Premium Calcium Propionate

For Food, Feed, and Pharmaceutical Uses

Standard Calcium Propionate

For Feed Uses

Standard product is supplied in two grades: dust-free granules and flour-compatible powder.

A.M's Premium Calcium Propionate is available in low-dust and flour-compatible crystals in addition to the conventional powder and granules.

Product Properties

Chemical Name	Calcium Propionate
Formula	$(CH_3CH_2COO)_2Ca$
Product Form	White Crystals, Granules, or Powder
Molecular Weight	186.22 g/mol
E No.	E-282
CAS No.	4075-81-4
EINECS No.	223-795-8
HS Code EU	2915.50.00
HS Code US	2915.50.5000
Flash point	>250 °C
Solubility in Water	
at 0°C	42.8 g/100 ml
at 25°C	39.9 g/100 ml
at 30°C	39.1 g/100 ml
at 60°C	38.3 g/100 ml
at 80°C	39.9 g/100 ml
at 100°C	48.4 g/100 ml

Applications

Bread Preservation

Calcium Propionate is an effective growth inhibitor of most molds and some bacteria. It is widely used in bread and other bakery products to prevent mold growth, rope formation, and to extend the shelf life. In addition, Calcium Propionate serves as an excellent Calcium supplement. It is easy to handle, dissolves well, and is easy to blend into flour.

The Significance of Preservatives

Bread is very susceptible for microbial growth, especially the growth of molds and some specific bacteria. Although bacteria, molds,and mold-spores are usually killed during the baking process, re-contamination of the bread occurs by airborne molds and spores, and by the processing equipment during and after cooling. Strict attention to bakery hygiene can greatly reduce contamination, but it is not possible to avoid it completely. Bacterial spores are heat resistant and may survive the baking process, causing rope formation on bakery goods. Rope is characterized by a brownish, sticky, and wet crumb,

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which causes an unpleasant overall appearance. The rate of microbial growth on bread is affected by the number and type of spores present. It is accelerated by high storage temperature and high humidity. Microbial growth rate is also influenced by the ingredients used. Wrapped or sliced bread is particularly susceptible to microbial spoilage due to additional processing steps after baking. The use of a preservative is therefore beneficial in extending the shelf life of bakery goods.

Application Methods

Since there are many factors affecting the microbial growth in and on bread, the levels of Calcium Propionate cannot be correlated precisely with the extension of shelf life. In general, however, for common bread recipes, a dosage of 0.2%-0.5% Calcium Propionate on flour weight is recommended. Although the odor of Calcium Propionate at high concentrations may be noticed when the bread is still hot,it rapidly disappears during cooling.

Calcium Propionate can be added at the start of dough-making together with the other dry ingredients. In some cases, a small effect on the rising step can be observed, resulting in a small reduction in volume of the finished loaf. This can be overcome by the addition of some extra yeast. Calcium Propionate can also be added at the end of dough-making. In all cases, it is advisable to carry out an initial baking test, in order to determine the precise organoleptic and physical effects of the use of Calcium Propionate.

Other Applications

Calcium Propionate can also be applied as a preservative in other products like cheese, cheese analogues, and other processed cheese products according to the *quantum satis* principle or the current Good Manufacturing Practice(GMP). This means that Calcium Propionate can be used at levels as high as necessary to achieve the intended purpose.

Legislation

Calcium Propionate is an approved food additive according to EU and FDA legislation and JECFA (FAO/WHO), FCC and Japanese food standards. Please check local legislation for the exact dosage levels and allowed applications.

Stability

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Premium and Standard Calcium Propionate are stable for 2 years from the date of production. Physical stability and appearance may change before the end of shelf-life if not stored in well closed original packaging, dry and at room temperature.

Handling

Calcium Propionate have no classification, Always check the Safety Data Sheet and label before using this product.

Packaging/ Available Grades

1. Premium CP Crystal available in dust-free, flour-compatible crystals in 25KG bags.
2. Premium CP Granule available in dust-free granules in 25KG bags.
3. Premium CP Powder available in flour-compatible powder in 25KG bags.
4. Standard CP Granule available in dust-free granules in 25KG bags.
5. Standard CP Powder available in flour-compatible powder in 25KG bags.

Other packaging arrangements can be made, please contact us for details.

Safety Precautions

Please see the Safety Data Sheet before handling this material.

This product is produced in China.

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