



TITREMETRIC DETERMINATION OF CALCIUM THIOGLYCOLATE IN DIFFERENT BRANDS OF DEPLITORIES

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ABSTRACT

Depilatories are used for removal superfluous hair from the skin of the human body. In this components containing are calcium thioglycolate, water. Epilation is permanent hair removal which should not confused by depilation. Estimation of calcium thioglycolate in three different depilatories by Iodimetric method was performed successfully. The method was found to be simple and easy. All the brands which are tested for estimation of calcium thioglycolate and their concentration were found to be within limits.

INTRODUCTION

Chemical depilatories are one of the most common methods used to remove superfluous and other unwanted hair. They function by disintegrating hair into an amorphous mass which is then scraped, wiped or rinsed off the skin. Their primary effect is on the keratin protein that makes up the hair shaft. Unfortunately, as the surface of the skin is also largely made of keratin, depilatories can have an irritating effect on it as well. The depilatory means removing the hair. Salts of thioglycolic acid and sulfides are common ingredients. Calcium thioglycolate which is salts of thioglycolates weaken structure of hair in fibers and roots. This will breakdown the disulfide bonds and so it is easily rubbed or scraped off from hair follicle. The maximum concentrations of thioglycolic acid and its salts allowed in depilatories is 5% and pH is 7-12.

Molecular formula: C₂H₂CaO₂S

Molecular weight: 130.18.

Structure



MATERIALS AND METHODS

Materials: Depilatories, Starch, Concentrated HCL, Potassium iodide, Iodine.

Method: Iodimetric method.

Preparation of 0.1N I₂ solution

14gm of iodine is taken, to that 36gm of potassium iodide is added and 3 drops of concentrated HCL is added and the solution is making up to 1000ml.

Procedure: Take accurately weighed 5gm of sample in 250ml Erlenmeyer flask (conical flask) and add 75ml of water. To that 15ml of HCL which is concentrated is added and the solution is heated for 10mins

on water bath. The solution which is above cooled and titrated with solution of iodine using indicator as starch.

$$\% \text{Thioglycolic acid} = \frac{v \times 0.00921 \times 100}{M}$$

RESULT AND DISCUSSION:

Brand name	%thioglycolic acid
Brand-A	4.7
Brand-B	3.6
Brand-C	4

The %thioglycolic acid limit should be 5 or less than 5 but not more than 5. Estimation of calcium thioglycolate in three different depilatories by Iodimetric method was performed successfully. The method was found to be simple and easy. All the brands which are tested for estimation of calcium thioglycolate and their concentration were found to be within limits.

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