

Global presence

● Corbion Headquarters ● Corbion Production Location ● Corbion Sales Office ● Corbion Innovation Center



www.corbion.com/contact


Corbion in Food

Corbion inspires manufacturers to craft foods that start flavorful, stay fresh and remain safe from production to consumption. Using sustainable solutions, we work side-by-side and empower customers to grow and create delicious foods, that consumers love and can safely enjoy with friends and family, just as we enjoy with ours.

Corbion: designed by science, powered by nature, and delivered through dedication.

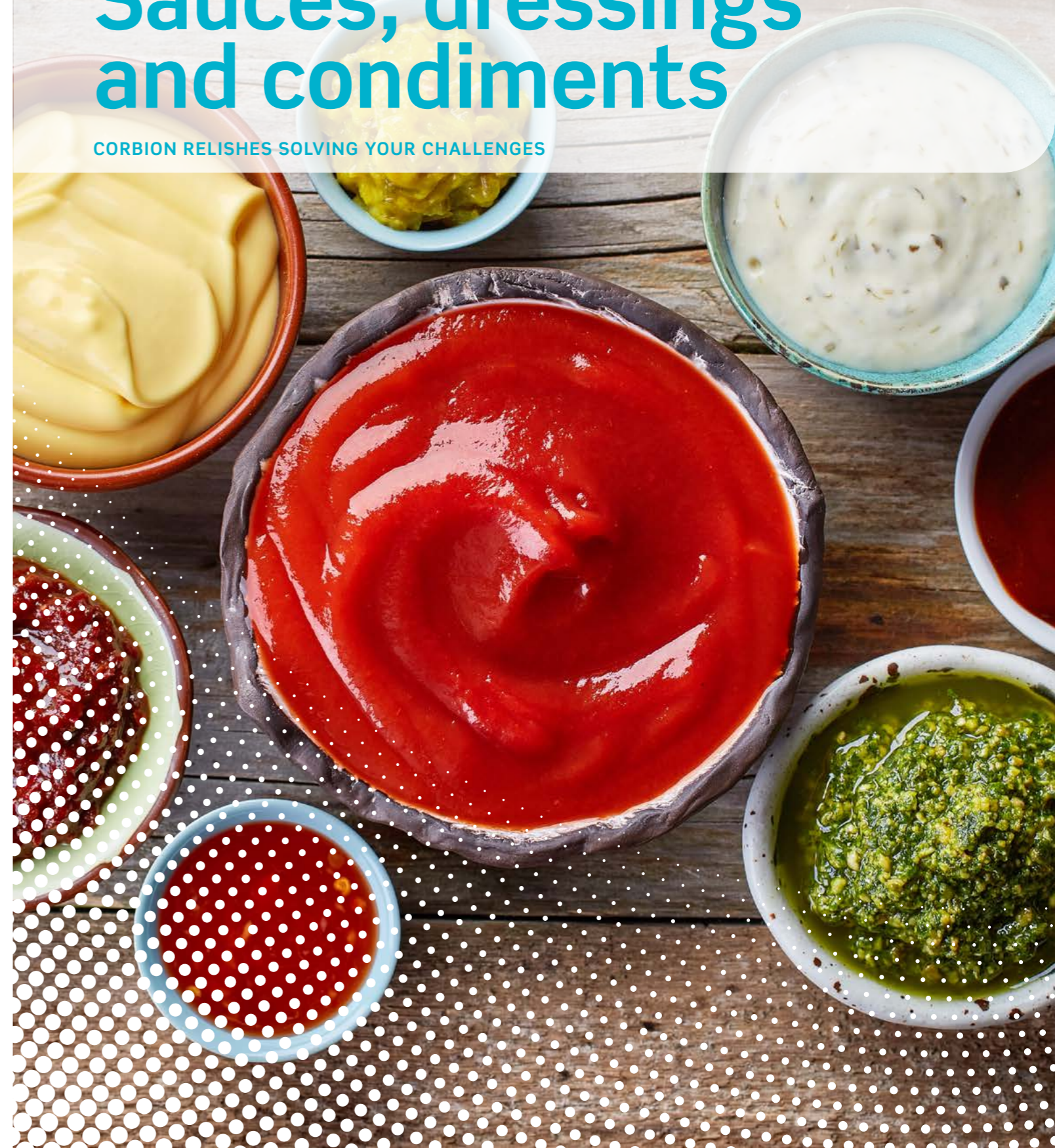
Corbion is the global market leader in lactic acid, lactic acid derivatives, and a leading company in emulsifiers, functional enzyme blends, minerals, vitamins and algae ingredients. We develop sustainable ingredient solutions to improve the quality of life for people today and for future generations. 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 2017, Corbion generated annual sales of € 891.7 million and had a workforce of 1,794 FTE. Corbion is listed on Euronext Amsterdam. For more information: www.corbion.com.

Interested in our solutions? Go to corbion.com/sdc

 @CorbionFood

Sauces, dressings and condiments

CORBION RELISHES SOLVING YOUR CHALLENGES



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Sauces, dressings and condiments are long-standing, diverse markets that are growing. Today's consumers expect their sauces, dressings and condiments to be tasty, offer long shelf life, and also to be healthy, free of artificial additives and to contain less sugar, sodium and fat. Currently, the vast majority of these products are acidified to preserve both flavor and shelf life. With over 80 years of experience in producing natural L-lactic acid, Corbion has become an expert in the use of acidulants in a wide variety of acidified foods. For decades, Corbion has been providing effective solutions for traditional and newer sectors of this market and offers a wide a range of solutions that can help optimize your products and offer new added-value.

Looking to stay on top of challenges in sauces, dressings and condiments?

Regulating pH

Acidification, or pH-regulation, is a technique that is commonly used in the industry to preserve the flavor, as well as the shelf life of a product. Choosing the right acid, or combination of acids, to give an appropriate pH for preservation and yet deliver great flavor is a balancing act (see Figure 1).

Flavor profile comparison of organic acids

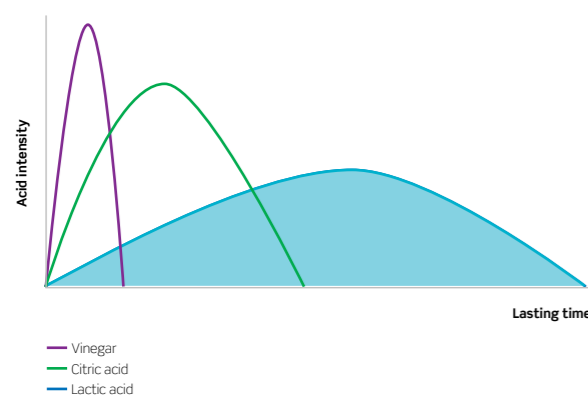


Figure 1

Sour, but not too sour?

Vinegar (acetic acid) is most commonly used in the sector, but it can have an overbearing flavor, and so is often combined with other acids to achieve the desired flavor. Lactic acid has long-lasting taste and a unique, and highly desirable, mild character that offsets the intense flavor of stronger acids. Furthermore, it is proven to complement other flavor notes, such as tomato, herbs and cheese. Our PURAC® portfolio includes a range of products varying from natural L- lactic acid in different concentrations, to buffered-blends with other organic acids.

Shelf life

Sauces, dressings and condiments, are normally sold shelf-stable. To preserve these products, the manufacturer maintains a low pH that prevents the growth of common spoilage microorganisms and pathogens.

However, spoilage organisms, such as bacteria (e.g. *Lactobacillus spp.*) yeast and molds (e.g. *Mucor spp.* and *Saccharomyces spp.*) are naturally abundant. Certain bacteria can thrive under extreme circumstances, such as low water activity, low pH and without oxygen, causing blown up packages, alteration of taste, or visual spoilage. The pH-hurdle is not a guarantee, but can be enhanced further with additional ingredients or hygiene.

PURAC natural L-lactic acid and PURASAL®, our sodium or potassium lactates, have demonstrated a high efficacy against bacteria that are less affected by many other acids.

Corbion has developed a range of natural, consumer-friendly labeling ingredients that extend the product's shelf life without artificial preservatives. This Verdad® range consists of products based on minimally processed and fermented cane or beet sugar ingredients, as well as natural vinegar specialties. With these products it is now possible to replace artificial preservatives, while maintaining a great taste.



'Free from' trend

An increasing number of consumers and authorities want to reduce the levels of artificial and unhealthy components in their diet because of health risks associated with excess consumption. This trend poses a huge challenge to an industry that promotes taste.

The high fat content of sauces and dressings is a good barrier against the growth of microorganisms. Reducing the fat content to make the product healthier increases the available moisture. For the same anti-microbial activity, more acids are needed. Corbion has developed solutions with strong anti-microbial activity as well as balanced flavor and sourness profile.

In sodium reduced products, shelf life can be maintained with PURASAL® HiPure P Plus, which is potassium lactate with a neutral taste. Furthermore, Corbion introduced a new range of PuraQ® Arome solutions based on ferments that can be labeled as natural flavor. These work as multifunctional building blocks to enhance savory taste profile, texture and shelf life (Figure 2).

As with reducing sodium intake, there is a global trend in reducing the use of certain preservatives, such as benzoates (E211) and sorbates (E201, E202 and E203), following concerns about their effects on health. Consumers demand labels with ingredients they recognize and understand.

Corbion has over 80 years of experience in the development and manufacturing of naturally-derived solutions and is well-equipped to meet this challenge. Our global presence puts us right by your side, wherever you are in the world, to provide technical expertise, service and unique propositions that can perfect your products and help save on your own R&D.

Our solutions for sauces, dressings and condiments

- ▶ Extend shelf life
- ▶ Acidify products
- ▶ Enhance flavor
- ▶ Reduce sodium
- ▶ Enable consumer-friendly labeling

Industry trends

- ▶ Free of artificial preservatives
- ▶ Consumer-friendly labeling
- ▶ Increased level of convenience
- ▶ Healthier options

PuraQ® Arome NA4 in reduced salt bolognese sauce

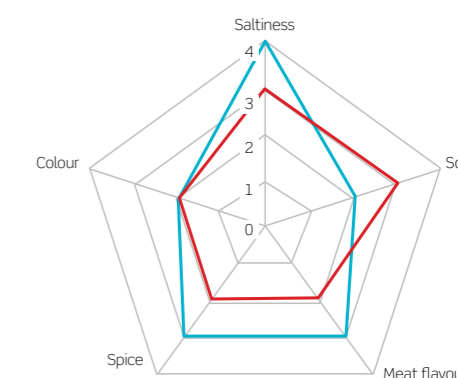


Figure 2

Area of interest	Benefit	Solution
Consumer friendly labeling	Maintain quality and freshness	Verdad®*
Acidification	pH regulation	PURAC®**
Taste/Nutrition	Natural flavor	PuraQ® Arome
Shelf life	Shelf life control	PURASAL®*
Sodium reduction	Savory building block	PuraQ® Arome
	Lowering water activity	PURASAL® HiPure P Plus