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Tutorial N°4. Production of Phosphoric Acid

Exercice 1

You have a solution of phosphoric acid (H_3PO_4) with a concentration of 80%. What is the equivalent concentration of P_2O_5 in the solution ?

Exercice 2

You have two solutions :

- 1. A solution of phosphoric acid (H_3PO_4) with a concentration of 70%.
- 2. A solution of P_2O_5 with a concentration of 40%.

If you mix 100 mL of the first solution with 200 mL of the second solution, what will be the concentration of P_2O_5 in the final mixture?

Exercice 3

You have a solution of phosphoric acid with a concentration of 60% P_2O_5 . Calculate the mass of P_2O_5 in this solution, given that you have 500 mL of the solution and the solution has a density of 1.5 g/mL.

Exercice 4

In one of the factories producing phosphates from phosphoric acid using sulfuric acid, the following results were obtained in a given process: The amount of treated phosphates: 500 tons and the amount of sulfuric acid used: 350 tons.

- 1. Calculate the consumption rate of sulfuric acid per ton of phosphate produced.
- 2. If the quantity of phosphates is increased to 800 tons, how much sulfuric acid will be consumed, assuming the same consumption rate as the previous process ?