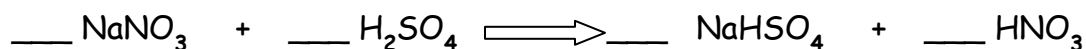


Science & Technology 404
Conservation of Mass Problems

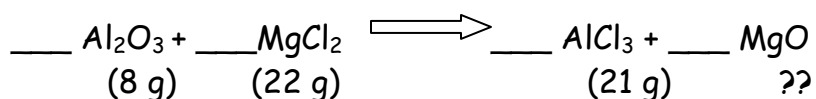
1. If 10 grams of CaCO_3 , when heated, produced 4.4g of CO_2 and 5.6g of CaO , show that these observations are in agreement with the law of conservation of mass.
2. If 4 g of hydrogen are reacted with 32 g of oxygen, how much water is produced? Write a balanced equation to represent the reaction and calculate the mass of water.
3. Balance the equation, if necessary.



In the lab, you react 8,5 g of NaNO_3 with 9,8 g of H_2SO_4 . You obtain 12,0 g of NaHSO_4 and a certain quantity of HNO_3 .

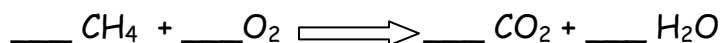
What is this quantity of HNO_3 ?

4. Balance the equation, if necessary.



What is the mass of MgO ?

5. If you pull steel wool apart, you would find that the total mass was unchanged. If you heat the steel wool, you would find that the mass changed. Explain.
6. Balance the equation, if necessary.



You react 152 g of CH_4 with a certain mass of oxygen and it produces 418 g of CO_2 and 342 g of H_2O . What is the mass of oxygen used?