The Diffusion of Sodium Chloride in Foods

-The Diffusion of Sodium Chloride from viscosity solutions-

Sachiko ODAKE
Yamanashi Women's Junior College, Living Science

Summary

The relationship between the diffusion coefficients of sodium chloride and viscosity of solutions mixed with starch was studied. Sodium chloride - starch mixed solutions were prepared as the concentration of sodium chloride was 0.1M and the starch were 3% and 5%. The size of agar gel cubes were 1, 3 and 5cm (2L) and the concentration of agar gel was 2%. After soaking in a sodium chloride - starch mixed solutions for 0 - 48 hours (t), the mean concentrations ($\bar{C}(t)$) of sodium chloride in gel cubes were measured. The value for the diffusion coefficient, which was yielded by substituting the values of t/L^2 and $\bar{C}(t)$ into the solution of the diffusion equation, depends on the viscosity of the seasoning solutions. The diffusion coefficients of sodium chloride in 2% agar gel cubes from viscosity solutions were described as a function of the apparent viscosity at the high share rate.