

Q/ What is difference between Analyte and matrix

Q / What is difference between dissolving by dissociation and dissolving by ionization

Q / Explain the effect of particle size of solute on the solubility.

Q / How can you prepare 0.16 M normal saline solution (NaCl) in 10dL? M. Wt of NaCl = 58.5 g/mol

Q / If you want to prepare 0.1 molal solution containing 42.5g of NaNO<sub>3</sub> in HNO<sub>3</sub> as solvent. How much HNO<sub>3</sub> in (mL) is needed for this preparation? Density of HNO<sub>3</sub> = 1.4 g/mL , M.Wt. of NaNO<sub>3</sub> = 85 g/mol

Q) Express concentration in Normality for the solution 18.5g of Ca(OH)<sub>2</sub> in 500cm<sup>3</sup> of water. M. Wt of Ca(OH)<sub>2</sub> = 74 g/mol ]

Q) Express concentration in Normality for the solution 5400μg of FeCl<sub>3</sub> in 100mL of water. M. Wt of FeCl<sub>3</sub> = 162 g/mol

Q / How can you prepare 0.015M (250mL) of Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> from the solution of Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub> that contains 0.09M SO<sub>4</sub><sup>2-</sup> ?

Q/ Two solutions of KCl were mixed, Solution (i) 1L KCl and solution (ii) 2L KCl, these two solutions are containing equal mole of KCl. The resulting concentration in molarity is equal to 5M. Calculate molarity for each solution (i) and (ii)?

Q/ What is difference between Saturated & supersaturated solution

Q) What is difference between Molarity & Formality for NaCl that ionized

Q) What is difference between Strong electrolyte & Weak electrolyte

Q/ Explain the effect of Temperature on the solubility.

Q/ For preparation of 0.5dm<sup>3</sup> (2M) HNO<sub>3</sub> , how many mL required from the concentrated solution of HNO<sub>3</sub>? The information on the bottle: percentage = 69% , specific gravity 1.42, M.Wt= 63 g/mol.

Q/ A patient's calcium (Ca<sup>2+</sup>) level in the 5mL blood plasma was found to be 0.5mg Express the concentration in term of normality.

Q) A patient's calcium (Ca<sup>2+</sup>) level in the 5mL blood plasma was found to be 0.5mg Express the concentration in term of molality. (Density of plasma = 1.02g/mL)

Q/ A cough syrup contain 48mg of brompheniramine (M.Wt.= 319g/mol) in 100mL. Express concentration for brompheniramine in molarity.

Q/ A cough syrup contain 48mg of brompheniramine (M.Wt.= 319g/mol) in 100mL. What percent (w/v) of brompheniramine would be contained in each 5-mL dose?

Q/ From a mixture of 6dL (3M) NaCl (M.wt=58.5g/mol) and 400cm<sup>3</sup> (5M) BaCl<sub>2</sub> (M.wt=208g/mol).

- 1) Calculate molarity of each one after mixing.
- 2) What is mole fraction of NaCl and mole ratio of BaCl<sub>2</sub> in the mixture?
- 3) Calculate (ppm) for BaCl<sub>2</sub> in the mixture.
- 4) How many numbers of Chloride ion (Cl<sup>-</sup>) in the final solution?

Q/ If K<sub>sp</sub> for Ag<sub>2</sub>SO<sub>4</sub> is 1.2 x 10<sup>-5</sup> calculate molar solubility of Ag<sub>2</sub>SO<sub>4</sub> and molar concentration of [Ag<sup>+</sup>] & [SO<sub>4</sub><sup>2-</sup>] in the solution.

Q/ Calculate [H<sub>3</sub>O<sup>+</sup>] & [OH<sup>-</sup>] , pH & pOH in 8.15ppth C<sub>2</sub>H<sub>5</sub>NH<sub>3</sub>Cl (M. Wt. = 81.5g/mol) (K<sub>b</sub> for C<sub>2</sub>H<sub>5</sub>NH<sub>2</sub> = 4.3x10<sup>-4</sup>).

Q/ When 5dL of 1000ppm KIO<sub>3</sub> are mixed with 500mL of 0.01M La(NO<sub>3</sub>)<sub>3</sub> . M.Wt of KIO<sub>3</sub> = 213 g/mol , La(NO<sub>3</sub>)<sub>3</sub> = 325 g/mol and La(IO<sub>3</sub>)<sub>3</sub> = 664 g/mol.

- a) How many grams of La(IO<sub>3</sub>)<sub>3</sub>(solid) are formed?
- b) Calculate moles of an unreacted (remain) reactant.

- Q/ A 200 mL of buffer solution that is 0.68 w/v NH<sub>3</sub> (M. Wt. NH<sub>3</sub> = 17 g/mol) and 0.6M NH<sub>4</sub>Cl. Calculate the pH change after addition of 100 mL 0.05 M NaOH. [ $K_b = 1.76 \times 10^{-5}$  for NH<sub>3</sub>]
- Q/ Calculate weight of 100mL HCl. If you know that ( $d_{\text{water}} = 1\text{g/mL}$  and  $\text{Sp.gr.}(\text{HCl}) = 1.18$ )
- Q/ The weight of 1L from H<sub>3</sub>PO<sub>4</sub> is equal to 1710g, what is specific gravity of H<sub>3</sub>PO<sub>4</sub> ?
- Q/ How many weight and number of Ca<sup>2+</sup> and Cl<sup>-</sup> ions are contained in 11.1g of CaCl<sub>2</sub> in water?
- Q/ To a 4L of 0.2M solution of NaOH, 2L of 0.5M NaOH is added. Calculate molarity of resulting solution
- Q/ How many grams needed to prepare 250mL of (1.43M) ammonium dichromate (NH<sub>4</sub>)<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> solution?
- Q/ Prepare 2 liter of 0.1M Na<sup>+</sup> from Na<sub>2</sub>CO<sub>3</sub> pure solid material.
- Q/ Prepare 500mL (6M) from the concentrated H<sub>3</sub>PO<sub>4</sub> . Sp.gr. = 1.696 , percentage = %85 , At.Wt: P=31 , O=16.
- Q/ Prepare 0.5mol/L in 0.5L of KOH from the concentrated solution of 5mol/L.
- Q/ If we weigh 5.36 g of KCl and dissolve this solid in 56 mL of water, what is the molality of the solution?
- Q/ solution is formed by mixing 10.0 g of pentane (C<sub>5</sub>H<sub>12</sub>), 10.0 g of hexane (C<sub>6</sub>H<sub>14</sub>) and 10.0 g of benzene (C<sub>6</sub>H<sub>6</sub>). What is the mole fraction, mole % and mole ratio of each one in this mixture?
- Q/ Calculate the normality of sodium sulphate salt (Na<sub>2</sub>SO<sub>4</sub>) in a 10 dL solution that contains 165 mg (Na<sub>2</sub>SO<sub>4</sub>) [M.Wt = 142 g/mol].
- Q/ How much solution needed in (g) to prepare 10% (w/w) solution of (NaOH)? If you have 55 x 10<sup>6</sup> µg of solid NaOH.
- Q/ Describe the preparation of 5L of 12% (w/v) potassium iodide (KI)?
- Q/ Calculate the number of (ppth, ppm and ppb) for calcium in 1g rock sample that contain 1000 micrograms(µg) Ca.
- Q/ Calculate molar concentration for 0.6N of FeCl<sub>3</sub>
- Q/ What is the molarity of 8% (w/v) KCl?
- Q/ What is the normality of 50% (w/v) Ba(OH)<sub>2</sub>?
- Q/ What is the molarity of 69% (v/v) HNO<sub>3</sub>?
- Q/ Calculate the Molarity of 4.2ppth (NaF) solution.
- Q/ Calculate the Molarity of 420ppm (NaF) solution.
- Q/ What is pNa for a solution of 1×10<sup>-2</sup> M Na<sub>3</sub>PO<sub>4</sub>?
- Q/ Calculate the weight in gram of AgNO<sub>3</sub> required to convert 2.33g of Na<sub>2</sub>CO<sub>3</sub> to Ag<sub>2</sub>CO<sub>3</sub> .
- Q/ How many grams of La(IO<sub>3</sub>)<sub>3</sub>(s) are formed when 5dL of 1000ppm KIO<sub>3</sub> are mixed with excess La(NO<sub>3</sub>)<sub>3</sub> ?
- Q/ what are Important requirements for a primary standard?
- Q/ What are conditions for reaction used in titrimetric analysis?
- Q/ Calculate the hydronium and hydroxide ion concentration of pure water at 25°C and 100 °C?
- Q/ Calculate the hydroxide and hydronium ion conc., pOH and pH in 0.8% w/w aqueous NaOH at 25°C.