

## Glucono Delta-Lactone Applications

Glucono Delta-Lactone is an acidulant often abbreviated to GDL. GDL hydrolyses in water to form gluconic acid. The rate of acid formation is affected by temperature, concentration and the pH of the solution.

It has low acid release at room temperature but the rate of conversion to gluconic acid increases as the temperature increases. GDL is readily soluble in water and is used in a range of applications. It is thought to be one of the best acids to reduce pH without giving an excessive acidic flavour profile to the food product.

Application	Suggested dose rate	Comments
Cured comminuted meat products	0.5%	GDL will usually speed up the colour fixing process.
Restructured Meat Products	Not greater than 0.3%	Lowers the system pH, which releases the calcium to react with alginate and bind.
Salami	1.0%	Reduce the pH of the system, to reduce processing time and reduce risk of pathogen growth.
Chemically Leavened Bakery Products	GDL at 4.25% with 2% Sodium bicarbonate	Gives volume and texture
Tofu	0.3 - 0.4%	Coagulates the soy protein to give gelation
Pickled Products	Up to 65% of the Vinegar	Reduce sharp acid flavour
Cheese	12% GDL on a milk solids basis	To gradually coagulate the milk protein
Canned Fruit and Vegetables	Up to 1%	Reduce pH without adversely affecting flavour
Salad Dressing	Replace up to 10% of the Vinegar	Reduce sharpness and bite, particularly in fat free products

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