Monosodium Glutamate (MSG)

**Introduction**

Monosodium Glutamate (Sodium Glutamate), MSG (C₈H₈NNaO₄ . H₂O) is an important flavouring agent used as a food additive. The raw material is frequently dextrose or sugar L-glutamic acid.

Glutamic acid exists in three forms, but only the monosodium salt of L-glutamic acid has a flavour-accentuating capacity.

**Application**

Several U.S. companies have developed their own microbiological process or obtained it from the Japanese. The principal process steps are fermentation, concentration, hydrolysis, neutralization and acidification, crystallization, separation, and purification.

One of the most important properties for the quality control of the end product is the control of the supersaturation.

The basic principle of the measurement is that the product is pumped through the heat exchanger continuously. The total density is measured and the outlet pump starts to take the product out of the crystallizer. At the minimum level the crystallizer is fed with new product so the supersaturation is within specifications again. All the steps are taken at the same time and the unit operates at a balanced throughout.

**Installation**

K-Patents Process Refractometer, PR-01-S is installed directly in the pipe just between the feed and the heat-exchanger in a bypass-pipe of the crystallizer vessel. Typical measurement range of monosodium glutamate is 45-65
Brix and the process temperature about 60°C (140°F).