

EASTMAN

Animal nutrition

Eastman Protaq™ Bond

Gut health solutions via drinking water
for swine and poultry



EMEA

Mode of action

Short-chain fatty acids

Formic acid

- **High microbial** reducing and controlling effect
- Extremely effective in reducing pH and controlling unwanted fermentation

Propionic acid

- **Active against** yeasts and molds
- Higher **pKa value and more lipophilic** than formic acid

Short- and medium-chain monoglycerides

- **Highly lipophilic** with direct interaction with bacterial cell membrane
- **Impede growth** of gram-positive and gram-negative bacteria
- Effective in the **stomach and small intestine**, not limited to the acidic regions of the gastrointestinal (GI) tract
- Support maturation of the GI tract
- Mitigate oxidative stress and inflammation



Figure 1. pH growth ranges for bacteria, molds and yeasts

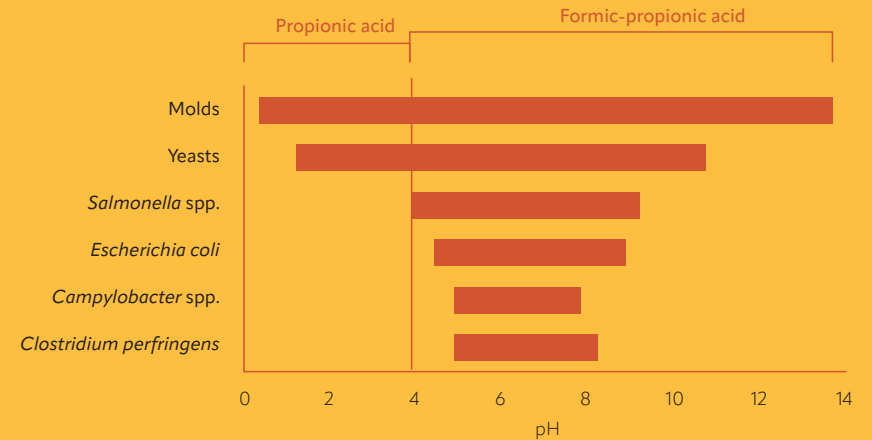
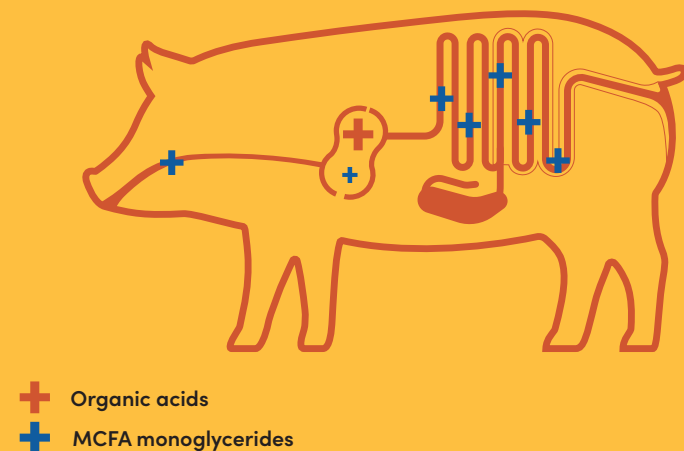


Figure 2. Protaq Bond contains free organic acids and monoglycerides that are active along the GI tract.



Additional data is available on request.

Proven effect in trials

Figure 3. Effect of monoglycerides of caprylic acid vs. straight caprylic acid (C8) on MIC values for *E.coli* and *S. typhimurium*

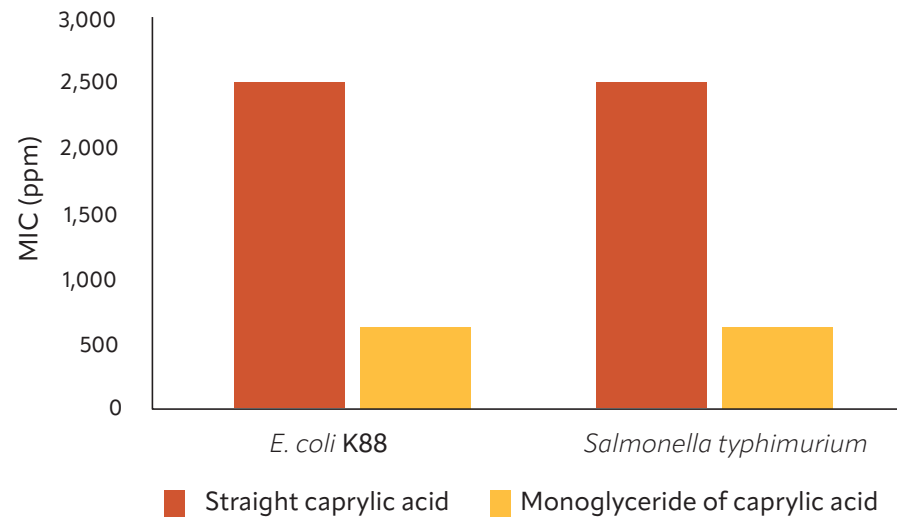
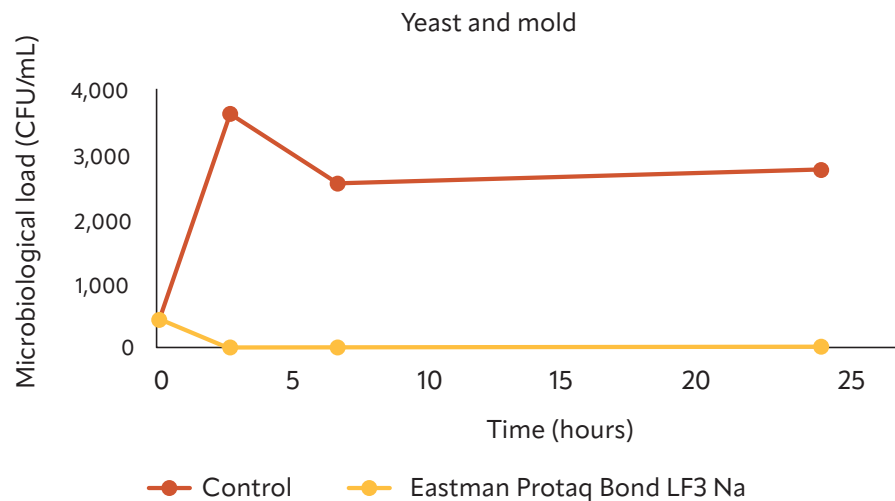


Figure 4. Effect of Protaq Bond LF3 Na on reduction of yeast and molds



Certain statements may not be applicable in all geographical regions. Product labeling and associated claims may differ based on government requirements.

Eastman Protaq™ Bond — buffered blends of short-chain fatty acids and short- and medium-chain monoglycerides

Composition

- Propionic acid
- Formic acid
- Sodium formate
- Short- and medium-chain monoglycerides

Technical product characteristics

- Microflora modulation and regulation (helps control *E. coli*, *Salmonella* and *Clostridium*)
- Optimizes intestinal morphology and physiology
- Supports the animal through periods of high stress (weaning and lactation)
- Supports health, welfare and performance
- Synergistic effect between monoglycerides and other compounds (especially organic acids)
- User friendly with excellent handling properties with low odor
- No withdrawal period is needed.

Packaging

- Available in 25 kg, 220 kg and 1,000 kg

Application through drinking water and liquid pig feeding

- To be applied at 0.5–2.0 L per 1000 L water.
- Recommended application level 1.0 L.
- The exact application level should be adapted to the hardness of the water to obtain a pH of the water/liquid feed between 4.0 and 4.5.

We offer the following Eastman Protaq Bond products:

- Eastman Protaq Bond LF3
- Eastman Protaq Bond LF4
- Eastman Protaq Bond LF5
- Eastman Protaq Bond LF6

Contact Eastman or our distributor to find the perfect fit for your needs.

Note: Pipelines need to be flushed and cleaned with sanitizers to remove biofilm before and after application.

EASTMAN

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