



TAL 797 – Seminário  
09/10/2019

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### **Influence of sodium sesquicarbonate on milk colloidal stabilization**

Milk can be characterized as a system formed by a fat globule emulsion and an aqueous phase protein dispersion and its stability is directly related to the micellar structure of casein. Several factors may influence the stability of casein micelles, among which the pH can be highlighted. Alcohol testing is one of the methods used to predict the heat stability of milk and is a simple, fast and inexpensive method. Acidity regulators are defined as substances that alter or control the acidity or alkalinity of foods. One of the additives that fits this class is sodium sesquicarbonate, a double salt formed by sodium bicarbonate and sodium carbonate. According to Codex Alimentarius, sodium sesquicarbonate can be used in the food industry as an additive in the manufacture of various dairy products such as sour cream, mozzarella cheese, cottage cheese, cream cheese, among other products, but in Brazil its use is not completely standardized. Preliminary tests were conducted to understand the characteristics of sodium sesquicarbonate. Five treatments were prepared using whole pasteurized milk, pasteurized milk with the addition of sodium bicarbonate, sodium sesquicarbonate, sodium carbonate and sodium hydroxide. For each treatment, pH and alcohol test analyzes were performed. The added milks of acidity regulators showed an increase in pH and an increase in ethanol stability, which shows that pH has a great influence on milk stability. The sodium sesquicarbonate has a great industrial potential and further studies will be done to better understand the properties of the substance.



## Referências bibliográficas

BRASIL, Agência Nacional de Vigilância Sanitária. Portaria n 540, de 27 de outubro de 1997. **Aprova o Regulamento Técnico: Aditivos Alimentares – definições, classificação e emprego.** Diário Oficial da União, 1997.

BROYARD, C; GAUCHERON, F. Modifications of structures and functions of caseins: a scientific and technological challenge. **Dairy Science and Technology**, 2015. Vol. 95 p. 831-862.


CODEX ALIMENTARIUS COMMISSION. Food Additives and Contaminants: update as at 32<sup>nd</sup> of Session of the Codex Alimentarius Commission (March, 2000). Disponível em: <<http://www.fao.org/3/x7137e00.htm#Contents>>. Acesso em: 13 setembro 2019

COSTA, C. H. F. **Avaliação Microestrutural do Leite Pasteurizado Submetido ao Teste do Álcool Visando Processamento UHT.** Dissertação de Mestrado. Universidade Federal de Juiz de Fora, 2016.

HORNE, D. S.; MUIR, D. D. Alcohol and Heat Stability of Milk Protein. **Journal of Dairy Science**, 1990. Vol. 73 (12) p. 3613-3626



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