

Name: _____

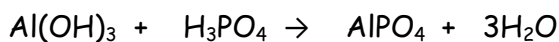
Science and Technology 404

Conservation of Mass Problems

1. When you combine 39 g of aluminum hydroxide, $\text{Al}(\text{OH})_3$, with a certain amount of phosphoric acid, H_3PO_4 , you get 61 g of aluminum phosphate, AlPO_4 , and 27 g of water.

How much phosphoric acid, H_3PO_4 , did you use?

The balanced equation for this neutralization reaction is given below:



2. Lead, Pb, and sulfur, S react so that 2.45 g of lead and a certain quantity of sulfur combine to produce 2.83 g of lead sulfide, PbS .

How much sulfur is required to make 2.83 g of lead sulfide?



3. 7.00 g of lithium, Li, and 19.2 g of fluorine, F, combine to make how much lithium fluoride, LiF ?



4. A reaction involving 168 g of sodium bicarbonate and 120 g of vinegar produces 88 g of carbon dioxide, 36 of water and a certain amount of salt.

How much salt is produced?

5. When you combine 58 g of NaOH with 21 g of H_2SO_4 , you get 35 g of Na_2SO_4 and a certain amount of H_2O . Calculate the amount of water produced.



6. When 191 g of copper, Cu, is combined with 756 g of nitric acid, HNO_3 , the chemical reaction produces 563 g of copper nitrate, $\text{Cu}(\text{NO}_3)_2$, 108 g of water, H_2O , and a certain amount of nitrogen dioxide, NO_2 . The reaction is represented by the following balanced equation:



7. The neutralization of 24.5 g of sulfuric acid, H_2SO_4 , requires 42 g of sodium bicarbonate, Na_2HCO_3 . This neutralization reaction produces 35.5 g of sodium sulfate, Na_2SO_4 , 22 g of carbon dioxide, CO_2 , and a certain amount of water.

