Benefits of Phosphate and Non-Phosphate Blends in Seafood

Phosphate and Non-Phosphate blends are known as MRAs (Moisture Retention Agents) for use in seafood processing industry. Fresh seafood with high nutritional value has a limited shelf life, which can be extended by cold storage. However, the use of MRAs can help in providing improved benefits in seafood processing:

- **Retention of Moisture**
  Frozen seafood lose water more rapidly than meat and poultry foods. Treatment with MRAs can help significantly in retention of moisture for long durations of time, thus maintaining the freshness and juiciness of the seafood.

- **Retention of texture and flavour**
  Treatment with MRAs can prevent the oxidation and improve the buffering capacity of the meat that would preserve the true flavour and glossy blue white texture of seafood.

- **Preservation of Nutrients**
  The quick loss of moisture from seafood causes essential nutrients to denature rapidly during cold storage. MRAs can extend the shelf life of seafood, thereby, preserving the essential nutrients present in seafood.

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**The pearl® Advantage**

We, at Aditya Birla Chemicals (Thailand) Ltd., have designed the pearl range of phosphates and non-phosphates specifically targeted to fulfil your seafood processing requirements for various applications.

**REDUCES FREEZING & THAW DRIP LOSS**

Comparison of Freezing loss & Thawing loss

- Freezing loss (%)
- Thawing loss (%)

**IMPROVES YIELD**

Comparable yield after soaking of shrimp with STPP and pearl

- % Yield by wt. after soaking (4 hrs.)
- % Yield by wt. after soaking (12 hrs.)
- % Yield by wt. after soaking (20 hrs.)

**IMPROVES ORGANOLEPTIC PERFORMANCE**

Sensory taste of shrimp with STPP and pearl
Pearl Applications in Seafood Processing

Fish Fillets
Dipping the fish fillets in a 5 – 10% solution of pearl P12 produces a surface coating of dissolved proteins which helps retain the natural juices of the fish, and helps lock in the flavour. In addition, the thaw-drip loss of the frozen fillets will be reduced. Firmer bodied species can be treated by injection and tumbling.

Shrimp
Treatment of shrimp with our pearl® range of phosphate blends reduces the thaw-drip loss when frozen. Treatment of PDTQ, HLSO and butterfly shrimp prior to cooking increases retention of natural juices, and reduces the cook-cool loss. Our pearl® range of products can also help prevent melanosis in HOSO.

Surimi
Surimi is produced by mincing finfish meat and then refined by a number of different washes. Our pearl range of phosphate blends can act as a cryoprotectant to prevent protein denaturation on storage of Surimis.

Scallop
Sea scallops do not survive for long after being taken out of the water, and are usually chilled on the boat itself to prevent spoilage. Our pearl range of phosphates can be used in scallops to extend their shelf life. pearl phosphates would also help scallops to retain more moisture and stop from shrinking.

Our Customised Solutions for Seafood Processing

<table>
<thead>
<tr>
<th>Application</th>
<th>Product</th>
<th>Advantages and properties of the product</th>
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<tbody>
<tr>
<td>Fish Application</td>
<td>pearl P02</td>
<td>High water holding capacity and maintains natural color of pigment</td>
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<td>High solubility in chilled water</td>
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<td>pearl P03</td>
<td>Maintains natural texture and color of the shrimp</td>
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<td>Reduces cooking loss and maintains delicacy of the taste</td>
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<td></td>
<td>pearl N09</td>
<td>Maintains natural texture and color of the shrimp</td>
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<td>Reduces cooking loss</td>
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<td></td>
<td>pearl N12</td>
<td>Low sodium content</td>
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<td></td>
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<td>Retains pigment and enhances red color after cooking</td>
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<td></td>
<td>pearl Ezo</td>
<td>Product with natural ingredients</td>
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<td></td>
<td></td>
<td>Retains natural appearance and taste</td>
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<td></td>
<td>pearl N08</td>
<td>Improves water holding capacity and maintains natural color of pangasius hypenthalmoso</td>
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<td></td>
<td>pearl P09</td>
<td>Reduces ammonical smell and avoids breakages of fish fillets during storage</td>
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<td>pearl NC</td>
<td>Produces firm texture and improves the color of fish fillets</td>
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<tr>
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<td>pearl Ezo</td>
<td>Product with natural ingredients</td>
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<td>Produces firm texture and reduces the freezing losses</td>
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<td>Scallops and Muscle</td>
<td>pearl N06</td>
<td>Maintains the natural shape of the scallops</td>
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<td>Improves the texture and juiciness</td>
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<td>Cephalopod</td>
<td>pearl C50</td>
<td>Prevents oxidation and rancidity thereby maintaining the natural taste</td>
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<td>Produces firm texture</td>
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In addition to the above range, we also have an extensive application laboratory which is available to provide custom made solutions to your seafood processing problems. Please contact us for more information.
WHERE WE ARE AROUND THE WORLD

Aditya Birla Chemicals (Thailand) Ltd. is part of one of India’s most respected industrial houses, the Aditya Birla Group.

- US $ 40 Billion of Revenues
- Fortune 500 Company
- Present across 37 Countries
- More than 100,000 Employees worldwide

Aditya Birla Chemicals (Thailand) Ltd. serves customers across the world operating in diverse industries such as food processing, personal consumer products, pulp and paper detergents, water treatment and more.

OUR CUSTOMISED SOLUTIONS FOR FOOD PROCESSING

- **corino®**
  Phosphates for Cheese
- **gusto™**
  Phosphates for Meat
- **pearl®**
  Phosphates & Non Phosphates for Seafood
- **délice™**
  Phosphates for Bakery

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