Answer on Question #42323 - Chemistry - Inorganic Chemistry

Question:

What quantity of 0.25 M HNO3 can be neutralized by 0.10 liters of 0.50 M NaOH?

Solution:

The equation is:

 $HNO_3 + NaOH = NaNO_3 + H_2O$

0.1 liter of 0.50 M NaOH solution contains 0.1*0.5=0.05 moles of NaOH

The quantity of HNO₃ needed to neutralize NaOH is the same to the quantity of NaOH, 0.05 moles.

The quantity of HNO3 solution needed is $\frac{0.05}{0.25}=0.2\ I$

Answer: 0.2 liters