

## MIXTURE OF EFFECTIVE ACIDIFIERS TARGETING AT PATHOGENIC BACTERIA

- + Improvement of hygienic properties of water
- + Buffered formulation for easy transport and handling
- + For cleaning of water pipes and efficient biofilm control
- + Decreases the amount of bacterial metabolic products having negative impact on the health of animals
- + Intestinal dissociation liberates hydrogen ions serving as a pH barrier against pathogens



LIQUID APPLICATION



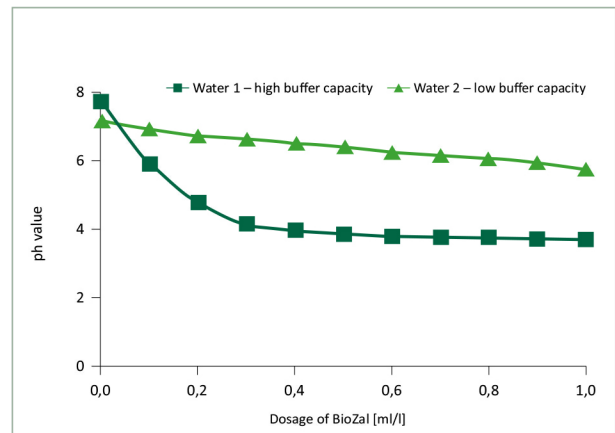
Feed Safety for Food Safety®

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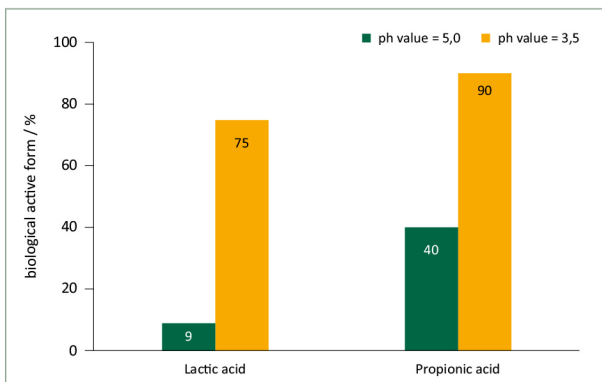
### Mode of action:

Clostridia, Salmonellae, E. coli and other pathogen bacteria are considered to be the most frequent reasons for losses in livestock. Contaminated drinking water is the main source of infection. Organic acids (Short chain fatty acids – SCFA) like formic acid, propionic acid and lactic acid can reduce the incidence of infections as they are able to worsen living conditions for the bacteria.

In solution, weak acid preservatives exist in a pH-dependent equilibrium between the non-dissociated and dissociated state. SCFAs have optimal inhibitory activity at low pH because this favors the uncharged, non-dissociated state of the molecule (figure 1) which is freely permeable across the plasma membrane and is thus able to enter the cell. Once in the bacterial cytoplasm, a high proportion of acid molecules will dissociate in the nearly neutral pH-milieu found in this environment. So protons and organic acid anions are released. This inhibits the reproduction of gram-negative bacterial cells, while gram-positive bacteria like lactobacilli are not attacked by the application of BioZal.



### Drinking water (pH adjustment)



\*In dependence of the density of the product