

Analytical Chemistry

Chapter 1

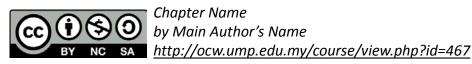
by
Wan Norfazilah Wan Ismail
Faculty of Industrial Sciences & Technology
norfazilah@ump.edu.my



Chapter Name by Main Author's Name http://ocw.ump.edu.my/course/view.php?id=467

Activity 1

- 1. What is the normality of a solution of $4.9000 \text{ g H}_2\text{SO}_4$ in 1 L of solution? Given the molecular weight of H_2SO_4 is 98.08 g/mol.
- 2. What is the weight percent of a solution of 25 g NaCl in 100 g of solution?
- 3. If 5.0 g NaCl is dissolved in water to make 250 mL of solution, what is the concentration? Given the molecular weight of NaCl is 58.44 g/mol.
- 4. How do you prepare 100 mL of 0.40 M MgSO₄ from a stock solution of 2.0 M MgSO₄?



Activity 1

- 5. Distinguish between qualitative and quantitative analysis.
- 6. Distinguish between the expression of concentration on weight/weight, weight/volume and volume/volume bases.
- 7. Define standard solution. How it is prepared?
- 8. Calculate the grams of substance required to prepare the following solutions:
 - a. 250 mL of 5.00% (w/v) NaNO₃
 - b. 500 mL of 1.00% (w/v) NH_4NO_3
 - c. $1000 \text{ mL of } 10.0\% \text{ (w/v) AgNO}_3$
- 9. What is the %(w/v) of the solute in each of the following solutions?
 - a. $52.3 \text{ g Na}_2 \text{SO}_4/\text{L}$
 - b. 275 g KBr in 500 mL
 - c. 3.65 g SO₂ in 200 mL



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Author Information

Wan Norfazilah Wan Ismail

Industrial Chemistry Programme
Faculty of Industrial Sciences & Technology
Universiti Malaysia Pahang



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