



Product Data Sheet

CALCIUM PROPIONATE

Calcium propionate, known chemically as $\text{Ca}(\text{C}_2\text{H}_5\text{COO})_2$, is a versatile additive with extensive applications across various industries. While it's commonly recognized for its role in preserving baked goods, its utility extends far beyond baking.

There are multifaceted uses of calcium propionate and its significance in diverse fields such as food production, plant-based diets, and more.

Calcium propionate is the calcium salt of propionic acid, a naturally occurring organic acid. It appears as a white crystalline powder and is highly soluble in water. In food applications, calcium propionate acts as a preservative, inhibiting the growth of mold and bacteria, thereby extending the shelf life of perishable products.

SR. NO.	TEST	SPECIFICATIONS	RESULT
1	pH of 10% solution in water	Between 7.5 – 10.5	9.12
2	LEAD(Pb)	NMT 2 ppm	< 2ppm
3	ARSENIC(As)	NMT 3 ppm	< 3ppm
4	FLUORIDE	NMT 0.003%	<0.003%
5	MAGNESIUM (as MgO)	NMT 0.4%	<0.4%
6	ACID INSOLUBLES Substance	Max. 0.2%	0.05%
7	ASSAY (Titration)	98.0 %- 100.5% Calculated on the anhydrous basis.	99.54%
8	Propionic Acid Content	77.0 - 78.5%	78.12%
9	Calcium Content	21.0 - 21.5%	21.42%

Applications of Calcium Propionate

Baking Industry

One of the most well-known applications of calcium propionate is in the baking industry. It is commonly added to bread and other baked goods to prevent mold growth and maintain freshness. By inhibiting the development of mold spores, calcium propionate ensures that baked products remain safe for consumption over an extended period.

Dairy Products

Calcium propionate is used in dairy products such as cheese and yogurt to control the growth of undesirable microorganisms. Its preservative properties contribute to the shelf stability of dairy formulations, ensuring product quality and safety for consumers.

Animal Feed

In animal nutrition, calcium propionate serves as an additive in feed formulations to prevent spoilage and maintain feed integrity. By inhibiting mold growth and microbial proliferation, it enhances feed safety and nutritional quality, supporting the health and productivity of livestock and poultry.

Plant-Based Diets

With the rising popularity of plant-based diets, calcium propionate has found a niche in plant-based food products. It is used as a preservative in vegan and vegetarian alternatives to traditional dairy and meat products, helping extend their shelf life without compromising on quality or taste.

Processed Foods

Calcium propionate is a common ingredient in various processed foods, including snacks, cereals, and convenience meals. Its preservative properties contribute to the stability and safety of packaged foods, reducing the risk of microbial contamination during storage and distribution.

Benefits of Calcium Propionate

Extended Shelf Life

The primary benefit of calcium propionate is its ability to inhibit the growth of mold and bacteria, thereby extending the shelf life of perishable food products. This prolongs freshness and reduces food waste, benefiting both consumers and manufacturers.

Food Safety

By preventing microbial spoilage, calcium propionate helps maintain food safety standards and reduces the risk of foodborne illnesses. It provides an additional layer of protection against pathogens, ensuring that food products reach consumers in a safe and wholesome condition.

Improved Product Quality

Incorporating calcium propionate into food formulations helps preserve the sensory attributes and overall quality of food products. It prevents off-flavors, texture changes, and visual defects caused by microbial contamination, enhancing consumer satisfaction and brand reputation.

Conclusion

Calcium propionate exemplifies the remarkable versatility of food additives, with applications ranging from baking to plant-based diets and beyond. Its role in preserving food safety, extending shelf life, and maintaining product quality underscores its importance in modern food production.