Asidi alkalimetri adalah pdf

I'm not robot

reCAPTCHA

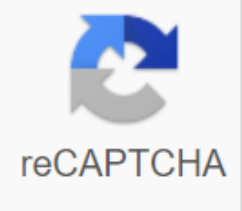**Continue**

ASIDI ALKALIMETRY INTRODUCTION One way to determine the level of alkaline acid solution is the process of titration of asidi-alcalimetry. This path is quite profitable because the implementation is simple and fast, accuracy and accuracy is also quite high. Asidi-alcalimetry is divided into two large parts, namely asymmetry and alcalimetry. Asidimetry is a credits using a standard acidic solution to determine the base. The acids that are commonly used are HCl, acetic acid, sorrel acid, boric acid. Although alcalimetry is the opposite of asidimmetry i.e. titite, which uses a standard alkaline solution to determine acid. In this experiment, the definition of levels with asidi-alcalimetry using phenoptalein and methyl-orange indicators is done because when using another indicator, the pH route is far from the equivalent point. BASIS OF ASIDIMETRY AND ALKALIMETRY THEORY includes a neutralization reaction, which is a reaction between hydrogen ions derived from acids and hydroxide ions derived from bases for the production of neutral water. Neutralization can also be used as a reaction between proton donors (acids) and proton receivers (bases). Asidimmetry is the quantitative definition of compounds that are alkaline using acid standards. Alkaline, on the other hand, is to determine levels of acidic compounds using alkaline standards. A. Acids and bases there are 3 values for so-called acids and so-called bases: 1. According to Arrenius, acid is a compound that when dissolved in water will decompose into hydrogen ions (H+) and anions, while the bases of compounds that when dissolved in water will produce ions of hydroxide (OH-) and cions. The Arrenius theory applies only to inorganic compounds in water solvents. 2. To be applicable in all solvents, Bronsted in 1923 provided a limitation, namely: acid is a compound that tends to release protons while the bases of compounds that tend to catch protons. → H and B Proton → and Conjugation Base 3. Another restriction was granted by Lewis in 1938, stating that acid was the receiving point of the electronic couple, while the base was a donor (gift) of the electronic couple. At the same time, the concept of acid-base base completely changes: the acid compound should not contain hydrogen. According to Lewis the following reaction of alkaline acid reaction: NH3 and BF3 → H3N:BF3 Schematically three theories above can be described in the following scheme: Arrhenius Basic Acid Theory Donor Proton donor hydroxide Bronstead Proton donor Proton receiver Lewis Acceptor a pair of electron donor donors Principle of electronic titration : Reaction to neutralizing Common Reactions : Alkaline test substances are a weak acid and raw basis solution → salty (water Example: CH3COOH and NAOH → CH3COONA (salt) Asidimetric test substances alkaline-alkaline weak and raw acid solution → of salt and water Example: NH4OH and HCL → NH4CL and H20 RAW SOLUTION Raw Solution Solution Solution Dissolved Substance, which, As you know, There are two kinds of raw solutions , namely: 1. The primary raw solution is a solution that is known to be precisely concentrated by the gravimetric method. Concentration values are calculated using simple formulation, after carefully weighing the reacting substances and dissolved to a certain extent. Examples: NaCl, sorrel acid, benzoic acid. The main standard solution is a standard solution, the concentration of which is obtained by weighing. Conditions of the primary raw solution: - easy to get, clean, dry (if possible at 110-120 degrees Celsius) and store in a clean state. - does not hygroscopically and does not change weights when weighing in the air. - The substance can be tested by its qualitative and sensitivity test. - Wherever possible, has a relative mass and a large equivalent mass, so errors due to weighing can be ignored. - Such substances should be easily soluble in the chosen solvents. - The reaction that occurs with such a reaction should be persistent and direct. Titus errors must be minor or can be identified appropriately and easily. 2. A default secondary solution is a solution in which concentration is determined by standard ation using primary raw solution, usually using the titrimmetry method. Example: The NaOH Secondary Standard Solution is a solution that is concentrated by entering the main standard solution. Secondary requirements for the default solution: - a lower degree of purity than the primary default solution - have a high BE to minimize weighing errors - the decision is relatively stable in storage Example of default decision 1. Making a raw solution of slat acid, which is often used for titrov, with a concentration of 1N; 0.5 H; 0.1N. Before making the default decision HCl should consider first of all what percentage of HCl concentration is available because it will affect the calculation of changes (conversion) from HCl percentage to HCl. How to make Hcl solution 0.1 N as much as 1000 ml HCl 37% This is what you want to do: Pipetta 8.3 ml HCl 37% diluted aquadest ad 1000 ml. 2. The raw solution of sulphuric acid Raw solution of sulphuric acid 0.1 H is made by diluting 4904 grams of sulphuric acid with water to taste until 1000 ml of solution. Given what percentage of sulphuric acid is available with weight of its kind, you can find out how many ml of sulphuric acid is equivalent to 4,904 grams of sulphuric acid. 3. The production of a raw solution of sodium hydroxide NaOH 0.1 N is made by dissolving 4001 grams of sodium hydroxide to 1000 ml. In addition, it was mentioned that the base's raw solution should be carbonate-free, so Farmakope Indonesia also contains the following methods of making a carbon-free solution: concentrated sodium hydroxide solution in water until the solution is received until 40 - 60% b/1. Clear pipettes while preventing from diluting carbon dioxide with concentrated carbon dioxide-free water to normality known. The alkaline acid titrov is also called alkaline acid neutralization titrov, where the amount of acid containing 1 mole H e will always respond perfectly with the number of bases containing 1 mole OH-. The point in the titroval is where the amount of acid and base is in the same amount and is called the equivalent point. Determining the concentration of acidic solution by calculating the volume of titulated alkaline solutions and salt from weak acids with a solution of raw acid called asydimetry. In this case, the exact amount of acid equivalent is determined by the number of existing bases. Determining the concentration of alkaline solution by calculating the volume of the acidic solution and salt from the weak bases with an alkaline raw solution called alcalimetry. Here the exact number of bases is chemically equivalent to the amount of acid available. - STANDARDDization of asidimmetry is one of the methods of titrovation, which uses acid as a credit. Acid, which is often used in the analysis of HCl asydimetry. This acid should be standardized with primary raw solution. The main standard solution often used to standardize HCl is the borax solution. HCl must be standardized, because this solution is volatile and reacts easily with other compounds in the air hydrochloric acid (HCl) is a strong liquid acid shape and usually has a content of 39.1% and a density of 1.2 g/ml. HCl is used in neutralizing titular acid, a process that does not lead to changes, either changes in valence or formation of sediments and or the presence of a complex compound of substances that react to each other. The standard HCl solution is usually expressed with a normal size, i.e. solution 1 N (1 N) is a solution containing 1 greek of a certain substance in the volume of 2 liters. For 1 Greek HCl is the number of acidic moles that can 1 gram of H ions. Making a standard solution of liquid substances is often called dilution, i.e. i.e. This method can be used in liquids that are known to be normal. If the standard solution consists of liquids that are known to be normal, then to determine the amount of volume that will be diluted the formula is used: V1 x N1 and V2 x N2 But if the solution is made a new liquid substance that is not/not yet known for normality, then to reduce the amount of volume, which will be diluted by the formula used: Vx n x v BM 10 x x K x L with : Vx - volume n - valence K - density N - normality solution to be made BM - molecular weight of liquid V - the volume of liquid that Borax will make, is used as a raw material in determining the normality of HCl, because it is easy to get in a clean state because it is easy to get in a clean state, because it is easy to get in a clean state, because it is easy to get clean. Reactions that occur are: Na2B4O7 - 7H2O 2NaOH - 4H3BO3 2NAOH - 2HCl 2NaCl - 2H2O Na2B4O7 - 2HCl - 5H2O 2NaCl - 4H3BO3 Titt the end result - formation of nacl mixture with autoborate (H3BO3), so that pN solution can be calculated, the solution can be calculated regardless of the volume change in the credits, where boric acid PC No 9.24, pH : 1/2 pKa - 1 /2 magazine Ca q (9.24/2) 0.5 and 5.1This most appropriate indicator is methyl red (MM). Determining the level of sodium bicarbonate (NaHCO3) can be done with the standard HCl solution according to the reaction: NaHCO3 and HCl NaCl and H2O - CO2 Alkalimetry is a credits that uses the base a as credits. Alkaline is commonly used in naOH alkalimetry analysis. The main raw solution, often used to standardize naokh, is a solution of sorrel acid. NaOH should be standardized because this compound is hygroscopic, so it is easy to bind water and react with CO2 in the air The main raw solution is H2C2O4. 2H2O (sorrel acid) is a solid substance, smooth, white, well soluble in water. Oxala acid is a divalent acid, and in titroval it is always until salt is formed normally. The weight equivalent to sorrel acid is 63. A secondary raw solution is a raw solution, the concentration of which should be determined by the titross against the primary raw solution. The NaOH solution is classified as a secondary standard alkaline solution. Sodium hydroxide (NaOH), also known as Caustic soda, is a kind of caustic metal base. Sodium hydroxide forms a strong alkaline solution when dissolved in water. Pure sodium hydroxide is solid white and is available in the form of pellets, flakes, pellets or 50% saturated solution. NaOH is a moist liquid and spontaneously absorbs carbon dioxide from free air. It is very soluble in water and releases heat when dissolved. NaOH is also dissolved in ethanol and methanol, although naOH solubility in both liquids is less than koh sobilitylu. NaOH is insoluble in dietary ether and other non-polar solvents. The manufacturer of a standard solution of liquid-shaped substances is often called a way of dilution, i.e. from a more concentrated liquid to a more liquid. If the standard solution consists of liquids that are known to be normal, then to determine the amount of volume that will be diluted the formula is used: V1 x N1 and V2 x N2 But if the solution is made a new liquid substance that is not/not yet known for normality, then to reduce the amount of volume that will be diluted by the formula used: Vx n x v BM 10 x x X X L with : Vx - volume n - valence K - content N - density N - normality of the solution to be made BM - molecular The weight of substances liquid V volume of liquids that should be made standards naoh solution - With oxalic acid (H2 C2 O4 . 2H2O) 0.2 - 1.25 grams of sorrel acid inserted into the elenmeyer 250 ml. Rinse aquadest and dissolve to a volume of 50 ml. Add 2 or 3 drops of indicator FenolF (PP). The naOH solution is based on acidic and alkaline properties: acidic, alkaline and neutral. The properties of the solution can be demonstrated with the help of acid-base indicators, i.e. color substances, which produce different colors in acid and base solutions. How to determine which compounds are acidic, alkaline or neutral, you can use litmus paper, indicator solutions or natural solutions. For example, a red and blue litmus test. Here is a grouping of acid-base types of indicators in acidic, alkaline and neutral solutions. See table 2.5 below. The litmus test is used as an indicator of the acid base, as the litmus test has several advantages, namely: 1. Litmus can quickly change color when reacting with acid or base. 2. Litmus is difficult to react with oxygen in the air, so it can be durable. 3. Litmus is easy to digest with paper, so it is used as a paper litmus test. Litmus is a type of substance derived from the type of moss bark. Litmus is a weak acid. The litmus test has molecules that what we'll simplify in HLit. H is a proton that can be given to another. Lit is a weak acid molecule. There is no denying that there will be no equilibrium when this acid dissolves in water. Simplified version of the search for this equilibrium: Union litmus test is red when ionized blue. Now use the principles of Le Chatelier to see what happens if you add hydroxide ions or a few more hydrogen ions to this equilibrium. Addition of hydroxide ions: Adding hydrogen ions: If the concentrations of Hlit and Lit- are comparable: At some point during the movement of the equilibrium position, the concentrations of both colors will be comparable. The color you see is mixing the two. The reason for the ingestion of quotes around the word neutral is that there is no good reason why both concentrations become comparable to pH 7. For litmus test, there is a color comparison approaching 50/50 during pH 7 - this is the reason why the litmus test is widely used for acid and baseline testing. As you'll see in the next section, this doesn't apply to other metrics. Phenolftalin phenolftalen is a chemical compound with the C20H14O4 formula and is often spelled as Hin or phph in wall-notation. Often used in credits, it turns out to be colorless in acidic and pink solutions in basic solutions. If the concentration of indicators is very strong, it may seem purple. In a very basic solution, the pink color is phenolphtalen, which experiences a reaction disappearing quite slowly and becomes colorless again. The reaction disappears somewhat slowly. As a result of colorless InOH3-ions sometimes used in the classroom for kinetic reaction studies. Phenolphtaline is not dissolved in water and is usually dissolved in alcohol for use in experiments. It is a weak acid, which can lose H' ions in the solution. Phenolphtalein molecules are colorless. However, phenolftalein ions are pink. When the base is added to phenolftalin, the ion molecule wi shifts to the right, causing more ionization as the ion is removed. This is predicted on the principle of Le Chatelier. Phenolftalen is synthesized by condensing phthalate anhydride anhydride with two equivalents of phenol in a state of phenolphthalic acid, used as an indicator of acid or base, where upon contact or presence of the base, it will become colored and with the base, it will become pink purple. It is also a component of universal indicators, a solution consisting of a mixture of pH indicators (usually phenolftalin, red methyl, blue bromotamol, and blue tymol) Methyl orange methyl orange (methyl orange) MO is an organic compound with the formula C14H14N3NaO3S and is commonly used as an indicator in the alkaline acid. This MO changes color from red to pH under 3.1 and to yellow on pH over 4.4 so the transport color is truly. The structure of this indicator is this: methyl orange is one of the indicators widely used in the captionroval. In alkaline solutions, methyl orange yellow and structure: In fact, hydrogen ions attract one of the nitrogen ions on a nitrogen-nitrogen double bond to provide a noteable structure like the following: Methyl Red Methyl (methyl red) is an organic compound that has a chemical formula C15H15N3O2, a compound widely used for indicators of alkaline acid. This figure is red at pH below 4.4 and yellow above 6.2. When selecting credit metrics, remember that the equivalent point is the caption, which has a mixture of two substances in the same comparison. You want to select indicators that are discolored close to the equivalent point. The indicator you select varies from one caption after another. The following diagram shows a pH curve to add strong acids to strong bases. The shaded parts of the image are the pH range for methyl orange and phenolphthalein. you can see that there is no change in performance at the equivalent point. However, the image decreases dramatically at this equivalent point, indicating that there is no difference in the amount of acid added, regardless of the metric you choose. However, it is useful to to select the best color using each indicator. When using phenolftalen, the title is done before phenolphtaelen turns out to be colorless (at pH 8.8) because it is the nearest point to get the equivalent point. On the other hand, using orange methyl, the is carried out until the first part appears orange in the solution. If the solution turns red, you get a point farther away from the equivalent point. This time it is quite clear that phenolftalin will be more useless. However, methyl orange begins to change from yellow to orange very close to the equivalent point. This time, methyl orange is useless! However, phenolphtalen changes color exactly where you want it to be. The following curves for cases where acids and bases are comparable to weak ones - such as ethanol and ammonia solutions. In other cases, the equivalent point will lie in a different pH. You can see that both indicators cannot be used. Phenolftalin will complete its change before it reaches the equivalent point, and the methyl orange is far down once. You can find an indianactor that initiates discoloration or ends it at the eqivalen point, because the pH of the equivalent point is different from one case to another, you can neutralize it. Solving sodium carbonate and diluted salt acid here's an interesting case. If you use phenolftalin or methyl orange, both will give you the right results - but the price with phenolphthalin will be more accurate than other parts of methyl orange. This is the case that phenolphtalen has finished experiencing its discoloration in the right pH with an equivalent point at the time when hydrogen sodium is first formed. It is methyl-orange discoloration that occurs at the pH point equivalent to the second part of the reaction. KADAR DETERMINATION In the field of pharmacy, asidi-alcalimetry can be used to carefully determine the level of the drug, because with this caption, the deviation of the equivalent point is smaller, so it is easier to know the final point of titration marked discoloration, as well as the time used as efficiently as possible. Some of the connections set in asidi and alcalimetry levels in The Pharmacy Indonesia Edition IV include: amphetamine sulfate and tablets available ammonia acetic acid benzoic acid hydrochloric acid Salicylic acid Citrate acid Tatar acid Tatar acid Butyl paraben Ephedrine and tablets available Ethyl paraben Eukinin Furosem Glybencles Mide Ketoproften Chloralhydros Linesterol Magnesium Hydroxoxide Merobamat Methyl Paraben Naproxen Tetraborate Neostigmin Methylsulfate Propyl Paraben Propyl Tiuracil Saccharin Sodium Oxide Sample definition level of raw solution in alkaline acid acid and acid commonly used in asidi-alkalimetry usually made of slat acid and sulphuric acid. Both of these acids can be used in almost any titration, but hydroric acid is preferable to sulphuric acid especially for compounds that provide sulfuric acid deposits such as barium hydroxide. Sulphuric acid is preferred for credits that use heating due to the possibility of evaporation in heating the salt acid, which can pose a danger. Nitric acid is not always used because it contains nitrithic acid, which can damage some indicators. Standard alkaline solutions typically use sodium hydroxide, potassium hydroxide and barium hydroxide. The solution easily absorbs carbon dioxide from the air, so its concentration can change rapidly. Thus, the standard alkaline solution is made without carbonate and to protect against the effects of carbondioxide from the air, then storage is equipped with a soda lime tube. All raw solutions should be baked often again. Bibliography : Anonymous, 1972, Pharmacopeia Indonesia, Issue II, Ministry of Health, Jakarta. Vogel, A.I., 1978, quantitative inorganic analysis textbook, 4 ed., Longmans, Green and Co. London, New York, Toronto. Toronto. asidi alkalimetri adalah pdf. titrasi asidi alkalimetri adalah. metode asidi alkalimetri adalah. prinsip pada titrasi asidi alkalimetri adalah