

CLEAN-LABEL SHELF-LIFE INGREDIENTS ALTERNATIVE TO CHEMICAL PRESERVATIVES

Chemical Preservatives	Applications	Functionalities	Brands	Clean-label Ingredients
Potassium sorbate (E202)	Baked goods	Prevent molds	Proteria® CP	Fermented corn sugar
	Cheese	Prevent yeasts and molds	Befresh™ LL	<i>Lactobacillus</i> spp.
	Yogurt	Prevent yeasts and molds	Befresh™ AF	<i>Lactobacillus Paracasei</i> , <i>P. freudenreichii subsp shermani</i>
	Soft drinks and fruit drinks	Anti- <i>Alicyclobacillus</i>	Fixolor® AT	Fermented sugarcane
	Grape wine	Prevent yeast	Chitoly® AB	Mushroom Chitosan
Sodium benzoate (E211)	Condiments	Prevent LAB, yeasts and molds	Antimix® CC	Citrus extracts, Fermented corn sugar
	Carbonated drinks		Mushria™	Mushroom extracts
	Fruit juices		Planteria® CF	Citrus extracts
	Jam, Pickles, Salad dressings		Antimix® CC	Citrus extracts, Fermented corn sugar
NisinZ (E234)	Cooked meat	Prevent microbial spoilage	Proteria® CV	Fermented sugar, vinegar
		Anti- <i>Listeria & Clostridium botulinum</i>	Proteria® AL	Fermented sugar, vinegar
	Hard cheese	Anti- <i>Clostridia</i>	Befresh™ AC	<i>Lactic lactis subsp. lactis</i>
Natamycin (E235)	Fresh cheese	Prevent yeast and mold	Befresh™ LL	<i>Lactobacillus</i> spp.
	Dried sausage		Antipack™	/
	Yogurt		Befresh® AF	<i>Lactobacillus Paracasei</i> , <i>P. freudenreichii subsp shermani</i>
	Refrigerated foods		Antimix® CC	Citrus extracts, Fermented sugar
Nitrite/ Nitrate (E251– E252)	Cured meat	Prevent <i>botulism</i> toxin	Proteria® AL	Fermented sugar, vinegar
		Prevent botulism toxin and boost pink color	Fixolor® PK	[Chard, Acerola] extract, Vinegar
		Fresh red meat	Fixolor® PK	Malolactic enzyme
Sodium chloride	Cured meat	Increase microbial, texture and color stabilization	Proteria® SR	Fermented sugar
Sodium diacetate (E262)	Baked goods	Prevent molds	Proteria® CP	Fermented corn sugar
Lactic acid (270-279)	Beef carcass	Anti- <i>E. Coli</i>	PhageX™ AE	Anti- <i>E. Coli</i> Phage
	Salmon	Anti- <i>Listeria</i>	PhageX™ AL	Anti- <i>Listeria</i> Phage
	Raw meat and poultry	Anti- <i>Salmonella</i>	PhageX™ AS	Anti- <i>Salmonella</i> Phage
Calcium propionate (E282)	Baked goods	Prevent molds	Proteria® CP	Fermented corn sugar
Sodium lactate (E325)	Cooked meat	Inhibit TPC	Antimix® CC	Citrus extracts, Fermented sugar
Ascorbic acid, Ascorbic acid (E300-304)	Butter, Cheese	Prevent browning and off-flavor	Guardox™ AE	Acerola extract
	Fruits and vegetables	Prevent browning	Antibraun™	Citrus-lemon extract
	Potato-based products	Prevent browning and discoloration	Guardox™ AE	Acerola extract
	Sausages	Boost pink cured color containing nitrite	Fixolor® PK	[Chard, Acerola] extract, Vinegar
	Fish and shellfish products	Prevent the odorlessness of unsaturated fatty acids	Guardox™ AE	Acerola extract
	Juice drinks	Prevent browning, off-flavor and discoloration	Fixolor® AT	Fermented sugarcane
BHA (E320)	Baked goods	Delay oxidative rancidity	Guardox™ BL	Bamboo leaf extract
Citric acid (E330)	Fruit and vegetables	Delay enzymatic browning	Antibraun™	Citrus-lemon extract
	Juice drinks	Stabilize anthocyanins and prevent microbial	Fixolor® AT	Fermented sugarcane
Phosphate (E338)	Cooked meat	Increase the ionic strength and moisture retention	White Fiber™	Citrus fiber
Lysozyme (1150)	Grape wine	Stop yeast	Chitoly® AB	Mushroom Chitosan
	Hard cheese	Anti- <i>Clostridia</i>	Befresh™ AC	<i>Lactic lactis subsp. lactis</i>