

Eastman Protaq™ Bond LF3 Na
for application via water for poultry and swine



Short-chain fatty acids and medium-chain monoglycerides—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

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

Eastman Protaq™ Bond LF3 Na—A slightly buffered blend of short-chain fatty acids and medium-chain monoglycerides

- Propionic acid
- Formic acid
- Sodium formate
- Medium-chain monoglycerides



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

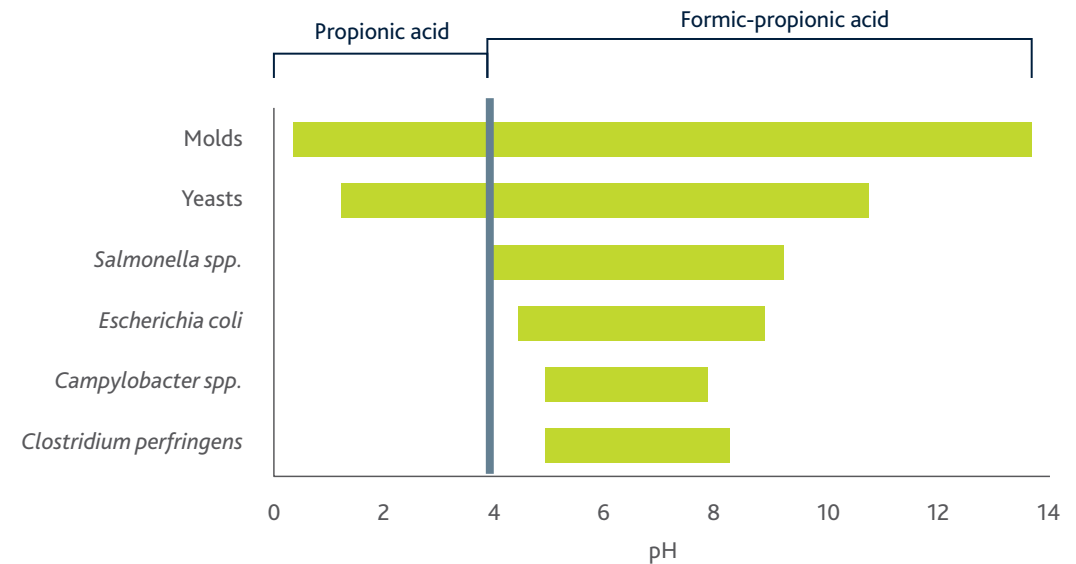
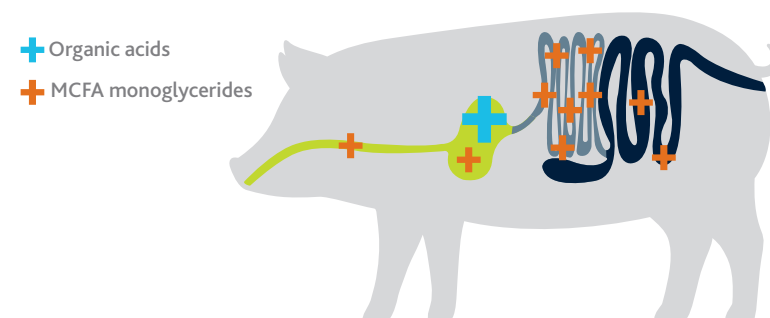


Figure 2. Protaq Bond LF3 Na contains free organic acids and monoglycerides to be active along the GI tract.



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*

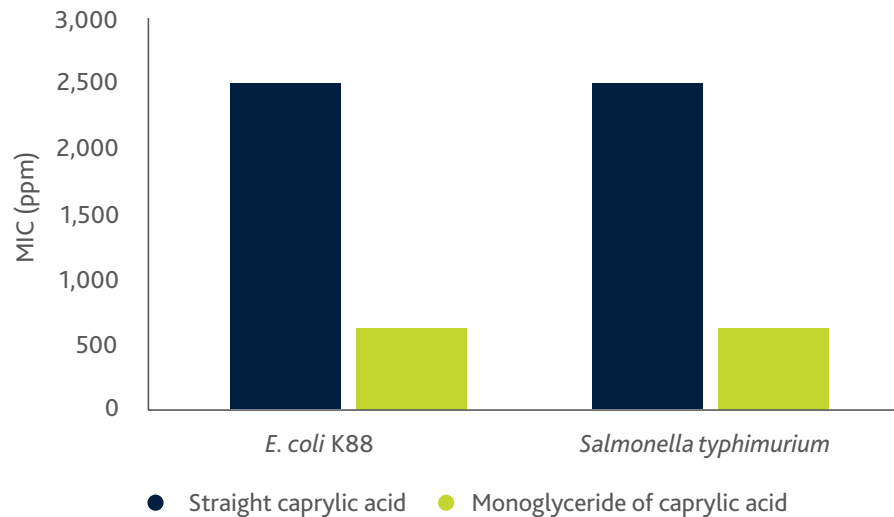
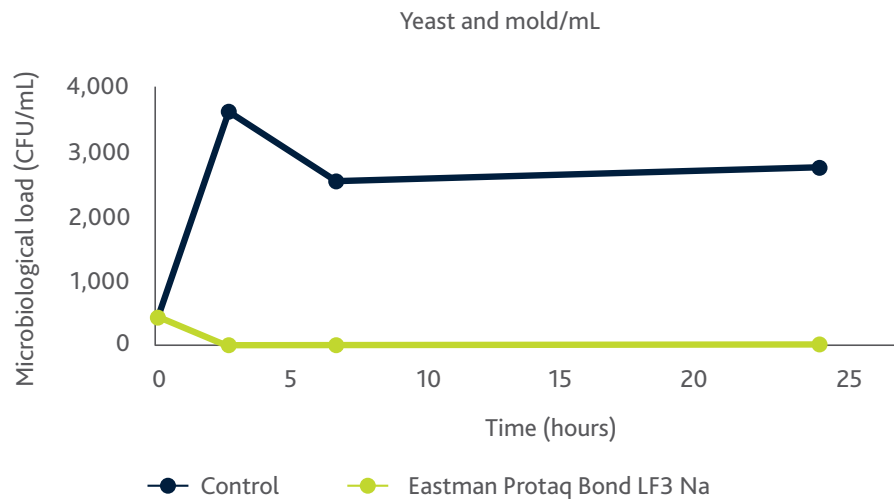


Figure 4. Effect of Protaq Bond LF3 Na on reduction of yeast and molds



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.

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





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