

**sensiber**VI Simpósio Ibero-Americano em Análise Sensorial  
VI Ibero-American Sensory Analysis Symposium19 a 21 de agosto • 2010  
Centro Universitário Senac  
Campus Santo Amaro • São Paulo SP  
19 - 21 August 2010 • Senac University Center**Sensory evaluation of mineral salts for reducing sodium in food products**D. G. C. Freitas<sup>1</sup>, F. T. Silva<sup>1</sup>, A. L. Souza<sup>1</sup>, M. Alcantara<sup>2</sup>, J. C. C. Godinho<sup>2</sup>, P. C. A. Pereira<sup>2</sup>.<sup>1</sup>Embrapa Food Technology, Brazil; <sup>2</sup>Federal Rural University of Rio de Janeiro, Brazil.

There is a growing interest in the association of dietary habits, especially regarding sodium, potassium and calcium intakes, with the elevation of blood pressure in general populations. As a result of the ongoing campaign by public health authorities, specific programs of reducing salt intake are relatively growing. The daily amount of sodium available for consumption in Brazilian households was 4.5 g/person, thus exceeding by more than two times the recommended intake of this nutrient. Although most of the sodium available come from salt and salt-based condiments (76.2%), the fraction derived from food processed increases linearly with the home purchasing power. In order to attend the demand for foods with lower content of sodium, this work investigated the equivalent salinity and the sensory profile of four mineral salts substitutes (potassium chloride, magnesium chloride, calcium chloride and sodium lactate). The equivalent of salinity was determined using magnitude estimation method and power functions of each salt. Six panelists were selected according to their ability to discriminate the basic tastes. The salts' solution in equivalent salinity was evaluated using Quantitative Descriptive Analysis (QDA) in order to obtain their sensory profiles. The attributes defined by the panel were "salty", "acid", "bitter", "astringent" and "metallic". The concentrations obtained for the equivalent of salinity were in reference to the 0.5% sodium chloride solution. Magnesium chloride and calcium chloride presented higher intensity of bitter and astringent off-flavors, while the attribute metallic was more evident in the sodium lactate solution. The sensory profile of potassium chloride was very similar to the sodium chloride, as expected. As alternative of use of sodium chloride and potassium chloride salts, these findings indicated the necessity of using mineral salts mixtures in combination with masking agents and flavor enhancers to reduce the presence of off-flavors in salt substitutes.

**Palavras chave:** mineral salts, equivalent of salinity, sensory profile.