

FOOD APPLICATION SHEET



Your partner in natural antimicrobial solutions, lactates and lactic acid

Lactate replacement in Frankfurter sausage with GALIMAX DIACE N-47

Galimax Diace N-47 is a preservative and pH regulator in powder form.

As a specially designed blend of lactate and acetates, it has a strong antimicrobial effect, without impacting the sensory attributes of the finished products.



OBJECTIVE

Compare the anti-bacterial effect of Galimax Diace N-47 vs sodium lactate while ensuring stability of the physico-chemical and color aspects.

TESTING

Aerobic Plate Count (APC) is used as the indicator of the bacterial population on the surface of fine emulsion cooked sausages.

Additionally, a challenge test is performed on sausages inoculated with *Leuconostoc mesenteroides*.

CONCLUSION

Galimax Diace N-47 provides the same antimicrobial protection without disturbing the taste, color and smell characteristics of the popular cooked sausages, which allows to replace the lactate.

PREPARATION

Sausages are made from frozen poultry (mechanically deboned chicken). When chopping, add salt, 1/3 of the water and continue for 1 minute. Add phosphates, the rest of the water and continue for 1 minute. Add all the remaining dried ingredients (dextrose, soy protein, spices) and chop until the meat dough is smooth and does not exceed 12 °C.

Preservative is added after the rest of the dry ingredients.

PACKAGING & STORAGE

6 kg of meat dough is pushed in 18 mm collagen casing and cooked at 72 °C/ 161.6 °F.

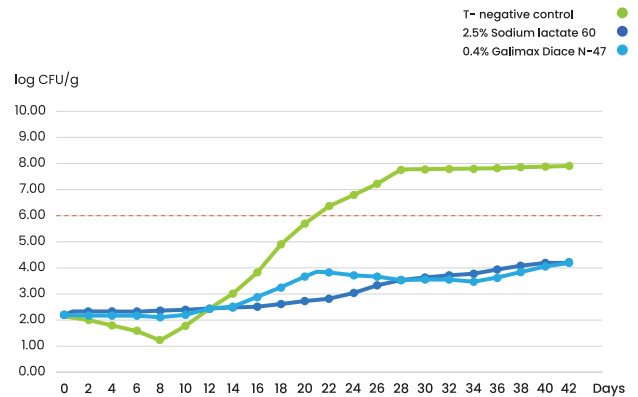
After cooling down, the sausages are stored in plastic bags, sealed under vacuum at 4 °C/ 49 °F.

RESULTS

AEROBIC PLATE COUNT

Microbiological analysis took place at the same time as the Challenge test.

Galimax Diace N-47 shows excellent efficacy, since sodium lactate and Galimax Diace N-47 show the same anti-microbial effect at the used dosages.



		Day 1	Day 28
T- negative control	Aw	0.966	0.983
	pH	6.40	6.62
	Moisture	33.5	33.5
2.5% Sodium lactate 60	Aw	0.963	0.971
	pH	6.25	6.46
	Moisture	35.4	41.6
0.4% Galimax Diace N-47	Aw	0.967	0.977
	pH	6.12	6.10
	Moisture	37.9	37.5

Aw, pH AND MOISTURE

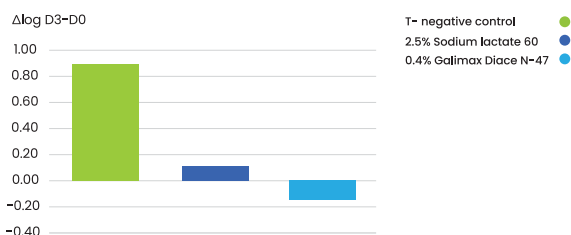
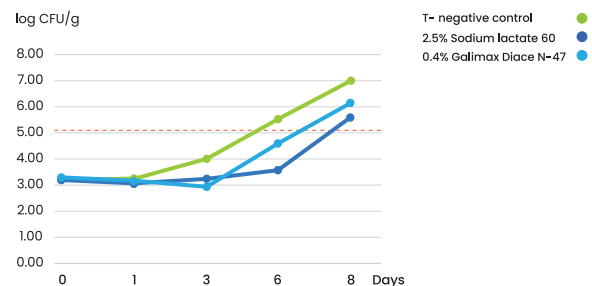
Have been determined at the beginning and at the end of shelf-life.

No significant differences between the sodium lactate and the Galimax Diace N-47 are observed.

CHALLENGE TEST

Test was conducted with frozen dried *Leuconoctoc mesenteroides* LMG6893 coming from Ghent University – BCCM/ LMG Bacteria collection. The target inoculation level was 3-log (1000 cfu/g).

Inoculation was done by depositing the bacterial strain on the sausages in the packaging before sealing.



Our Food Application Development Team stays at your disposal to help you using our solutions in your formulations and/or in your production process, assuring you a good product quality.



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