

## **Size and shape of calcium alginate beads produced by extrusion dripping**

### **Abstract**

Alginate hydrogel beads are widely used as an encapsulation medium for biomedical, bioprocessing, and pharmaceutical applications. The size and shape of the beads are often critically controlled since in many usages the beads are monodisperse in size and spherical in shape. Extrusion dripping is a well-known method to produce alginate beads. Nevertheless, the production of beads of desired size and spherical shape is often achieved based on one's experience or trial and error. An overview is provided on alginate properties, formulation and preparation of alginate and gelling solutions, production conditions, and post-production treatment that may influence the bead size and shape. Various methods of bead size and shape measurement are also discussed.

### **Keywords**

Alginate; Bead shape; Bead size; Extrusion dripping