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TECHNICAL DATA SHEET

Calcium Propionate

Feed Grade Preservative and Organic Acid Salt for Animal Feed

Product Description

Calcium Propionate is a feed grade organic acid salt supplied as a white crystalline powder or granule. It is widely used in compound feed, premixes, and raw material preservation systems to help control mold growth, improve feed stability, and support safer storage under warm or humid conditions. As the calcium salt of propionic acid, it combines preservative activity with good handling properties and compatibility in feed manufacturing. The product is suitable for livestock, poultry, ruminant, and aquaculture feed applications where feed hygiene, shelf life, and ingredient stability are important formulation targets. It can be incorporated into complete feed, concentrates, and premixes according to the customer's process and local feed regulations.

1. Product Identification

Product Name	Calcium Propionate
Chemical Name	Calcium dipropionate / Calcium propionate
CAS No.	4075-81-4
Molecular Formula	C6H10CaO4
Molecular Weight	186.22 g/mol
HS CODE	291550
Grade	Feed Grade
Appearance	White crystalline powder or granule
Primary Function	Feed preservative, mold inhibitor, and organic acid salt for feed application

UNIT:MT	Covered the pallets	Without pallets
20'FCL	16	19.5
40'FCL	28	28

2. Typical Specification

Items	Standard
Appearance	White crystalline powder or granule
Calcium Propionate Content, %	98.0 - 100.5
Loss on Drying, %	<= 5.0
pH (10% aqueous solution)	7.0 - 9.0
Water Insoluble Matter, %	<= 0.30
Free Acid or Free Alkali	Pass test
Fluoride (F), mg/kg	<= 30
Arsenic (As), mg/kg	<= 3
Lead (Pb), mg/kg	<= 5
Heavy Metals, mg/kg	<= 10

3. Applications and Benefits

Mold control and feed preservation

Calcium Propionate is primarily used in feed as an effective mold inhibitor and preservative, especially for formulas containing grains, protein meals, by-products, and other moisture-sensitive ingredients. Under warm and humid storage conditions, feed materials may be exposed to mold growth, quality deterioration, and reduced palatability. By providing propionate activity in a stable calcium salt form, Calcium Propionate helps maintain feed freshness and supports more reliable storage quality. It is suitable for complete feed, concentrates, premixes, and raw material treatment where microbial control is an important target. The product can be used as part of a broader feed hygiene program together with proper drying, clean production, suitable packaging, and warehouse management.

Support for feed stability in livestock and poultry formulas

In livestock and poultry feed, Calcium Propionate helps improve the stability of finished feed during storage, transportation, and farm use. Feed may remain in bags, silos, or feeding systems for different periods before consumption, and quality can be affected by moisture, heat, and ingredient variability. The inclusion of Calcium Propionate can help reduce the risk of mold-related spoilage and support consistent feed appearance, smell, and acceptability. It is commonly considered for starter feed, grower feed, breeder feed, and high-energy formulas where stable quality is important. Because it is a dry powder or granule, it can be mixed easily with common feed ingredients and used with vitamins, minerals, enzymes, and other functional additives.

Application in ruminant feed and raw material protection

Calcium Propionate can also be used in ruminant feed systems, including dairy and beef cattle feeds, where ingredient preservation and energy-related formulation support are often important. In compound feed, mineral mixes, total mixed ration components, or moisture-sensitive raw materials, it helps control mold development and preserve product quality before feeding. The calcium component

may also provide a small nutritional contribution, although the main function remains preservation. In ruminant nutrition, stable and clean feed is essential for intake, rumen function, and production performance. Calcium Propionate is therefore useful in feed programs that focus on reducing spoilage risk, maintaining palatability, and improving the consistency of delivered nutrients under practical farm and storage conditions.

Use in aquaculture feed and moisture-sensitive pellets

Calcium Propionate is applicable in aquaculture feed, including fish and shrimp diets, where finished feed quality and storage stability are important. Aquafeed often contains protein meals, oils, binders, and other ingredients that may be sensitive to moisture and microbial challenge. When properly blended, Calcium Propionate can help protect pellets or granules from mold development during storage and distribution, supporting a more stable feed supply for farms. It is suitable for floating feed, sinking pellets, and shrimp feed when compatibility with the production process is confirmed. For aquaculture use, attention should be paid to mixing uniformity, particle size, heat processing, and packaging protection to ensure consistent distribution and preservation effect in the final feed.

4. Packaging, Storage, and Shelf Life

Standard packaging: 25 kg net kraft paper bag with PE liner, aluminum foil bag, or according to customer requirement.

Storage: Keep tightly closed in a cool, dry, clean, and well-ventilated warehouse. Avoid moisture, heat, direct sunlight, strong oxidizing agents, alkalis, and contamination with odorous or incompatible materials.

Shelf life: 24 months from production date under recommended storage conditions in original unopened packaging.