



- ▶ Low use levels
- ▶ Extend shelf life
- ▶ Available in liquid and powder

*Opti.Form*® is widely used throughout the meat industry and offers processors an increased level of food safety for their product lines. The *Opti.Form* portfolio includes sodium- and potassium based products, formulated to leverage the synergistic effects of natural lactate and food-grade (di)acetate. *Opti.Form* ingredients are most often used in cured and uncured cooked meat products, such as frankfurters, hams and smoked sausages.

#### Listeria and pathogen control

Meat, poultry and fish products are highly susceptible to microbiological contamination, including food-borne pathogens. The use of *Opti.Form* results in improved food safety, by inhibiting the growth of *Listeria monocytogenes* and other pathogens.

*Listeria monocytogenes* is a major concern for food regulators and meat processors because it is able to grow at refrigerated temperatures and in products with low water activity. While *Listeria* is inactivated at high temperatures, it can often (re)enter the food supply following heat treatment. *Opti.Form* inhibits the bacteria's growth throughout the product's shelf life and the manufacturers supply chain, ensuring consumer food safety and protecting brand image.

*Opti.Form* can also be used in meat preparations in certain countries to inhibit the growth of both spoilage and pathogenic microorganisms. It may also provide additional benefits of enhancing and increasing color.

#### Clean flavor

*Listeria* control and extending shelf life, without impacting flavor is made possible by continued improvements in lactate manufacturing technology. (Di)acetate is a strong antimicrobial, but can have negative taste impact when used in high concentrations.

*Opti.Form* products are formulated to maximize antimicrobial synergies, while having a minimum impact on the taste of the finished product.

#### Sustainability

At Corbion, we're always looking for ways to be more sustainable. That's why our *Opti.Form* solutions are manufactured with the environment in mind. Our new Europe-based sugar fermentation process has reduced its cradle-to-gate carbon footprint by up to 30%, while minimizing waste and eliminating excess by-products.



### Proven Results

Hundreds of studies have been performed to determine the effectiveness of *Opti.Form*. Figure 1 shows the results of one particular challenge study in vacuum-packaged frankfurters, stored at 4°C, with the addition of *Opti.Form* PD Plus, *Opti.Form* PD Plus or sodium diacetate. *Opti.Form* completely inhibits *Listeria* growth. Figure 2 shows the results of aerobic plate count in fresh beef burgers using *Opti.Form* PD Plus. Figure 3 demonstrates shelf life extension by 129% in cooked uncured turkey roll using *Opti.Form* Powder Ace S50.

### Corbion *Listeria* Control Model

Corbion offers a unique tool — The Corbion *Listeria* Control Model (CLCM). This online model is easy to use and is at the forefront of predictive growth modeling. It is adjustable for eight food characteristics and allows you to predict the effect of *Opti.Form* in your meat products.

The predicted growth is based on specifically designed and validated *Listeria* challenge studies. This tool enables producers to save development cost, decrease time to market and increase food safety levels.

Go to [www.corbion.com/clcm](http://www.corbion.com/clcm) to find out more.

Product name	
<b>Opti.Form S</b>	Sodium lactate and food grade sodium diacetate
<b>Opti.Form Plus</b>	Highly concentrated blend of potassium lactate and food-grade sodium or potassium (di)acetate
<b>Opti.Form Ace</b>	Cost-effective blend of lactate and high levels of (di)acetate
<b>Opti.Form PPA5/F</b>	Potassium lactate, natural flavor and food grade potassium acetate

Figure 1: Lag phase of *Listeria* in frankfurter

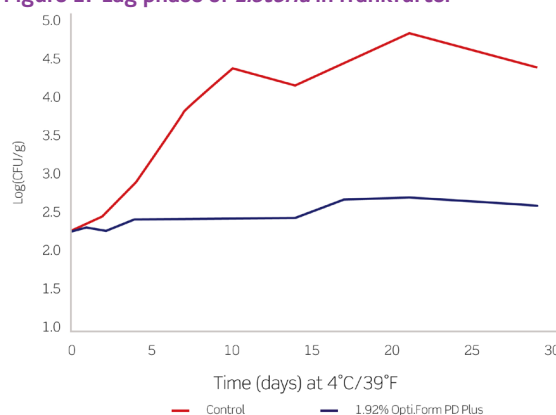


Figure 2: Aerobic plate count in fresh beef burgers at 4°C

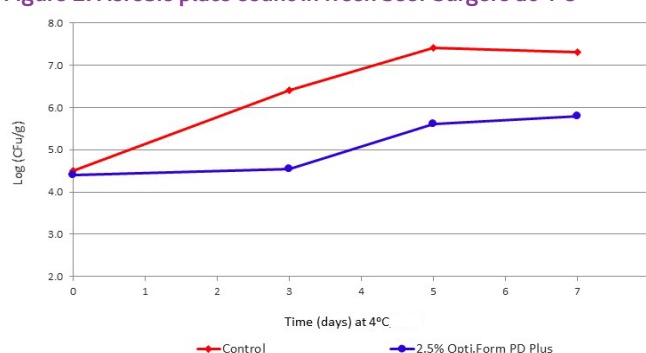
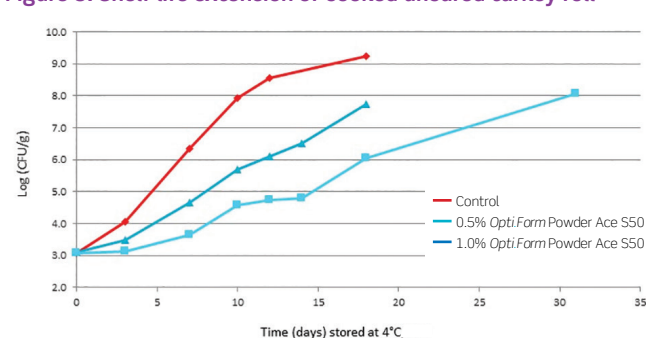


Figure 3: Shelf life extension of cooked uncured turkey roll



### More than innovative solutions

Consumers expect food producers to give them what they want. At Corbion we take our expertise directly to our customers. Drawing on our more than 80 years of meat preservation expertise, combined with our tools and innovative solutions, we can work together with you to develop and implement formulas that are right for you.



#### Request your free sample

Samples and detailed usage instructions, delivered right to your doorstep. Visit [corbion.com/samples](http://corbion.com/samples)



#### Technical Support

With R&D support available worldwide, we are always close by to help you with your application development. [corbion.com/contact](http://corbion.com/contact)

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Corbion is the global market leader in lactic acid and its derivatives, and a leading supplier of emulsifiers, functional enzyme blends, minerals, vitamins, and algae ingredients. We use our unique expertise in fermentation and other processes to deliver sustainable solutions for the preservation of food and food production, health, and our planet. For over 100 years, we have been uncompromising in our commitment to safety, quality, innovation and performance. Drawing on our deep application and product knowledge, we work side-by-side with customers to make our cutting-edge technologies work for them. Our solutions help differentiate products in markets such as food, home & personal care, animal nutrition, pharmaceuticals, medical devices, and bioplastics. In 2021, Corbion generated annual sales of € 1.070,8 million and had a workforce of 2,493 FTE. Corbion is listed on Euronext Amsterdam. For more information: [www.corbion.com](http://www.corbion.com)

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