

# Probake®PP

## Potassium propionate food grade

Probake®PP potassium propionate is supplied as a non-dusty and easy soluble agglomerate.

### PRODUCT PROPERTIES

Chemical name	Potassium propionate
Formula	CH <sub>3</sub> CH <sub>2</sub> COOK
Product form	White agglomerate
Molecular weight	112.19 g/mol
CAS No.	327-62-8
EINECS No.	206-323-5
HS-code EU	2915.50.00
HS-code US	2915.50.5000
Flash point	>250 °C

### Applications

#### Bakery preservation with Probake PP

Probake PP (potassium propionate) is an effective inhibitor of the growth of certain molds and some bacteria in bakery goods. It is usually preferred over calcium propionate in chemically leavened (i.e. non-yeast leavened) bakery products because the calcium ions' of calcium propionate interfere with the chemical leavening agents (e.g. baking powder). Chemically leavened bakery products include cakes, tortillas, pie fillings etc. Probake PP is easy to handle and easy to incorporate into flour.

#### The need for preservatives

High moisture content of bread and other bakery products encourages the growth of

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molds. Molds are killed during the baking process, but airborne contamination of bakery goods occurs when they leave the oven and mold spores are subsequently picked up from the atmosphere (during and after cooling) and from the equipment. Although strict attention to bakery hygiene can significantly reduce contamination, it is not completely eliminated. The rate of mold growth on bread is affected by the number and type of spores present. It is accelerated by high storage temperatures and humidity and it is also influenced by the recipe used. Wrapped sliced bread is particularly susceptible to mold. The use of a preservative is therefore beneficial in extending the mold-free shelf life of bakery products.

In addition, bacteria can also spoil bakery products because their spores survive baking, causing rope formation that makes the crumb brownish, sticky, wet and with an unpleasant odor. In order to prevent the growth of those bacteria in bakery goods, the use of a preservative is suggested.

#### Sodium Reduction with Probake PP

In addition to normal preservatives like Probake SP (sodium propionate), an additional advantage of Probake PP is that it does not add any additional salt (sodium) to the recipe. It therefore fits well in a sodium reduction program for bakery products.

In a typical cake/muffin, the use of sodium propionate is 0.3% (on flour) while salt is usually used at levels between 0.5% and 1%. Replacing sodium propionate by Probake PP will give a salt (sodium) reduction of at least 37% without influencing salt content or taste.

## Application info for Niacet Probake PP

Probake PP is usually used in non-yeast leavened bakery products such as cakes, tortillas, pie fillings etc. Since there are many factors affecting the mold and bacteria growth rate on bread, the dosage of Probake PP cannot be precisely correlated with the extension of the shelf life. In general, however, for standard bread recipes a concentration of 0.2-0.5% Probake PP on the mass of flour is recommended. Although the odor of Probake PP at this concentration may be noticed when the bread is still hot, it rapidly disappears during cooling.

At the start of dough making, Probake PP should be added to the other dry ingredients of the dough. However, Probake PP can also be added at the end of the dough making. When the mixing time of the dry ingredients is short, it is recommended to first dissolve the Probake PP in the water of the recipe. In case potassium propionate is added in yeast-leavened products, a small reduction in volume of the finished loaf may be observed, but this can usually be overcome by the addition of some extra yeast. Yeast inhibition by Probake PP is much less than from other available bread preservatives (e.g. sorbates).

In all cases, it is advisable to carry out an initial baking test, so that the precise effects on odor, flavor and bread volume can be determined. Finally, local legislation should always be checked for the exact allowable dosage levels and allowed applications.

## Available grades and packaging

### Legislation

Probake PP complies to the EU-legislation (E283) and the JECFA (WHO).

### Stability

Probake PP is stable for 2 years from date of production. Physical stability and appearance may change before the end of shelf-life if not stored single-stacked in well closed original packaging, dry and at room temperature.

### Packaging / available grades

Probake PP agglomerate, available in 25kg

### Safety precautions

Probake PP has no safety classification. Always check the Safety Data Sheet and label before using the product.

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