جامعة الانبار

كلية : الصيدلة

قسم : الكيمياء الصيدلانية

اسم المادة باللغة العربية: الكيمياء العضوية

اسم المدة باللغة الإنكليزية**Inorganic Chemistry lab**

المرحلة: الثالثة

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عنوان المحاضرة باللغة العربية: تجربة تحضير ومعايرة محلول ثايوسلفيت الصوديوم

عنوان المحاضرة باللغة الإنكليزية: **Preparation and standardization of 0.1N Sodium Thiosulphate solution**

Preparation and standardization of 0.1N Sodium Thiosulphate solution

Introduction

White granular compound M.wt is 248, freely soluble in water, medicinally used as antifungal. Chemical principle Potassium dichromate is an oxidizing agent, it is reduced by excess KI in acidic media and an equivalent amount of iodine is formed. The librated iodine is titrated with sodium thiosulphate solution using starch indicator. This indirect procedure is known as iodometry.

$K_2Cr_2O_7 + 6KI + 14HCl \rightarrow 3I_2 + 2CrCl_3 + 8KCl + 7H_2O$

$2Na_2S_2O_3 + I_2 \rightarrow 2NaI + Na_2S_4O_6$

Procedure

Dissolve 26g of sodium thiosulphate and 200mg of sodium carbonate in 1000ml of recently boiled and cooled water. Standardization Weigh accurately about 200mg of primary standard potassium dichromate ($K_2Cr_2O_7$) previously dried at 120 C^o for 4 hours and dissolve in 100 ml of water in a glass stoppered flask, swirl to dissolve the sample, remove the stopper and quickly add 3g

of potassium iodide, 2g of sodium bicarbonate and 5ml of concentrated hydrochloric acid.

Stopper the flask and swirl to mix and allow to stand in dark place for 10 minutes, rinse the stopper and the inner wall of the flask with water and titrate the librated iodine with sodium thiosulphate solution until the solution is faintly yellow in color, add starch mucilage and continue the titration to the discharge of the blue color.

Calculation

Calculate the normality of sodium thiosulphate

$N_1V_1=N_2V_2$