

Yet Another AP Chem Quiz

1. A 12.0 g sample of an oxide of lead is placed in a stream of hydrogen and causes 1.81 g of H_2O to be made.

a. What is the mass percent of lead in the sample?

b. What is the empirical formula of the oxide?

2. If in the reaction



you start with 1.20 moles of Fe and 1.50 moles of Br_2 , how much of which reactant is in excess?

3. What is the percent by mass of nitrogen in urea $(\text{NH}_2)_2\text{CO}$?

Yet Another AP Chem Quiz

1. A 12.0 g sample of an oxide of lead is placed in a stream of hydrogen and causes 0.97 g of H_2O to be made.

a. What is the mass percent of lead in the sample?

b. What is the empirical formula of the oxide?

2. If in the reaction



you start with 1.32 moles of Fe and 1.80 moles of Br_2 , how much of which reactant is in excess?

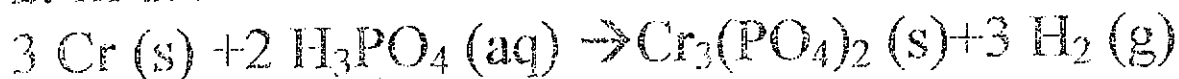
3. What is the percent by mass of nitrogen in pyrimidine $\text{C}_4\text{H}_4\text{N}_2$?

Another AP Chem Quiz

1. Ampicillin A is a powerful antibiotic. If it is found in an equation as $4 \text{C}_{16}\text{H}_{19}\text{N}_3\text{SO}_4$,

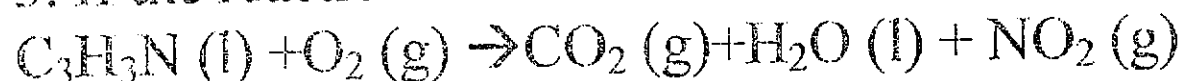
- How many grams of hydrogen are represented?
- How many moles of sulfur are represented?
- How many atoms of carbon are represented?
- How many grams of ~~pen~~^{amp}picillin are represented?

2. In the reaction



How many grams of 68 % pure Cr are needed to produce 19.0 g of chromium (III) phosphate?

3. If the reaction



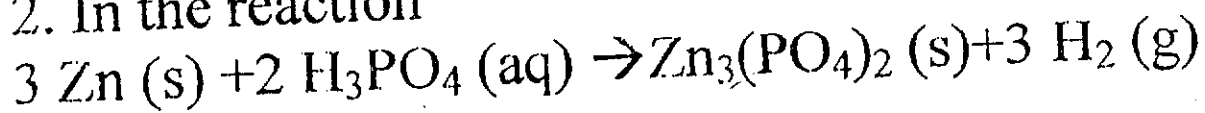
is balanced, what is the sum of the coefficients?

Another AP Chem Quiz

1. Penicillin F is a powerful antibiotic. If it is found in an equation as $5 \text{C}_{14}\text{H}_{20}\text{N}_2\text{SO}_4$,

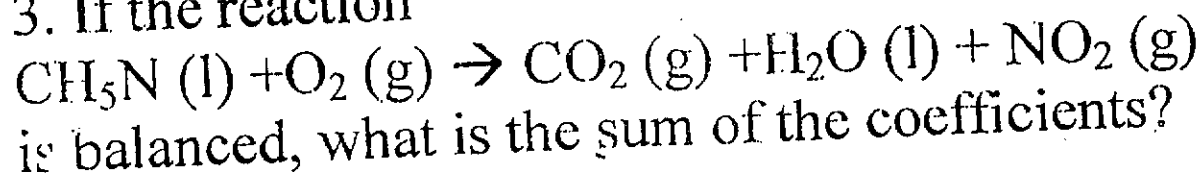
- How many grams of hydrogen are represented?
- How many moles of sulfur are represented?
- How many atoms of carbon are represented?
- How many grams of penicillin are represented?

2. In the reaction



How many grams of 75 % pure Zn are needed to produce 19.0 g of zinc phosphate?

3. If the reaction



is balanced, what is the sum of the coefficients?

Ricin is a violent poison extracted from castor bean plants and was used by Bulgarian secret service to kill defectors. A 1.376 g sample, if burned yields 2.953 g of CO_2 and 0.608 g of H_2O . Since it also contains nitrogen and oxygen, another experiment is done to find nitrogen and from 1.043 g yields 0.216 g of NH_3 . If its molar mass is found to be 164.16, find its molecular formula.

Tungsten V oxide is made whenever the tungsten filament of a light bulb is exposed to air when heated. If a 57mg filament is exposed to the air by a light bulb breaking, how much of the oxide is created?

Sulfuric acid is the number one manufactured chemical in the world. If an industrial chemist starts with 22 tonnes (metric tons = 1,000,000g) of sulfur, 35 tonnes of O₂, and 12 tonnes of H₂O, and assuming an 80% yield, how much sulfuric acid can be made?

