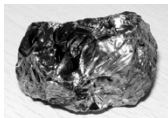


QUESTION

How many atoms of silicon are there in 0.367 moles of silicon?

- A) 6.10×10^{-25} atoms Si
- B) 2.21×10^{23} atoms Si
- C) 2.21 atoms Si
- D) 1.64×10^{24} atoms Si

QUESTION

Potassium phosphate and sodium phosphate is a combination medicine used to make urine more acidic to help prevent kidney stones.

What is the molar mass of potassium phosphate?

- a) 134 g/mol
- b) 86.07 g/mol
- c) 134.07 g/mol
- d) 212.27 g/mol

QUESTION

Sulfur is derived from the Latin word sulphur. The Greek word for sulfur, $\theta\epsilon\iota\upsilon\nu$, which is the source of the international chemical prefix thio-. Sulfur is prominent in volcanic areas like Lassen National Park, which by the way stinks!

What is the mass in grams of 4.00 moles of sulfur?

- A) 128 g
- B) 128.3 g
- C) 12.5 g
- D) 0.125 g

**QUESTION**

About 4-5% of beer is ethanol. What is the molar mass of ethanol (C_2H_5OH)?

- A) 45.07 g/mol
- B) 38.90 g/mol
- C) 46.07 g/mol
- D) 34.17 g/mol
- E) 62.07 g/mol

**QUESTION**

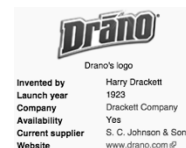
For which compound does 0.256 mole weigh 12.8 g (experimental balance weight)?

- A) C_2H_4O
- B) CO_2
- C) CH_3Cl
- D) C_2H_6
- E) None of these

**QUESTION**

How many grams are in a 6.94-mol sample of sodium hydroxide that was taken from a production batch of the commercial drain cleaner Drano?

- A) 40.0 g
- B) 278 g
- C) 169 g
- D) 131 g
- E) 34.2 g



QUESTION

Which of the following compounds has the same percent composition by mass as styrene, C_8H_8 , the monomer used to make polystyrene, which is difficult to recycle and is found in most garbage dumps... and oceans.

- A) Acetylene, C_2H_2
 B) Benzene, C_6H_6
 C) Cyclobutadiene, C_4H_4
 D) α -ethyl naphthalene, $C_{12}H_{12}$
 E) All of these



QUESTION



Morphine, derived from opium plants, relieves pain and is addictive. Its formula is $C_{17}H_{19}NO_3$. What percent, by mass, is the carbon in this compound?

- A. 42.5%
 B. 27.9%
 C. 71.6%
 D. This cannot be solved until the mass of the sample is given.

QUESTION



Nicotiana glauca

Nearly 35 million smokers want to quit each year. Unfortunately, more than 85 percent of those who try to quit relapse, most within a week. Nicotine use is more difficult to withdraw from than heroin. What is the percent composition for nicotine, $C_{10}H_{14}N_2$?

- A) 64.14% C, 14.04% H, 21.82% N
 B) 74.017 % C, 8.714 % H, 17.27 % N
 C) 74.02 % C, 8.71 % H, 17.27 % N
 D) 44.43 % C, 3.74 % H, 51.83 % N

Experiment 5: What's my formula

- Report Form: *One form for each Group from last week are both to be turned in; stapled together. Place your partner's name next to yours.*
- Check sig figs are correct and units included
- Answer post lab question.
- Show calculations

DUE Today

Complete the procedure with an accompanying modified pg. 36 data form for each unknown that your group chose. Put everyone's name in your group on each form, attach one pg. 37 & one pg. 38 be sure that they are legible, complete, and show clear calculations

What's my formula

Report Form - What's My Formula?

Unknown Number	Mass, Evaporating Dish and Unknown	Mass, Evaporating Dish	Mass, Unknown*	Mass, Evaporating Dish and Product-1 st heating	Mass, Evaporating Dish and Product-2 nd heating	Mass, Product (approximate)	Mass, Evaporating Dish and Product	Percent H ₂ O	Percent C	Percent H	Percent N	Identification of Unknown

Show the calculations for each of the entries in the Data Table marked with * on the calculations page.
 (Show the calculations for each of the entries in the Data Table marked with * below.)

Calculations

- Mass of Unknown
- Mass of Evaporated Product

DUE Today

Complete post lab table

Post Lab: Complete handout & attach to Report Form

Molar Comparisons of Analgesics

Calculate Moles : Doses (mmol/dose)

Which analgesic has the most biologically active ingredient based on millimoles per dose (mmol/dose)?

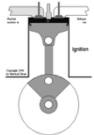
5.0 g of each would produce the following number of doses:

Analgesic	Formula	Doses	mmol/dose
Aspirin	$C_9H_8O_4$	15	28 mmol
Ibuprofen	$C_{13}H_{18}O_2$	25	
Naproxen Sodium	$C_{14}H_{13}O_3Na$	22.7	
Acetaminophen	$C_8H_9NO_2$	5	

Molar Mass Aspirin = 180.1 g/mol
 $5.0 \text{ g} / 180.1 \text{ g/mol} = 0.028 \text{ mol} = 28 \text{ mmol}$

Chemical Reactions

- ☛ Combination (Synthesis)
- ☛ Decomposition
- ☛ Single Displacement
- ☛ Double Displacement
- ☛ Combustion: Oxidation-Reduction
- ☛ Biological Reactions: Enzyme Catalysts



Example: Fermentation pp.61-67
 Begin today with one partner; Record mass sucrose pg.66.
 Show Dr. R. before leaving

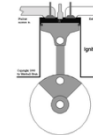
<http://www.piney.com/BabNinkasi.html>



Chemical Reactions

Next week with the same partner; pp.44-45

- ☛ Combination (Synthesis)
- ☛ Decomposition
- ☛ Single Displacement
- ☛ Double Displacement
- ☛ Combustion: Oxidation-Reduction
- ☛ Biological Reactions: Enzyme Catalysts



Example: Fermentation pp.61-67

<http://www.piney.com/BabNinkasi.html>

