



What are Polyphosphates and why are they used?

Phosphates, including polyphosphates occur naturally in all forms of life and so are present in nearly all foods. Phosphates are used as food additives and when added legitimately to prawns can aid with natural moisture retention. Polyphosphate treatment of fish before freezing often reduces the amount of thaw drip, that is the liquid released when frozen fish is thawed. Good quality fish, properly frozen and cold stored, normally develops little thaw drip. Poor quality fish when frozen and thawed may drip much more, and treatment will reduce the loss to some extent.

Why is Polyphosphate Analysis important?

In 2013 it was reported that fish and seafood were the most adulterated food ingredients, globally. The practical relevance of this treatment is a significant gain of weight caused by the retention/uptake of water and natural juice into the fish tissues. This practice is legal; however, the use of phosphates has to be declared.

For whom is Polyphosphates Analysis (on prawns) designed for?

This analysis will provide peace of mind for fish importers and retailers who purchase frozen prawns.

Polyphosphate Analysis using NMR

New groundbreaking methodology. Unmatched detection. World-class expertise.

Overview

Polyphosphates are legally permitted additives that are widely used to aid processing of foods including meat and fish products.

One advantage of adding polyphosphates to seafood (including prawns) is that they retain water on freezing, so that the apparent weight is increased. Developing countries have experienced a growth in the share of frozen fish production (24% in 2012). In developed countries, this proportion increased to a record high of 55% in 2012. The European Union is the largest market for imported fish and fishery products, and its dependence on imports is growing (FAO, 2014).

This analysis helps the food and fish industry to ensure their product label claims for adding polyphosphates to their seafood products are correct and provides assurance that products don't contain any unwanted added phosphates.

Key Benefits

- **Improve labelling claims – aiding brand protection & enhancing consumer confidence**
- **Measurement of 'added' phosphates in prawns distinguish between naturally occurring levels of polyphosphates**
- **Ensure high quality products – eradicate unknowns in your supply chain**

Suitable Matrices

This current method is only suitable for prawns.

Method Overview

This method detects the amount of 'added' phosphates in seafood products, distinguishing between the naturally occurring levels of phosphates and the level of added phosphates. In prawns, monophosphate is naturally occurring, whereas di-phosphate and tri-phosphate are not, therefore the detection of di-phosphate and tri-phosphate in prawns would confirm the use of polyphosphates. Fera has developed a NMR (nuclear magnetic resonance) based in-house validated test that successfully differentiates between the different forms of phosphates in prawns.

Sample Size

Sample size required for analysis is 100g of food.

Turnaround & Reporting Limits

The batch runs are delivered on a quarterly basis. Last date of sample acceptance is 3 working days before the analysis date (as shown below) and the analysis takes 10 working days. A report will be provided including comprehensive details of the sample identity, date of receipt, customer details and the concentration of monophosphate, di-phosphates and tri-phosphates.



To learn more about Polyphosphates Analysis in Prawns please visit www.fera.co.uk/food-safety-quality/applied-rd/polyphosphates/index.cfm

For information on the analysis or to check out the availability of testing slots, please contact our customer service team on : +44 (0) 300 100 0323



A validated polyphosphates identification method for distinguishing added and naturally occurring polyphosphates in prawns.



Reliable results that can give you the competitive edge to be even more transparent with your customers

Pricing

The price per sample is £250* + VAT and batch runs are delivered on a quarterly basis. Last date of sample acceptance is 3 working days before the analysis date.

Quarterly Analysis Dates - Batch Runs

12 June 2017
13 September 2017
5 December 2017
12 March 2018

*full batch runs are available outside of these dates and discounts - call to discuss