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## Effect of Salt Addition on Recrystallization Behavior of Ice Crystals in Frozen Foods

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### Summary

In order to understand the effect of salt (NaCl) addition on recrystallization behavior of ice crystals in frozen food during storage, isothermal ice recrystallization rates in sucrose solutions (28.6 wt%) with and without NaCl were measured and discussed in terms of ice phase volume ratio and water mobility in unfrozen phase matrix. Addition of 3 wt% NaCl resulted in increase of recrystallization rate and decrease in ice phase volume ratio measured by DSC. <sup>1</sup>H-PFG PFG-NMR revealed that diffusion coefficient of water molecules in unfrozen phase increased by addition of NaCl. Considering the results of ice volume phase ratio and diffusion coefficients of water molecules, it was strongly suggested that the higher recrystallization rate by NaCl addition was caused by increasing water mobility in unfrozen phase matrix.