	-ous	hypo-	-ite
None	-ous	None	-ite
None	-ic	None	-ate
per-	-ic	per-	-ate

C. Base Nomenclature

1. _____ bases will be ionic salts that have an alkali (Group 1A) or an alkaline earth (Group 2A) metal the _____ (OH⁻¹) polyatomic ion. Follow normal ionic nomenclature rules.

2. Although there are many _____ bases, for this class, you will only need to know those _____ ions that act as weak bases already discussed. For example, the sulfate ion, SO₄⁻²(aq), can act as a weak base.

- a. The ONLY weak base that you need to know that you are not already familiar with is _____, NH₃. NOT TO BE CONFUSED WITH ammonium ion, NH₄¹⁺.

Formula Writing Practice

1. HF *hydrofluoric*
2. HClO *hypochlorous*
3. NO₂¹⁻ *nitrite*
4. HI *hydroiodic*
5. H₂CO₃ *carbonic*
6. HClO₃ *chloric*
7. NaOH *sodium hydroxide*

8. sulfuric acid *H₂SO₄*
9. phosphoric acid *H₃PO₄*
10. acetic acid *HC₂H₃O₂*
11. hydrobromic acid *HBr*
12. perchloric acid *HClO₄*
13. hydrosulfuric acid *H₂S*
14. ammonia *NH₃*