

STOICHIOMETRY 3

Solution stoichiometry – Calculations using molarity and a balanced chemical equation.

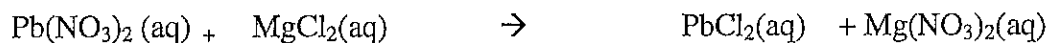
Example 1: You add 500 ml of 0.100 M AgNO_3 solution to a solution containing an excess of Cl^- ion. How much AgCl precipitate will you form?

Molar masses:	169.88 g	58.44 g		143.32	85.00
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Example 2: If you mix 200 ml of 0.100 M $\text{Pb}(\text{NO}_3)_2$ and 300 ml of 0.200 M MgCl_2 , how much PbCl_2 precipitate will you form?

Molar masses:	331.22g	95.21 g		278.10 g	148.33 g
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Titration problems

Example 3: How many moles of water form when 25.0 mls of 0.100 M HNO₃ (nitric acid) solution is completely neutralized by NaOH (a base)?

Molar masses:	63.02 g	40.00 g		85.00 g	18.02 g
	HNO ₃ (aq)	+ NaOH(aq)	→	NaNO ₃ (aq)	+ H ₂ O(l)

Example 4: What is the concentration (M) of a sulfuric acid solution, 125.0 mL of which required 37.5 mL of a 0.0125 M NaOH solution for neutralization

Molar masses:	98.08 g	40.00 g		142.04 g	18.02 g
	H ₂ SO ₄ (aq)	+ 2NaOH(aq)	→	Na ₂ SO ₄ (aq)	+ 2H ₂ O(l)