A－1 TASTE PROPERTIES OF SALTS DIFFERING IN COEXISTING COMPONENTS

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Part I

Object The effects of the trace coexisting components in salts on taste properties were examined by a sensory test on model samples so as to reveal the relationship between the presence of trace components in salts and the taste properties.

Method The model samples (To a 0.12M NaCl solution, KCL, $CaSO_4$. $MgCl_2$ and $MgSO_4$ were added) were prepared. Each sample was subjected to the SD sensory test. Various marketed salts were formulated into aqueous solutions of NaCl concentration of 0.12 M. Then the taste profile of each solution was determined. Next, the relationship between the trace component content and taste properties was discussed by taking the result of the above model system into consideration too. The average score was calibrated by the T-calibration method and Scheffe's pair comparison method (modified Haga's method).

Results A mixed solution of various salts free from NaCl showed no salty but taste properties characteristic to each of the employed salts. Regarding the salts containing coexisting components affecting the taste properties of the NaCl solution, Mg^{2+} alone relieved salty and bitter so as to give maroyakasa andCa^{2+} gave maroyakasa and neutralized the salty characteristic to pure NaCl salt, while a small amount of K^+ exerted no remarkable effect. Mg^{2+} +Ca^{2+} relieved astringency so as to gave maroyakasa. Mg^{2+} + K^+ relieved kudosa and elevated maroyakasa. Mg^{2+} +Ca^{2+} + K^+ gave complicated taste properties

depending oncomposition.

Part Ⅱ

Object Stimulus thresholds, points of subjective equality and test profiles were examined by a sensory test on three kinds salts.

Method Salts used for taste were 100% salt (high purity of sodium chloiride), 98% salt (product similar to marine salt prepared by adding nigari) and 96% salt(product prepared by adding twice as much as nigari) Stimulns thresholds were measured by method of minimal changes and method of constant stimulus. Points of subjective equality were neasured by matching test. Taste profiles were measured by scoring method.

Results The stimulus thresholds of the 100% salt, 98% salt and 96% salt were respectively 0.094%, 0.128% and 0.132%. Thus the threshold decreased with an increase in the sodium chloride content. The points of subjective equality of the 0.98% saltand 0.96% salt, based on the 100% one, were respectively 0.98 and0.96. Namely, it has been clarified in this test that the saltines intensity in a sample comprising sodium chloride together with coexisting components such as magnesiumchloride and potassium chloride would roughly agree with the content of sodiumchloride. The taste profiles of the samples varied depending on the concentration of the sample solutions. When compared at the same concentration, the 100% salt was scarcely similar to the 98% and 96% ones, while the 98% saltand 96% one were closely similar to each other. The discussion on the tastes of sample solutions prepared by adding magnesium chloride, potassium chloride and calcium chloride to sodium chloride indicated that the sample containing magnesium chloride was scarcely similar to those containing potassiumchloride and calcium chloride.