



Haifa Food Phosphates

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Leavening Agents & Dough Improvers



Haifa Leavening Phosphates

Haifa leavening agents are a vital ingredient for virtually any bakery product. Haifa's phosphate leaveners include a broad range of products that have varying granulations and provide an extensive choice of reaction times. With Haifa's leavening agents, you can be sure your bakery goods will have the texture your customers demand, every time.

SAPP (Sodium Acid Pyrophosphate)

Haifa SAPP's offer varying reaction times, depending on grade. After the initial reaction, gas liberation quickly tapers off or stops, delivering a high tolerance for variations in the bench period. Final leavening begins only at elevated temperature in the oven.

- Neutralizing value of approx. 72
- **Fast leaveners: B 401 and B 403** can release 40-50% of their reactivity during mixing, retaining more than 40% for the baking stage.
- **Medium leaveners: B 391 and B 393** liberate 35-40% of leavening gas at room temperature and retain about 50% in the oven.
- **Slow leaveners: B 281 and B 283** release 25-30% during the first stage, liberating more than 60% during baking.
- All grades are available in powder and fine powder, enabling gas release to be tuned to any application.

MCP (Monocalcium Phosphate Monohydrate)

MCP forms gas cells, which increase in number during mixing. It becomes virtually unreactive during the bench period, releasing the remaining gas during baking.

MCP is suitable for doughnuts, cookies, angel food cakes, baking powders, and other applications.

- Neutralizing value of approx. 80
- Rapid reaction with baking soda releasing 60%-70% of the potential CO₂ during mixing
- Commonly used in self-rising flour at levels of 0.25-1.0%
- Can be used with a slower-acting **SAPP** to increase initial gas release without impairing bench and oven reactions



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Haifa Phosphates for Doughs & Batters

Haifa's line of dough improvers (dough conditioners) improves the texture, firmness, water-holding capacity, appearance, shelf life, and other important characteristics of a wide range of bakery products. The dough improvers interact in specific ways with the various components of dough or batter, including proteins, gluten, starch, and enzymes. These phosphate ingredients are also ideal as a source of mineral nutrients for baked goods and cereals.

Noodles and Pasta

C 521 (DSP) may be used alone, or in combination with **C 511** (MSP) and/or **C 533** (TSP).

- Reduces cooking time
- Increases stability
- Improves appearance, creating a more creamy or yellow product
- Usual application rates of 0.2%–2.0% (noodles) and 0.5%–1.0% (pasta)

Additional options

- **C 522** (DSP), **C 512 / C 510** (MSP), and **C 534** (TSP) are excellent options for adding sodium phosphates via lye water (kan sui)
- For additional improvements, **M 223** (TriSPP), **M 221 / M 225** (TSPP), **M 211** (STPP) and **M 217** (STPP) are applicable in a dosage of 0.1%–0.2%.

Bread

MCP is an ideal bread dough conditioner. It is sometimes used with **C 511** (MSP).

- Improves the colloidal properties of bread dough
- Lowers and optimizes dough pH
- Stimulates yeast activity
- Average usage of 0.25% inhibits microorganisms spoilage

Batter for Food Coating

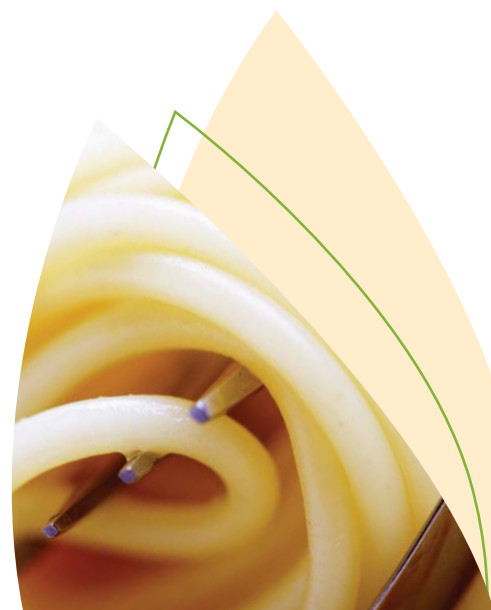
Haifa phosphates optimize the adhesiveness and viscosity of batters that are used as the interface layer between the food surface and the breading.

- Use **MCP**, **M 221 / M 225** (TSPP), or **M 223** (TriSPP)

Mineral Nutrients

Haifa food phosphates provide excellent dietary supplements for a wide range of bakery and cereal products:

- **MCP** and **TCP** provide phosphorus and calcium
- **M 233** (DKP) provides phosphorus and potassium
- **C 511** (MSP), **C 521** (DSP) and **C 533** (TSP) provide phosphorus and sodium





Haifa Phosphates for Doughs and Batters

Product	Labeling	Typical parameters			Application
		Appearance	pH	P ₂ O ₅ %	
B 401	Sodium Acid Pyrophosphate, E 450	Powder	4.3	64	Fast leavener
B 403	Sodium Acid Pyrophosphate, E 450	Fine powder	4.3	64	Fast leavener
B 391	Sodium Acid Pyrophosphate, E 450	Powder	4.2	64	Medium leavener
B 393	Sodium Acid Pyrophosphate, E 450	Fine powder	4.2	64	Medium leavener
B 281	Sodium Acid Pyrophosphate, E 450	Powder	4.2	64	Slow leavener
B 283	Sodium Acid Pyrophosphate, E 450	Fine powder	4.2	64	Slow leavener
B 285	Sodium Acid Pyrophosphate, E 450	Powder	4.2	64	Slow leavener
MCP	Monocalcium Phosphate Monohydrate, E 341	Powder	3.8	56	Very fast leavener, dough improver
TCP	Tricalcium Phosphate, E 341	Powder	6.9	42	Mineral nutrient, anti-caking agent
C 510	Monosodium Phosphate Anhydrous, E 339	Granular	4.6	59	Dough improver, mineral nutrient
C 511	Monosodium Phosphate Anhydrous, E 339	Powder	4.6	59	Dough improver, mineral nutrient
C 512	Monosodium Phosphate Anhydrous, E 339	Granular	4.5	59	Dough improver, mineral nutrient
C 521	Disodium Phosphate Anhydrous, E 339	Powder	9.0	50	Dough improver, mineral nutrient
C 522	Disodium Phosphate Anhydrous, E 339	Granular	9.0	50	Dough improver, mineral nutrient
C 523	Disodium Phosphate Anhydrous, E 339	Fine powder	9.0	50	Dough improver, mineral nutrient
C 533	Trisodium Phosphate Anhydrous, E 339	Powder	12.1	43	Dough improver, mineral nutrient
C 534	Trisodium Phosphate Anhydrous, E 339	Granular	12.1	43	Dough improver, mineral nutrient
M 233	Dipotassium Phosphate, E 340	Powder	9.0	40	Dough improver, mineral nutrient
M 221	Tetrasodium Pyrophosphate, E 450	Powder	10.3	53	Dough improver
M 225	Tetrasodium Pyrophosphate, E 450	Fine powder	10.3	53	Dough improver
M 223	Trisodium Pyrophosphate, E 450	Powder	7.2	58	Dough improver
M 211	Sodium Tripolyphosphate, E 451	Powder	9.9	57	Dough improver
M 217	Sodium Tripolyphosphate, E 451	Powder	9.9	57	Dough improver



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Haifa Group is a multinational corporation which was founded in 1966 and operates in over 80 countries around the globe. The company is headquartered in Haifa, Israel, and is privately owned by an American holding company controlled by the Trump Group.

A leading developer, producer and marketer of food-grade and technical-grade chemicals and fertilizers for agriculture and horticulture Haifa has over four decades of experience in transforming rock phosphates into high-quality products for a wide range of applications. Among others Haifa specializes in producing phosphate salts for all segments of the food and beverage industry, including Bakery, Meat, Poultry, Fish, Dairy, Vegetable Processing and Water Treatment.

By adhering to the highest international standards, Haifa ensures consistent, environmentally friendly production and high-quality products. All of the company's food phosphate salts production facilities comply with ISO 9001, ISO 14001, OHSAS 18001, ISO 22000, BRC and GMP standards, as well as HACCP. Additionally, all of Haifa's food phosphates are both Kosher and Halal certified.

With two production sites in Israel, a multitude of subsidiaries and warehouses strategically located throughout North and South America, Europe and Asia and with dedicated agents in numerous other key geographic markets, Haifa serves leading food manufacturers in 80 countries on all five continents with high-quality products and customer service.

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