

# Probake<sup>®</sup>SP

## Sodium propionate food grade

Probake<sup>®</sup>SP sodium propionate is supplied as a non-dusty and easy soluble agglomerate or as a powder or fine agglomerate.

### PRODUCT PROPERTIES

Chemical name	Sodium propionate
Formula	CH <sub>3</sub> CH <sub>2</sub> COONa
Product form	White agglomerate or powder or fine agglomerate
Molecular weight	96.06 g/mol
CAS No.	137-40-6
EINECS No.	205-290-4
HS-code EU	2915.50.00
HS-code US	2915.50.5000
Flash point	>250 °C
Solubility in water at 20 °C at 80 °C	99 g/100 ml 127 g/100 ml

### Applications

#### Bakery products preservation

Sodium propionate is an effective growth inhibitor of most molds and some bacteria. It is widely employed in various bakery products to prevent mold and rope formation and to extend the normal shelf life. It is usually preferred in non-yeast leavened products because the calcium ions of calcium propionate can interfere with most chemical leavening agents. Probake SP is easy to handle and to incorporate into the flour.

**Warranty.** This information herein is offered as a guide and is believed to be accurate and reliable as of the date of the printing. The values given are not to be considered as a warranty and they are subject to change without prior notice. For additional information regarding our products or for information concerning current specifications, please contact our Technical Service.

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#### The need for preservatives

The matrix of most bakery products encourages microbial growth and some specific bacteria. Molds and their spores are usually killed during the baking process, but re-contamination of the bakery products occurs when they leave the oven. Mold spores are picked up from the atmosphere and the processing equipment during and after cooling. Although strict attention to bakery hygiene can greatly reduce contamination, it cannot completely be avoided. Bacterial spores are heat resistant and can survive after baking, causing rope formation on bakery goods. Rope is characterized by making the crumb brownish, sticky and wet, which causes an unpleasant overall appearance.

The rate of microbial growth on bakery products is accelerated by high storage temperatures and high humidity. The microbial growth rate is also influenced by the ingredients and the recipe used. Wrapped or sliced bakery goods are particularly susceptible to microbial spoilage, because of the additional processing steps after baking and the increase in surface area.

The use of a preservative is therefore beneficial in extending the shelf life of bakery goods.

#### Application method

Since there are many factors affecting the microbial growth rate on bakery products, the levels of used sodium propionate cannot be correlated precisely with the extension of the shelf life. In general however, a concentration of 0.2-0.5% sodium propionate on flour weight is recommended for standard bakery recipes.

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Although the odor of sodium propionate when used at high concentrations may be noticed when the bakery product is still hot, it rapidly disappears during cooling. Sodium propionate can be added together with the other dry ingredients to make the dough. However, it can also be added at the end of the 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 sodium propionate addition.

#### Other applications

Sodium propionate is a well-known mold inhibitor in bakery products but can also be applied in other products for preservation like cheese, cheese analogues and other processed cheese products according to the *quantum satis principle* or current Good Manufacturing Practice (GMP). This means that sodium propionate should can be used at levels as high as necessary to achieve the intended purpose.

#### **Legislation**

Sodium 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**

Probake®SP is stable for 2 years from date of production. Physical stability and appearance can change before the end of shelf-life if the product is not stored in closed original packing, kept dry and at room temperature or if the pallets are stacked.

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#### **Handling**

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

#### **Packaging / available grades**

1. Probake®SP agglomerate grade available in 25kg or 50lb bags.
2. Probake®SP powder grade available in 20kg and 50lb bags.
3. Probake®SP fine agglomerate grade available in 25kg and 50lb bags.

#### **Safety precautions**

Please see the Safety Data Sheet before handling this material.

This product is produced in the Netherlands and in the USA.

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