

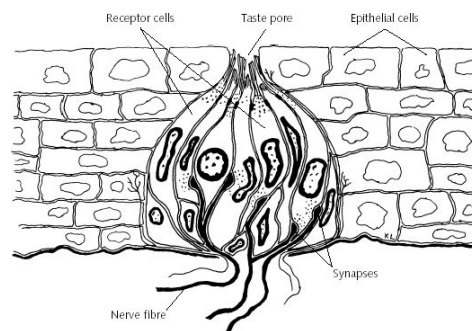


SODIUM GLUCONATE

Debitterant

Many products from food to pharmaceuticals have a bitter taste to them due to certain ingredients. In order to assure patient compliance (for pharmaceuticals) and attract customers (for food), it is necessary to mask the bitter taste. Gluconates can be very useful in this application

Taste buds are onion-shaped structures containing between 50 to 100 taste cells. Chemicals from food or oral ingested medicaments are dissolved by the saliva and enter via the taste pore. There they either interact with surface proteins known as taste receptors or with pore-like proteins called ion channels.



Bitter blockers work by interfering with taste transduction, the process by which taste message travel from the mouth to the brain.

Sodium salts such as sodium chloride, sodium acetate, sodium gluconate have been shown to be potent inhibitors of some bitter compounds.

Application

Even though we may not know for sure what the exact mechanism is, we do know that sodium gluconate is highly effective as a debitterant. The use of 0.2 – 0.5% sodium gluconate results in a very highly significant improvement in taste.

Many food manufacturers are looking for ways to reduce sodium content in their product. More and more often, they are turning to potassium as an alternative. The most well-known application is in salt-substitutes where NaCl is cut back and replaced with KCl. However, in addition to producing a salt like taste, potassium chloride also elicits a bitter/metallic taste which is unpalatable to consumers. This is corrected by the addition of sodium gluconate.