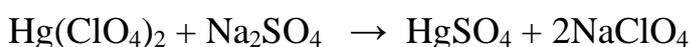# Answer on Question #58085, Chemistry / General Chemistry

If a solution containing 27.57 g of mercury(II) perchlorate is allowed to react completely with a solution containing 7.410 g of sodium sulfate, how many grams of solid precipitate will be formed?

Solution:

The equation of the reaction:

$Hg(ClO_4)_2 + Na_2SO_4 \rightarrow HgSO_4 + 2NaClO_4$

Molar weight of mercury(II) perchlorate is equal 399,5 g/mol . Then the number of moles in 27.57 g of mercury(II) perchlorate equal to 27.57/399.5 = 0.0690 mol.

Molar weight of sodium sulfate is equal 399,5 g/mol . Then the number of moles in 27.57 g of sodium sulfate equal to 7.410/399.5 = 0.0522 mol.

Hence, the number of moles of mercury sulfate precipitate is equal 0.0522 mol.

Molar weight of mercury(II) sulfate is equal 296.65 g/mol. Then the weight of precipitate is equal 296.65*0.0522 = 15,476 g.

Answer: The weight of precipitate is equal 15,476 g