

Food additives and their use in seafood

As with most food products, seafood may require the use of additives to perform necessary technical functions within the food itself, or during seafood processing. Whether the use of additives needs to be declared will depend on the stage it was used during seafood processing, or the function it performs in the final product. All additives must be authorised for use in the particular food product.

This guidance note defines additives, how they are evaluated, the authorisation procedure and lists food additives permitted in certain seafood products.

What are additives?

Food additives are substances added intentionally to foodstuffs to perform certain technological functions, for example to colour, to sweeten or to preserve.

Food additives are defined in Community legislation as:

"any substance not normally consumed as a food in itself and not normally used as a characteristic ingredient of food, whether or not it has nutritive value, the intentional addition of which to food for a technological purpose in the manufacture, processing, preparation, treatment, packaging, transport or storage of such food results, or may reasonably be expected to result, in it or its by-products becoming directly or indirectly a component of such foods."

Authorisation

Before food additives can be used in a food product they must be authorised at EU level. Most food additives may only be used in limited quantities in certain foodstuffs. If no quantitative limits are prescribed for the use of a food additive, it must be used according to good manufacturing practice, i.e. only as much as necessary to achieve the desired technological effect.

Food additives may only be authorised if:

- There is a technological need for their use;
- They do not mislead the consumer;
- They present no hazard to the health of the consumer.

Evaluation

Prior to their authorisation, food additives are evaluated for their safety by the European Food Safety Authority (EFSA), which provides the European Commission with independent scientific advice on food and feed safety. There are also EU Regulations to ensure the purity of the additives. The safety of all food additives has recently been reviewed by the EU.

When a food additive is used it must be declared on the label; however, in compound foods i.e. those made up of other foodstuffs, there may be additives present in one or more of the component foods. Where this is the case the additive may still be present but in much lower quantities. If it no longer performs any technical function in the new compound food, it is known as a 'carry over additive' and does not need to be labelled if there is no health reason to do so.

Authorisation as a processing aid

Food additives can also be authorised for use as a 'processing aid'. This is defined as:

"any substance not consumed as a food by itself, intentionally used in the processing of raw materials, foods or their ingredients to fulfil a certain technological purpose during treatment or processing, and which may result in the unintentional but technically unavoidable presence of residues of the substance or its derivatives in the final product, provided that these residues do not present any health risk and do not have any technological effect on the finished product."

Here the substance has been added to aid processing and may or may not be present in the final product. If it has no technological function in the final product it does not need to be labelled; if it continues to have a technological function it should be labelled as an additive.

Some food additives are permitted for use in all foods, others are only permitted for use in certain products. With the exception of highly processed fish products there are very few additives permitted in seafood. Additives are used in seafood mainly to slow down or prevent a natural but harmless discolouration that can occur in shellfish, or to reduce water loss from the flesh. More information on permitted additives can be found here:

<http://www.food.gov.uk/safereating/chemsafe/additivesbranch/enumberlist>

The list on the next page gives examples of additives permitted in certain seafood products. These are permitted for use in some unprocessed or processed fish products and are taken from the EU approved lists. This is not intended as a usage guide and so criteria for use is not included. Please see above link for full details.

Compound products that have additional ingredients and are subject to greater processing will be permitted to contain a wider range of additives. Details of these are included in the link above.

Additives permitted in certain seafood products

Additive	E number	Function
E300	Ascorbic acid (vitamin c)	Antioxidant, Preservative
E301	Sodium ascorbate (Vitamin c)	Antioxidant
E302	Calcium ascorbate (vitamin c)	Antioxidant
E315	Erythorbic acid (isomer of Vit C)	Antioxidant, Preservative
E316	Sodium erythorbate (isomer of Vit C)	Antioxidant, Preservative
E330	Citric acid (fruit acids)	Acid, Acidifier, Antioxidant, Carrier, Disintegrating Agent, Dispersing Agent,
E331	Sodium citrates (fruit acids)	Buffer, Neutralizing Agent, Sequestrant
E332	Potassium citrates (fruit acids)	Buffer, Neutralizing Agent, Sequestrant
E333	Calcium citrates (salts of fruit acids)	Buffer, Firming Agent, Neutralizing Agent, Sequestrant
E200-213	Sorbic acid – sorbates; benzoic acid – benzoates	Preservative
E220-228	Sulphur dioxide – sulphites	Antimicrobial Agent, Antioxidant, Bleaching Agent, Oxidizing Agent, Preservative
E338 – 452	Phosphoric acid – phosphates –di – tri – and polyphosphates	Acid, Acidifier, Antioxidant Synergist, Sequestrant
E586	4-Hexylresorcinol	Prevention of blackspot

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