

Naming of Acids

anion

— ide

Cl^- ; chloride

F^- ; fluoride

Br^- ; bromide

S^{2-} ; sulfide

acid

— ic acid

HCl hydrochloric acid

HF hydrofluoric acid

HBr hydrobromic acid

H_2S hydrosulfuric acid

Oxyacids

— ate

— ic acid

SO_4^{2-} ; sulfate H_2SO_4 sulfuric acid

PO_4^{3-} ; phosphate H_3PO_4 phosphoric acid

ClO_4^- ; perchlorate HClO_4 perchloric acid

NO_3^- ; nitrate HNO_3 nitric acid

CO_3^{2-} ; carbonate H_2CO_3 carbonic acid

— ite

— ous acid

NO_2^- ; nitrite

HNO_2 nitrous acid

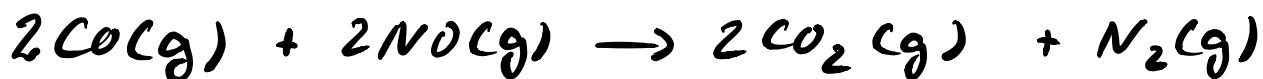
PO_3^{3-} ; phosphite H_3PO_3 phosphorous acid
 SO_3^{2-} ; sulfite H_2SO_3 sulfurous acid

Base:

NH_4^+ : Ammonium

NH_3 : Ammonia

Chemical Reactions



molecular
ratio

2 2 2 1

mole
ratio

2 mol 2 mol 2 mol 1 mol

mass
ratio

$2 \cdot 28.01 \text{ g/mol}$ $2 \cdot 30.01 \text{ g/mol}$ $2 \cdot 44.01 \text{ g/mol}$ $1 \cdot 28.02 \text{ g/mol}$

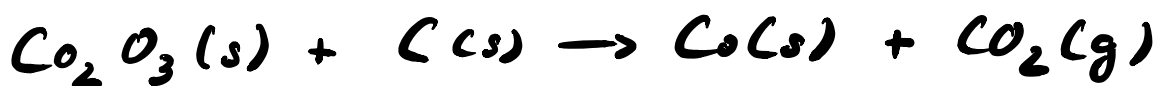
116.04 g/mol

116.04 g/mol

Balancing Chemical Reactions

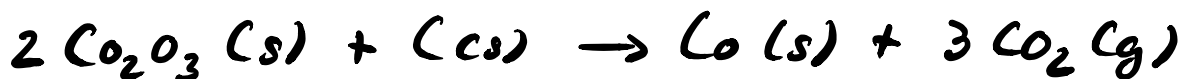
Write a balanced equation for the reaction between solid cobalt(III) oxide and solid carbon to produce solid cobalt and carbon dioxide gas

1. Write a skeletal unbalanced equation



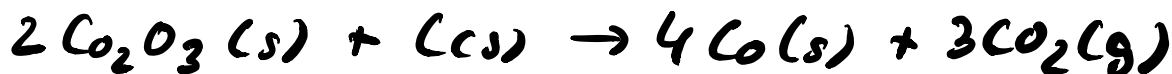
2. Balance atoms that occur in more complex substances first

Begin with "O"



3. Balance atoms that occur as free elements

Balance Co :



Balance C



4. Clear fractional coefficients

n/a

5. Check

Write a balanced equation for the combustion of gaseous butane (C_4H_{10}), in which it combines with gaseous oxygen to gaseous carbon dioxide and gaseous water



2. Begin with "C"



Balance H:



3. Balance "O"

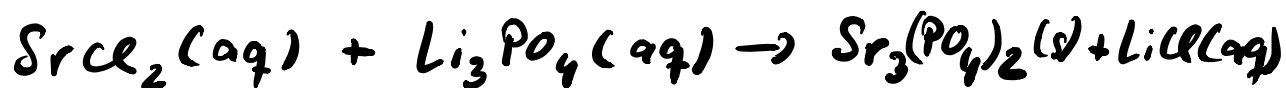


4. Clear Fraction
(multiply with 2)



Write a balanced equation for the reaction of aqueous strontium chloride and aqueous lithium phosphate to form solid strontium phosphate and aqueous lithium chloride

1. Write skeletal equation



2. Balance cations



3. Balance anions



Balance Cl⁻

