

GENERAL CHEMISTRY

STANDARD 6.6

6.6: Use oxidation numbers to name compounds and write formulas involving transition ions using the Stock System

INTRODUCTION

- Elements with more than one oxidation number are always metallic
 - Transition Metals
 - Must be named using the Stock System
 - All compounds involving Transition Metals are Ionic

6.6: Use oxidation numbers to name compounds and write formulas involving transition ions using the Stock System

NOMENCLATURE RULE 10

Use the crossover rule to get the formula of the compound AND simplify subscripts to get the lowest ratio of atoms AND if there are more than one of the polyatomic ion use parenthesis. The oxidation number for transition ions is in Roman Numerals in parenthesis after the element.

Examples:



NOMENCLATURE RULE 11

Name the cation (Roman Numeral for oxidation number of transition ion), then name the anion stem (Roman Numeral for oxidation number of transition ion) + "-ide"

Examples:

FeP = Iron (III) Phosphide

$\text{Sn}(\text{CN})_2$ = Tin (II) Cyanide

EXAMPLES

- Name the following compounds using the Stock System:
 - PbCl_3
 - NiCO_3
 - SnSO_4

EXAMPLE SOLUTIONS

- Name the following compounds using the Stock System:
 - PbCl_3 **Lead (III) Chloride**
 - NiCO_3 **Nickel (II) Carbonate**
 - SnSO_4 **Tin (II) Sulfate**

EXAMPLES

- Write the formulas of the following compounds:
 - Chromium (III) Fluoride
 - Cobalt (II) Sulfide
 - Copper (I) Nitride

EXAMPLES

- Write the formulas of the following compounds:
 - Chromium (III) Fluoride CrF_3
 - Cobalt (II) Sulfide CoS
 - Copper (I) Nitride Cu_2N