Instructions for students

Determination of iodine in salt

Concept 1

In the analytical laboratory, the quality of sodium chloride, is examined for the salting of food for people, known as common salt. One of the studies is to determine the iodide using the jodometry method. Your job as a laboratory technician is based on the implementation of the self-analysis of saline on the content of iodide. The implementation has to be recorded. Review the results, whether the examined salt sample with standards on the content of potassium iodide (V) according to the Regulation of the Ministry of Health and the information of the producers corresponds. Create documentation of objects and note the BHP rules.

Reagent and Laboratory Equipment

Scale, titration set, spoon, Scale dishes, pipette, measuring Kolbe, beaker, graduated cylinder, phosphoric (V) 10%, sodium chloride (NaCl), distilled water, potassium iodide-fest, Thiosulfatnatrium- concentration 0,0020md / dm^3, starch, titration-Thiosulfatnatrium: concentration 0,1md / dm^3

Conduct

Titration set assemble, fill the burette with the 0.0020 molar solution of Thiiosulfatnatrium. 10g of salt weigh and quantitatively transferred to cone Kolbe of 250cc, then give 80 ml of cold distilled water and 10cm^3 of 10% solution of phosphoric acid (V) and in addition of potassium iodide 0,100-0,120g.

Close the flask with the cork, and in a dark place for 5 minutes. Make. Resulting iodine according to the equation:

$Jo_3^- + 5y + 6H^+ \rightarrow 3JZ + 3H20$

Mit der Unterstützung des Programms für Lebenslanges Lernen der Europäischen Union
With the support of the Lifelong Learning Programme of the European Union.
This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

0.0020 with the molar solution of Thiosulfatnatrium titrated in the presence of starch as an indicator:

$J_2 + 2S_2O_3^{2} \rightarrow 2J + S_4O_6^{2-}$

Titration 2 or 3 times to perform and measure the average volume when the result of the titration is no longer different than 0.2cm.

Evaluation

The content of iodine (x) in saline in the form of potassium iodide [mgKJ0₃ / kg] calculate according the pattern:

$$x = \frac{M_{kjo_3} \cdot V_{nr2s2o_3} \cdot 100}{6}$$

Mkjo₃- molar mass KJ0₃ (214,0 g/md)

VNa2S20₃ volume of solution of sodium thiosulfate consumed to titrate the sample by saline [cc] - average of 2 Titration

CNa2S2O3- molar concentration of Thiiosulfatnatrium [md / dm]

x- iodine content in salt in the form of potassium iodide [mgKJO₃ / kg]

... and compare with standard on the content of Jodit (V) with the Order of the Health Ministry and the information of the producers.

Disposal:

According to the characteristics of the substance, the solution can be eliminated after the titration in the sink.

Mit der Unterstützung des Programms für Lebenslanges Lernen der Europäischen Union
With the support of the Lifelong Learning Programme of the European Union.
This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Mit der Unterstützung des Programms für Lebenslanges Lernen der Europäischen Union
With the support of the Lifelong Learning Programme of the European Union.
This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.