

## Experiment 10: Preparation of films made of N,O-carboxymethyl chitosan

*Duration:* First day: 15 minutes, second day: 5 minutes.

*Equipment:* Beaker (250 ml), magnetic stirrer with heating plate, stirring rod, Pasteur pipette, small-meshed strainer, plastic plate (30 x 30 cm<sup>2</sup>) or rinsing bowl.

*Reagents and materials:* N,O-carboxymethyl chitosan, demineralized water. Procedure: 2 g of N,O-carboxymethyl chitosan are dissolved under slight heating and stirring in 100 ml of demineralized water. After cooling the solution is poured through a small-meshed strainer onto a plastic plate or on the backside of a rinsing bowl. The solution is not smoothed down and the water is allowed to vaporize overnight.

*Observation:* After the vaporization of the solvent a flexible, tear resistant, transparent and very strong film remains, which is easily peeled off the plate. Faults and precautions: If the solutions are poured directly onto plastic plates without using strainer, it is possible that N,O-carboxymethyl chitosan particles not dissolved completely cause thickenings and uneven patches. Besides, pouring through strainer prevents the formation of bubbles.

*Waste disposal and cleaning:* Immediately after use the strainer should be cleaned with running water.

