

&lt;原 著&gt;

## 水素添加大豆リン脂質を用いた 2 成分系 (水・エタノール) におけるゲルの調製方法

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### The Preparation Method of the Gel Formed by Hydrogenated Soybean Phospholipids in Water-ethanol Binary System

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#### Summary

Hydrogenated soybean phospholipids (HSL) change the water and ethanol binary system into gel. We studied the factors for gelation and the best preparation method. The most important factors are phosphatidylcholine (PC) content in HSL and the ratio of water and ethanol. The consistency and transparency of the gel became higher with higher content of PC in HSL. The consistency was depend on the concentration of HSL in gel and if PC is used, the sufficient concentration in gel was 3% for the ointment base. The gel was formed when ethanol concentration in gel is 20-47%, and the best was 40%. The preparation method was investigated followed composition; PC 3% and water/ethanol ratio = 60/40. Two preparation methods were tried; hot water was add to PC ethanol solution (method 1); ethanol was added into water dispersed PC in advance (method 2). It was required in both cases that both water and ethanol phase were kept at above 55°C, phase transition temperature of PC. High preparation temperature provided high consistency gel with method 1, but no temperature effect was observed with method 2. In both methods rapid cooling occurred the precipitation of PC. The gel obtained such a condition showed no change when it stored at 20°C for 4 months.

**Keywords:** hydrogenated phospholipids; gel; phosphatidylcholine; ethanol; consistency; preparation