Task#85192

300 kg of 20.0 weight % sulpuric acid is mixed with 400 kg of 40.0% sulphuric acid to produce a product. complete the mass balance.what is the weight @of sulphuric acid in a product?

Solution:

20.0 weight % sulphuric acid solution means 100 g of solution contains 20.0 g of sulphuric acid.

So, 30 Kg sulphuric acid solution contains= $\frac{20g \times 300Kg}{100g}$= 60kg of sulphuric acid.

Similarly,400Kg 40.0% sulphuric acid solution contains=$\frac{40g \times 400Kg}{100}$ =160Kg of sulphuric acid.

Total amount of sulphuric acid solution =300+400=700Kg

Total amount of sulphuric acid in solution =60+160=220Kg of sulphuric acid.

So, 700kg sulphuric acid solution contains 220Kg of sulphuric acid.

100g of sulphuric acid solution contains =$\frac{220Kg \times 100g}{700Kg}$=31.43 g of sulphuric acid

Weight of sulphuric acid in product=220Kg

Weight % of sulphuric acid in product=31.43: