

STANDARD OPERATING PROCEDURE – Determination of Titratable Acidity

INTRODUCTION

Titratable acidity is the amount of titrant needed to react stoichiometrically with lactic acid in milk. During the production of some cultured dairy products, samples of the product are taken during the intermediate steps of production and tested for their titratable acidity. These readings are then used to determine when production can proceed to the next step.

MATERIALS

1. Supplies
 - a. Sample
 - b. Pipette
 - c. Titrating cup
 - d. 1 % phenolphthalein
 - e. 0.1 N sodium hydroxide
 - f. Titratable acidity tester
2. Cautions
 - a. Sodium hydroxide and phenolphthalein are corrosive and may harm skin and eyes.
 - b. If titratable acidity tester is made of glass it must be used in an area separate from the production area to avoid contamination of the finished product with broken glass.

PROCEDURE

1. Bring the level of sodium hydroxide in the buret of the titratable acidity tester to the 10 mL mark.
2. Obtain a homogeneous sample of the product to be tested
3. Draw up 9 mL of sample into a pipette
4. Completely drain the sample out into a titrating cup
5. Add 5 drops of phenolphthalein to the titrating cup
6. Add sodium hydroxide dropwise to the titrating cup while continuously stirring.
7. When the mixture has turned light pink read the level of sodium hydroxide in the buret. This value (in mL) is the titratable acidity of the sample.
8. Clean cups and pipettes
9. When not in use store the titratable acidity tester in a secure location.

RECORD KEEPING

Results from the titratable acidity determinations are recorded on the daily production sheets.

REFERENCES

Standard Methods for the Examination of Dairy Products
Published by the American Public Health Association
www.apha.org

The following individual is responsible for implementation of this SOP and has the overall authority on-site:

Name: _____ Title: _____ Date: _____