Phosphates for Seafood and Fish Processing

Retain Peak Flavor and Goodness
Benefits of Phosphates in Seafood and Fish Processing

Moisture retaining
After seafood is caught, the muscles change to a rigor state, accompanied by a series of biochemical changes. The pH of the muscles drops and acid accumulates in the body, which ultimately causes loss of water and other nutrients.

OptiBind, OptiBalance and Curavis® So-Lo phosphates enable the natural juices and moisture added during processing of fish filets, shrimp, prawns, octopus, scallops and other types of seafood to be retained during freezing, storage, thawing and cooking.

Extend Shelf Life and Inhibit Lipid Oxidation
Appearance is the key factor when consumers buy seafood. Unsaturated pigments and the polyunsaturated fatty acids, (omega-3 and omega-6), naturally occurring in most marine species are prone to oxidation. This causes the discoloration of products, progressing from yellow-red to brown and gray. OptiBind, OptiBalance and Curavis® So-Lo phosphates chelate the catalysts in oxidation reactions. Use of phosphates can greatly improve the appearance and shelf life of processed seafood.

Applications

Fresh Seafood
The key factors in determining the freshness of seafood are appearance, flavor and texture. The use of Innophos phosphates ensures that customers are enjoying the best fish, scallops and shrimp.

Frozen Seafood
Special care must be taken to protect delicate seafood proteins during the harsh freezing process. Innophos provides special phosphate blends to maintain the natural juices of frozen seafood during cooking.

Preserved Seafood
Smoking, canning and salting are the major processes used to preserve seafood. Innophos has special phosphates to maintain the original seafood flavor after processing. Especially in canned fish processing, struvite crystals, (with broken glass appearance), can be effectively prevented by SAPP.

Surimi Based Products
Phosphates are used as a part of the cryoprotectant system to maintain surimi proteins against denaturation during freezing and frozen storage.

OptiBind, OptiBalance and Curavis® So-Lo phosphates enable the natural juices and moisture added during processing of frozen fish fillets, shrimp, prawns, octopus, scallops and other types of seafood to be retained during freezing, storage, thawing and cooking.
Untreated, Peeled Shrimp

Prepare a chilled (0.5 - 5°C) solution of (3 - 5%) phosphate plus (1 - 2%) NaCl

Add brines at 1.5 to 2 times shrimp weight, soak shrimp with brines for 1 - 8 hours with continuous agitation

Steam cook or boil

Freeze

Chill in 5% Phosphate solution with gentle agitation for 30 minutes.

Freeze

Untreated Scallops

Vacuum Tumbling

Prepare a chilled (0.5 - 5°C) solution of (3 - 5%) phosphate

Add solution at 10 - 20% scallop weight, tumble at 8 rpm for 40 minutes in a chilled environment

Add brines at 1.5 to 2 times scallop weight, soak scallops with brines for 30 minutes to overnight with continuous agitation

IQF and freeze

Fish Filet Processing

Fish

Filet

Chill in 5% Phosphate solution with gentle agitation for 30 minutes.

Freeze

Surimi Processing

Grind and wash fresh fish

Add 4% sucrose 4% sorbitol 0.5% Phosphate

Freeze
The Innophos Difference

Innophos offers a complete range of phosphates for your seafood and fish applications. From retaining moisture and texture to maintaining flavor, phosphates play an important role in the seafood industry. The products Innophos has developed to support the seafood industry as it continues to research and develop healthier and tastier foods are:

- OptiBind
- OptiBalance
- Lem-O-Fos®
- Curavis® So-Lo

Innophos has the right phosphates for your seafood and fish applications

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