

GLUCONO DELTA LACTONE

Meat Products

Meat products have historically been preserved using fermentation, curing and smoking. GDL is used to enhance modern meat preservation techniques by reducing the level of nitrite required, accelerating the curing process and producing a more shelf stable product. The use of GDL in meats has flourished in Europe where it has been found to be a valuable adjunct to "old world" processing techniques. The latest trend in meat processing using "HACCP Hurdle Technology" includes using strict pH control among its critical control parameters to achieve product safety. Glucono delta lactone is a preferred acidulant because of its slow hydrolysis and mild flavor. The flavor of the other common organic acids can often overwhelm delicate meat and spice flavors.

The amount of GDL which may be added to sausage is often regulated by government authorities. In the United States, GDL is allowed to be-used in sausages at a level of 8 oz per hundred pounds (Sg/kg) of meat. Except Genoa sausage where a 1 % level (10g/kg) is permitted. GDL use is balanced with other ingredients such as salt, nitrite, sorbic acid, etc. to control water activity and achieve optimum shelf-life.

GDL can also be used in restructured meat products. A dry binder is mixed with raw meat to form restructured patties, roasts and other meat products. Based on the weight of the raw meat, the binder contains 1 % sodium alginate, 0.2% calcium carbonate and 0.3% GDL. The binder mixture must not exceed 1.5 % of the products content and must be added in dry form. The ingredients used in the binder must be shown on the product's label.

When used at a level of 0.5%, GDL can markedly reduce the growth of lactic acid bacteria and extend the shelf-life of vacuum packaged pork liver pate.

