GLUCONO-DELTA-LACTONE

CAS	90-80-2	**DENSITY**	0.6
IMPLEMENTATION STANDARDS	GB7657-2020	**BOILING**	230.35℃
MOLECULAR FORMULA	C6H1006	**FLASH POINT**	192.3±20.3℃
MOLECULAR MASS	178.140	**MELTING POINT**	151-155℃

Products：

Glucono-delta-lactone (abbreviated as "Gluconolactone" or "GDL") is used as a chelating agent, acidifier, etc. in the food industry, and its E-code is E575. It is the lactone form of D-gluconic acid. It is a lactone form of D-gluconic acid.It is a form of D-gluconolactone.

Remain：

It occurs naturally in glucose-rich foods such as honey and fruit juices. It can be hydrolyzed back to acidic gluconic acid, which gives them a slightly sour taste similar to fermentation, and is about one-third as acidic as citric acid in taste. Its metabolism in the body is achieved by conversion to glucose, and gluconolactone has a similar calorific value to sugar.Gluconolactone has a similar calorific value to sugar.

The yeast family SACCHAROMYCES BULDERI is able to further break down gluconolactone into ethanol and carbon dioxide.alcohol and carbon dioxide.

Completion：

Bio-natural synthesis: In living organisms (e.g., bees), D-glucose loses two hydrogen atoms to the enzyme glucose oxidase, and carbon 1 is oxidized to a carboxyl group and ultimately one molecule of water to form the 1,5-lactone form.Another product of the reaction is hydrogen peroxide.

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Areas of application：

◎Food: used in dairy food, meat food, bakery food, pasta food, flavored food, etc.
◎Pharmaceuticals: health food, fillers, pharmaceutical raw materials, etc.
◎Industrial manufacturing: petroleum industry, manufacturing industry, agricultural products, storage batteries, precision castings, etc.
Tobacco products: it can replace glycerin as flavoring and anti-freezing moisturizing agent for tobacco.
◎Cosmetics: facial cleanser, beauty cream, make-up, shampoo, face mask, etc.
◎Feed: canned pet food, animal feed, aquatic feed, vitamin feed, veterinary products, etc.

Gluconolactone can also be used as a chelating agent to prevent the formation of tartar in juice drinks and jellies, or as a flavoring agent in juice drinks and premium beverages to add flavor and stability. It is important to note that although safe levels of gluconolactone vary in different foods, excessive intake may lead to hyperglycemic reactions and other health problems. Therefore, when using Gluconolactone should be used in accordance with relevant food safety standards and recommended levels.

Additions as food additives

 tofu	Gluconolactone is usually added at a rate of 2.5 to 2.6 grams per kilogram of soymilk in the production of tofu. Gluconolactone can be dissolved in a small amount of water and added to soy milk, or gluconolactone can be added first and then heated over water to 80°C and protected for 15 minutes to form tofu. Gluconolactone can be added to soymilk by dissolving it in a small amount of water, or it can be added first and then heated to 80°C and protected for 15 minutes to form the tofu.

 cheese	The amount of gluconolactone added in cheese making is generally 0.25 to 0.3% by weight of milk, depending on the cheese making process and the desired texture. The amount of gluconolactone added in cheese making is generally 0.25 to 0.3% by weight of milk, depending on the cheese making process and the desired texture.
 carbonated drink	In the preparation of carbonated beverages, gluconolactone can be used with other ingredients, such as with small soda in a proportional mix to enhance gas production and mouthfeel.
 bulking agent	When making puffed foods such as cookies, fried rolls and cakes, the amount of gluconolactone added can reach 16.5 grams per 1000 grams of flour, along with 8.25 grams of baking soda.
 baking powder	When making baking powder, the recommended ratio of gluconolactone to baking soda is 2:1, which can be used in biscuits, cookies, fried rolls, cakes and other foods, especially cakes. Dried food, fried rolls, cakes, etc., especially cakes, the amount is about 0.13% of wheat flour.
 Fish and shrimp preservation	For fish and shrimp preservation, the maximum use level of gluconolactone is 0.1 g/kg.

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 Sausage and minced meat	The amount of gluconolactone used in these products is usually 0.3%. In sausage processing, GDL is added in the process of meat grinding, and the amount added is usually 0.1~0.2%. Luncheon meat, sausage, red sausage, brined meat, etc. by adding 0.3% of this product, can make the products bright color, good water retention, full of elasticity, and has the effect of preservation.Preservative effect, but also reduce the generation of nitrosamines in the products.
 Wine	As a chelating agent, it can be used in grape juice or other berry juice wines, where the addition of the product prevents the formation of tartar. The amount of gluconolactone used in the treatment of grape juice can be 3 g/kg. As an acidifier, it can be added to vanilla extract, chocolate, banana and other sweet fruit juice dew and jelly to increase the taste of the product.The amount used is less than 0.3%.

Pharmaceutical and cosmetic applications：

Gluconolactone is a common pharmaceutical raw material with antioxidant, anti-inflammatory and antibacterial effects, which is widely used in medicine, health products and cosmetics. With the correct use of gluconolactone, its efficacy can be better utilized and the quality and effect of the product can be improved.
quality and effect of the product.

Gluconolactone is often used as an antioxidant in pharmaceutical preparations to prolong the shelf life of drugs and maintain their stability. In the process of use, according to the nature of the drug and the formula to determine the appropriate amount of addition, generally between 0.1%-0.5%. In addition, gluconolactone can also be combined with other antioxidants to enhance the antioxidant effect.
In addition, gluconolactone can be combined with other antioxidants to enhance the antioxidant effect and improve the therapeutic efficacy of the drug.

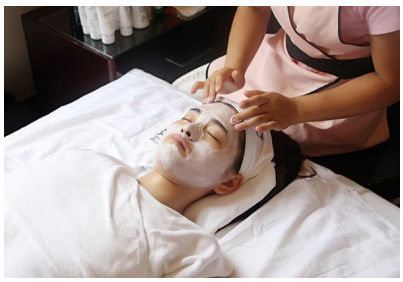
Gluconolactone is commonly used in anti-aging and antioxidant products to help the body scavenge free radicals and slow down the aging process. The addition of gluconolactone to the formulation can enhance the antioxidant capacity of the product and improve its market competitiveness. At the same time, gluconolactone can also be combined with other antioxidant ingredients such as vitamin C and vitamin E to form a synergistic effect and improve the overall performance of the product.synergistic effect and improve the overall effect of the product.

Cosmetic field：

In cosmetics, gluconolactone is commonly used in anti-wrinkle and skin care products to help the skin retain moisture and reduce the appearance of wrinkles. Gluconolactone can be used in formulations to improve the moisturizing effect of products and improve dry skin. Gluconolactone also works with hyaluronic acid and collagen to form a moisturizing barrier and enhance the effectiveness of the product. form a moisturizing barrier and enhance the moisturizing effect of the product.

- **As a moisturizer: 2.0-4.0%, PH 5.5**
- **Amount added as an exfoliant: 2.0-6.0%, PH 3.5-4.5**
- **Amount to be added as a PH regulator or buffer: 0.1-1.0%.**

exfoliate



hydrate

cosmetic

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