




Hygiene


Health


Production

ORGANIC ACIDS + ORGANIC ACID SALTS

lethal defence against mold and bacteria

A shock effect for contaminated feeds

A long-lasting protective effect

Includes surfactants and anti-corrosion agents

dex
propion[®]

lethal defence against mold and bacteria

propion[®] acts effectively and comprehensively against mold and bacteria by having a **shock effect** at the time of application and a long-lasting **protective effect**, thus ensuring that feed reaches the animal with no fungal contamination and preventing problems with fermentation and growth of bacteria.

In addition to the sanitising effect on feed, **propion**[®] premixtures have a beneficial effect on the animal itself due to their **acidifying properties** and **nutrition value**.



propion[®] is indicated
for all species or
categories of animal

Composition

Mixture of propionic acid, formic acid and their ammonium salts.

Indications

Prevention and treatment of fungal and bacterial contamination of raw materials and feeds.

Sanitising of factories and facilities.

Benefits

- A shock effect for feeds contaminated by fungi and bacteria.
- A long-lasting protective effect.
- Improves digestibility.
- Protects the intestinal mucosa.
- Adds nutritional value to feed.

Packaging

- 1,000 L containers.
- In bulk in a tank.
- Other packaging on request.

Dosage

500 to 1,000 cc/MT of feed.

* According to its degree of neutralisation, the product must be classified as corrosive, irritant or harmless, in compliance with the legal regulations in force in each country with respect to transport, labelling, handling and storage.



Hygiene



Health



Production

contamination by fungi and bacteria: a preventable threat

Contamination by fungi and bacteria of raw materials and feeds is a risk factor for animal health and a serious threat to the productivity of any farm. Therefore, eliminating their presence in feed and in the storage and distribution chain is a priority objective. To achieve it, applying a safe, effective antifungal and antibacterial treatment is essential.

Raw materials and feeds are exposed to **contamination by fungi, bacteria and other biological agents** during production, harvesting, transport, storage and distribution. Factors such as high temperatures, humidity, presence of oxygen, storage time, the physical state itself of feeds and use of contaminated machinery and facilities may promote the development of fungi and bacteria in all types of feed.



Corn contaminated by fungi

The presence of fungi and bacteria leads to a number of problems that may seriously affect animal health and compromise livestock farm productivity.

Problems resulting from contamination by fungi and bacteria

Health problems

- Mycotic diseases
- Diseases caused by mycotoxins
- Fermentation of feed and growth of bacteria
- Food-borne diseases and food poisoning (salmonella poisoning, etc.)

Nutritional problems

- Loss of nutrients
- Poor preservation of feed
- Worsening of flavour and aroma due to mold

Industrial problems

- Losses due to physical degradation of feed and formation of dust
- Risk of problems and accidents while handling feed at factories due to formation of dust.

A good antifungal treatment must ensure that feed retains its nutritional properties, as well as its aroma and flavour, and that it is free from substances that may affect animal health or yield. In addition, it must be effective for both decontaminating already contaminated feeds and ensuring long-lasting protection against other potential contaminations.

lethal defence against mold and bacteria

propion®: a versatile, effective preservative

propion® premixtures are a family of antifungal and antibacterial liquid preservatives developed to ensure appropriate treatment in each situation. They are formulated with short-chain fatty acids, mainly formic acid, propionic acid and their respective salts.

Varying the proportions of its ingredients and its degree of neutralisation achieves a product suited to a mainly **antifungal** or **antibacterial** effect and a **shock** or **persistent** effect.

propion® premixtures also include a number of additives that supplement the effect of the acids and their salts: **wetting agents** and **anti-corrosion agents**.

antibacterial effect versus antifungal effect

Adding different organic acids in propion® premixtures gives them more antibacterial or more antifungal properties:

Antibacterial properties

Formic acid: this is the organic acid with the lowest molecular weight. Its small size enables it to cross the bacterial cell wall more easily, which makes it a powerful antibacterial agent.

Antifungal properties

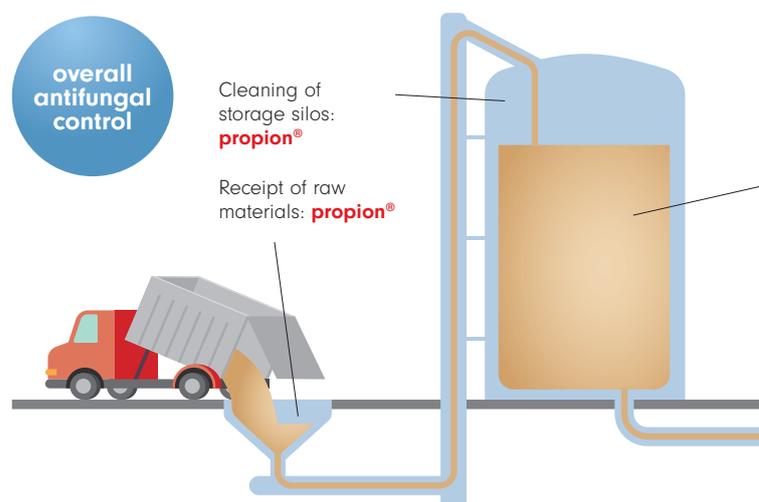
Propionic acid: due to its high pKa, it is ideal for penetrating inside microorganisms present in feed.

shock effect versus protective effect

The proportion between **free acid** and **salt** determines the pH of the product and gives it specific properties with respect to its “strength/persistence” ratio. This balance results in a greater “shock” or “protective” effect depending on the proportion chosen.

The greater the proportion of **free acid**, the greater the **strength** will be, and therefore the premixture will be indicated more for “shock” applications in contaminated feeds. The greater the proportion of **salts**, the greater the **persistence** will be, which will make the premixture more advisable if a preservative effect for extended periods is required.

	Strength	Persistence
mechanism	attack	defence
action	shock effect	protective effect
duration	short duration	long-lasting effect
indication	sanitisation of contaminated feeds	protection for extended storage
acid/salt balance	free acid $R-COO+H^+$	ammonium salt $R-COONH_4+H_2O$



propion[®] premixtures allow “custom” antifungal treatments adapted to the specifics of each situation to be applied



standard premixtures

propion[®] 50E

Liquid

Sanitising agent that combines the shock effect and the persistent effect (50% neutralisation). **A broad-spectrum antifungal and antibacterial agent.**

Propionic Acid + Ammonium Propionate

propion[®] 50F

Liquid

Antibacterial and antifungal agent that combines the shock effect and the persistent effect (50% neutralisation).

Anti-salmonella.

Formic Acid + Propionic Acid + Ammonium Formate + Ammonium Propionate.

custom premixtures

In addition to the most common standard premixtures, **dex designs and prepares other propion[®] custom premixtures for clients** using different combinations of acids and salts, in order to maximise the full range of possibilities of the sum of the actions and synergistic effects of their ingredients. This approach allows specific products and treatments adapted to each situation to be offered.

benefits of propion[®] in animals

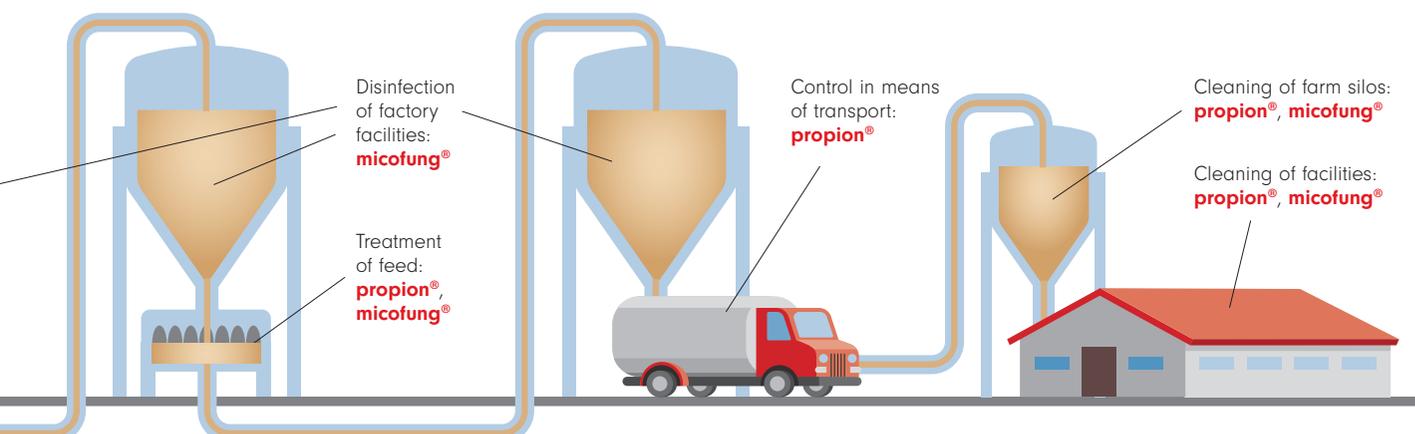
In addition to ensuring healthy feed with no microorganisms, **propion[®]** provides the following benefits for animals:

- **Improves the digestibility** of feed as it has an acidifying effect.
- Provides inherent **nutritional value** due to its energy content.

overall antifungal control

The introduction of the **Hazard Analysis and Critical Control Points (HACCP)** system in the manufacture of animal feeds makes the combined use of **propion[®]** and **micofung[®]** in different stages of the process (transport, storage, manufacture and distribution) advisable for overall antifungal control that minimises the risk of microbiological contamination as well as “non-compliance” problems in production.

Dex ibérica offers consulting services for implementing **personalised HACCP systems** that address the specific difficulties of each client.





dex liquid dosing equipment

To effectively apply **propion**[®] treatments and other liquid additives, **dex ibérica** designs liquid dosing equipment that sprays the liquid on the material to be treated, and adapts this equipment to the needs of each client.

dex ibérica liquid dosing equipment is designed for easy maintenance, and may feature several accessories:

- Minimum level indicator
- Blocked nozzle warning
- Switch mechanism to detect material to be treated

Depending on the client's facilities, the product **dose may be changed manually** (by means of a flow rate regulator or a change in addition time), or **automatically**, with the option to incorporate the addition of **dex** liquid products into the computer at the feed factory.



propion[®]
1,000 L container

lethal defence against mold and bacteria

dexiberica.com/product-lines



Capture this code to learn about the **dex** product range

Other dex products:



long-lasting effect against mold and bacteria



maximum efficiency against mycotoxins

Download the complete catalogue at:



dex ibérica, s.a.

Polígon Industrial Estació, 24
43480 Vila-Seca (Tarragona) SPAIN

T. +34 977 39 33 47

dexiberica@dexiberica.com

dexiberica.com

