

**LEGAL NOTICE No 65/2003**  
**FISHERY PRODUCTS ADDITIVES REGULATIONS**

PART I  
PRELIMINARY

**Art. 1 Short Title**

These Regulations may be cited as the "Fishery Products Additives Regulations Legal Notice No 65/2003".

**Art. 2 Scope of Application**

These Regulations lay down measures to monitor the conditions for the use of food additives.

PART II  
CONDITIONS FOR THE USE OF FOOD ADDITIVES

**Art. 3 Food additives in general, Quantum satis and Maximum levels.**

- (1) Fishery products to be marketed shall not contain sweeteners, colours or food additives other than sweeteners and colours:
  - (a) not included in these Regulations or
  - (b) in excess of any maximum quantity or proportion permitted by the Regulations of Part II.
- (2) In the context of these Regulations, "quantum satis" means no maximum level is specified. However, colouring matters can be used according to the best manufacturing practices at a level not higher than is necessary to achieve the intended purpose and should not mislead the consumer.
- (3) Maximum levels indicated in these Regulations refer to marketed fishery products unless otherwise stated.

CHAPTER 1: Sweeteners

**Art. 4 Sweeteners: E950, E951, E954 and E959.**

- (1) Sweeteners within the meaning of these Regulations are food additives that are used to impart a sweet taste to processed fishery products.
- (2) The following sweeteners and their corresponding concentrations may only be used in the manufacture of sweet-sour preserves and semi-preserves of fish and marinades of fish, crustaceans and molluscs:

E950	Acesulfame K at 200 mg/kg
E951	Aspartame at 300 mg/kg
E954	Saccharine and its Na, K and Ca salts at 160 mg/kg
E959	Neohesperidine DC at 30 mg/kg

## CHAPTER 2: Colours

### **Art. 5 Colours: In general and in specific cases.**

(1) "Colours" within the meaning of these Regulations are substances that add or restore colour in food.

Colours include:

- (a) natural constituents of foodstuffs as well as natural sources that are normally not consumed as foodstuffs as they are and not normally used as characteristic ingredients of food; and
- (b) preparations obtained from foodstuffs and other natural sources by physical and/or chemical extraction resulting in a selective extraction of the pigments relative to the nutritive or aromatic constituents.

(2) However, the following substances shall not be considered colours for the purpose of these Regulations:

- (a) dried or concentrated foodstuffs and flavourings incorporated during the manufacture of compound foodstuffs to impart aromatic, sapid or nutritive properties together with a secondary colouring effect. These include paprika, turmeric and saffron; and
- (b) substances used for the colouring of the inedible external parts of foodstuffs.

(3) The colours E160 b Annatto, Bixin and Norbixin may be used at 10 mg/kg in smoked fishery products.

(4) For the following processed fishery products:

- (a) fish paste and crustacean paste
- (b) pre-cooked crustaceans;
- (c) salmon substitutes;
- (d) surimi;
- (e) fish roe; and
- (f) smoked fish.

the undermentioned colours may be used at quantum satis:

- E101 (i) Riboflavin
- (ii) Riboflavin-5'-phosphate;
- E140 Chlorophylls and chlorophyllins;
- E141 Copper complexes of chlorophylls and chlorophyllins;
- E150a Plain caramel;
- E150b Caustic sulphite caramel;
- E150c Ammonia caramel;
- E150d Sulphite ammonia caramel;
- E153 Vegetable carbon;
- E160a Carotenes;
- E160c Paprika extract, capsanthin, capsorubin;
- E162 Beetroot red, betanin;
- E163 Anthocyanins;
- E170 Calcium carbonate;
- E171 Titanium dioxide; and
- E172 Iron oxides and hydroxides.

(5) The following colours:

- E100 Curcumin;
- E102 Tartrazine;

E104 Quinoline Yellow;  
 E110 Sunset Yellow FCF  
 Orange Yellow S;  
 E120 Cochineal, Carminic acid, Carmines;  
 E122 Azorubine, Carmoisine;  
 E124 Ponceau 4R, Cochneal Red A;  
 E129 Allura Red AC;  
 E131 Patent Blue V;  
 E132 Indigotine, Indigo carmine;  
 E133 Brilliant Blue FCF;  
 E142 Green S;  
 E151 Brilliant Black BN, Black PN;  
 E155 Brown HT;  
 E160d Lycopene;  
 E160c Beta-apo-8'-carotenal (C30);  
 E160f Ethyl ester of Beta-apo-8'-carotenic acid (C30); and  
 E161b Lutein.

may be used alone or in combination with:

- (a) fish paste and crustacean paste up to a maximum level of 100 mg/kg;
- (b) pre-cooked crustaceans up to a maximum level of 250 mg/kg;
- (c) salmon substitutes up to a maximum level of 500 mg/kg;
- (d) surimi up to a maximum level of 500 mg/kg;
- (e) fish roe up to a maximum level of 300 mg/kg; and
- (f) smoked fish up to a maximum level of 100 mg/kg.

### CHAPTER 3: Food additives other than colours and sweeteners

#### **Art. 6 Other food additives: in general and in specific cases.**

- (1) Food additives other than colours and sweeteners within the meaning of these Regulations are:
- (a) "preservatives" - substances which prolong the shelf-life of foodstuffs by protecting them against deterioration caused by micro-organisms;
  - (b) "antioxidants" - substances which prolong the shelf-life of foodstuffs by protecting them against deterioration caused by oxidation, such as fat rancidity and colour changes;
  - (c) "carriers (including carrier solvents)" - substances used to dissolve, dilute, disperse or otherwise physically modify a food additive without altering its technological function (and without exerting any technological effect themselves) in order to facilitate its handling, application or use;
  - (d) "acids" - substances which increase the acidity of a foodstuff and/or impart a sour taste to it;
  - (e) "acidity regulators" - substances which regulate the acidity or alkalinity of a foodstuff;
  - (f) "anti-caking agents" - substances which reduce the tendency of individual particles of a foodstuff to adhere to each other;
  - (g) "anti-foaming agents" - substances which prevent or reduce foaming;
  - (h) "bulking agents" - substances which contribute to the volume of a foodstuff without contributing significantly to its available energy value;

- (i) "emulsifiers" - substances which form or retain a homogenous mixture of two or more immiscible phases in a foodstuff such as oil and water;
  - (j) "emulsifying salts" - substances that convert proteins into a dispersed form to bring about a homogenous distribution of the fat with the other constituents;
  - (k) "firming agents" - substances which make or keep tissues firm or crisp, or interact with gelling agents to produce or strengthen a gel;
  - (l) "flavour enhancers" - substances which enhance the existing taste and/or odour of a foodstuff;
  - (m) "foaming agents" - substances which form a homogenous dispersion of a gaseous phase in a liquid or solid foodstuff;
  - (n) "gelling agents" - substances which give a foodstuff a jelly texture;
  - (o) "glazing agents including lubricants" - substances which, when applied to the external surface of a foodstuff, impart a shiny appearance or provide a protective coating;
  - (p) "Humectants" - substances which counteract the effect of a low degree of surrounding humidity, or promote the dissolution of a powder in an aqueous medium to prevent foodstuffs from drying out.
  - (q) "Modified starches" - substances obtained by one or more physical or enzymatic treatment of edible starches that were acid or alkali thinned or bleached;
  - (r) "packaging gases" - gases other than air, introduced into a container before, during or after packaging;
  - (s) "propellants" - gases other than air which expel a foodstuff from a container;
  - (t) "raising agents" - substances or combinations of substances which liberate gas and thereby increase the volume of a batter;
  - (u) "sequestrants" - substances which form chemical complexes with metallic ions;
  - (v) "stabilisers" - substances which retain the physico-chemical state of a foodstuff; stabilisers include substances which enable the maintenance of a homogenous dispersion of two or more immiscible substances in a foodstuff and include also substances which stabilise, retain or intensify an existing colour of a foodstuff; and
  - (w) "thickeners" - substances that increase the viscosity of a foodstuff.
- (2) For the purpose of these Regulations the following are not considered food additives:
- (a) substances used for the treatment of potable water;
  - (b) products containing pectin that are derived from dried apple pomace or peel of citrus fruits, or from a mixture of both, by the action of dilute acid followed by partial neutralisation with sodium or potassium salts ("liquid pectin");
  - (c) chewing gum bases;
  - (d) white or yellow dextrin, roasted or dextrinated starch, starch modified by acid or alkali treatment, bleached starch, physically modified starch and starch treated by amylolytic enzymes;
  - (e) ammonium chloride;
  - (f) blood plasma, edible gelatine, protein hydrolysates and their salts, milk protein and gluten;

- (g) amino acids and their salts other than glutamic acid, glycine, cysteine and cystine and their salts and having no additive function;
- (h) caseinates and casein; and
- (i) inulin.

(3) In processed fishery products, the undermentioned food additives may be used at quantum satis:

- E170 Calcium carbonates
  - (i) Calcium carbonate
  - (ii) Calcium hydrogen carbonate
- E260 Acetic acid
- E261 Potassium acetate
- E262 Sodium acetates
  - (i) Sodium acetate
  - (ii) Sodium hydrogen acetate (diacetate)
- E263 Calcium acetate
- E270 Lactic acid
- E290 Carbon dioxide
- E296 Malic acid
- E300 Ascorbic acid
- E301 Sodium ascorbate
- E302 Calcium ascorbate
- E304 Fatty acid esters of ascorbic acid
  - (i) Ascorbyl palitate
  - (ii) Ascorbyl stearate
- E306 Tocopherol-rich extract
- E307 Alpha-tocopherol
- E308 Gamma-tocopherol
- E309 Delta-tocopherol
- E322 Lecithins
- E325 Sodium lactate
- E326 Potassium lactate
- E327 Calcium lactate
- E330 Citric acid
- E331 Sodium citrates
  - (i) Monosodium citrate
  - (ii) Disodium citrate
  - (iii) Trisodium citrate
- E332 Potassium citrates
  - (i) Monopotassium citrate
  - (ii) Tripotassium citrate
- E333 Calcium citrates
  - (i) Monocalcium citrate
  - (ii) Dicalcium citrate
  - (iii) Tricalcium citrate
- E334 Tartaric acid (L(+)-)
- E335 Sodium tartrates
  - (i) Monosodium tartrate
  - (ii) Disodium tartrate
- E336 Potassium tartrates
  - (i) Monopotassium tartrate

	(ii) Dipotassium tartrate
E337	Sodium malates
	(i) Sodium malate
	(ii) Sodium hydrogen malate
E351	Potassium malate
E352	Calcium malates
	(i) Calcium malate
	(ii) Calcium hydrogen malate
E354	Calcium tartrate
E380	Triammonium citrate
E400	Alginic acid
E3401	Sodium alginate
E402	Potassium alginate
E403	Ammonium alginate
E404	Calcium alginate
E406	Agar
E407	Carrageenan
E410	Locust bean gum
E412	Guar gum
E413	Tragacanth
E414	Acacia gum (gum arabic)
E415	Xanthan gum
E417	Tara gum
E418	Gellan gum
E422	Glycerol
E440	Pectins
	(i) pectin
	(ii) amidated pectin
E460	Cellulose
	(i) microcrystalline cellulose
	(ii) powdered cellulose
E461	Methyl cellulose
E463	Hydroxy propyl cellulose
E464	Hydroxy propyl methyl cellulose
E466	Carboxy methyl cellulose
	Sodium carboxy methyl cellulose
E470a	Sodium, potassium and calcium salts of fatty acids
E470b	Magnesium salts of fatty acids
E471	Mono- and diglycerides of fatty acids
E472a	Acetic acid esters of mono- and diglycerides of fatty acids
E472b	Lactic acid esters of mono- and diglycerides of fatty acids
E472c	Citric acid esters of mono- and diglycerides of fatty acids
E472d	Tartaric acid esters of mono- and diglycerides of fatty acids
E472e	Mono- and diacetyl tartaric acid esters of mono- and diglycerides of fatty acids
E472f	Mixed acetic and tartaric acid esters of mono- and diglycerides of fatty acids.
E500	Sodium carbonates
	(i) Sodium carbonate
	(ii) Sodium hydrogen carbonate
	(iii) Sodium sesquicarbonate

E501 Potassium carbonates  
     (i) Potassium carbonate  
     (ii) Potassium hydrogen carbonate  
 E503 Ammonium carbonates  
     (i) Ammonium carbonate  
     (ii) Ammonium hydrogen carbonate  
 E504 Magnesium carbonates  
     (i) Magnesium carbonate  
     (ii) Magnesium hydroxide carbonate (syn. Magnesium hydrogen carbonate)  
 E507 Hydrochloric acid  
 E508 Potassium chloride  
 E509 Calcium chloride  
 E511 Magnesium chloride  
 E513 Sulphuric acid  
 E514 Sodium sulphates  
     (i) Sodium sulphate  
     (ii) Sodium hydrogen sulphate  
 E515 Potassium sulphates  
     (i) Potassium sulphate  
     (ii) Potassium hydrogen sulphate  
 E516 Calcium sulphate  
 E524 Sodium hydroxide  
 E525 Potassium hydroxide  
 E526 Calcium hydroxide  
 E527 Ammonium hydroxide  
 E528 Magnesium hydroxide  
 E529 Calcium oxide  
 E530 Magnesium oxide  
 E570 Fatty acids  
 E574 Gluconic acid  
 E575 Glucono-delta-lactone  
 E576 Sodium gluconate  
 E577 Potassium gluconate  
 E578 Calcium gluconate  
 E640 Glycine and its sodium salt  
 E938 Argon\*  
 E939 Helium\*  
 E941 Nitrogen\*  
 E942 Nitrous oxide\*  
 E948 Oxygen\*  
 E1200 Polydextrose  
 E1404 Oxidised starch  
 E1410 Monostarch phosphate  
 E1412 Distarch phosphate  
 E1413 Phosphated distarch phosphate  
 E1414 Acetylated distarch phosphate  
 E1420 Acetylated starch  
 E1422 Acetylated distarch adipate  
 E1440 Hydroxy propyl starch  
 E1442 Hydroxy propyl distarch phosphate

E1450	Starch sodium octenyl succinate
E420	Sorbitol
	(i) Sorbitol
	(ii) Sorbitol syrup
E421	Mannitol
E953	Isomalt
	(i) Maltitol
	(ii) Maltitol syrup
E966	Lactitol
E967	Xylitol

(4) In processed fishery products:

(a) the undermentioned food additives:

E620	Glutamic acid
E621	Monosodium glutamate
E622	Monopotassium glutamate
E623	Calcium diglutamate
E624	Monoammonium glutamate
E625	Magnesium diglutamate

may be used alone or in combination up to a maximum level of 10 g/kg

(b) the undermentioned food additives

E626	Guanylic acid
E627	Disodium guanylate
E628	Dipotassium guanylate
E629	Calcium guanylate
E630	Inosinic acid
E631	Disodium inosinate
E632	Dipotassium inosinate
E633	Calcium mesinate
E634	Calcium 5'-ribonucleotides
E635	Disodium 5'-ribonucleotides

may be used alone or in combination. They are expressed as guanylic acid. The maximum level that may be used is 500 mg/kg

(5) In raw or prepared fishery products, the food additives:

E290	Carbon dioxide
E938	Argon
E939	Helium
E941	Nitrogen
E948	Oxygen
E331	Sodium citrates
E332	Potassium citrates
E333	Calcium citrates
E420	Sorbitol
	(i) Sorbitol
	(ii) Sorbitol syrup
E421	Mannitol
E953	Isomalt
E965	Maltiol
	(i) Maltiol
	(ii) Maltiol syrup



E966 Lactitol  
E967 Xylitol

may be used at quantum satis.

- (6) In frozen, raw, prepared or processed fish, crustaceans, molluscs and cephalopods, the undermentioned food additives may be used at quantum satis:

E420 Sorbitol  
(i) Sorbitol  
(ii) Sorbitol syrup  
E421 Mannitol  
E953 Isomalt  
(i) Maltitol  
(ii) Maltitol syrup  
E966 Lactitol  
E967 Xylitol

#### **Art. 7 Preservatives**

- (1) Preservatives that are mentioned below may be used to prolong the shelf life of fishery products.
- (2) The following sorbates  
E200 Sorbic acid  
E202 Potassium sorbate  
E203 Calcium sorbate and

The following benzoates:

E210 Benzoic acid  
E211 Sodium benzoate  
E212 Potassium benzoate  
E213 Calcium benzoate

may be used alone or in combination with:

- (a) Semi-preserved fish products including fish roe products up to a maximum level of 2000 mg/kg or mg/l;  
(b) Salt-dried fish up to a maximum level of 200 mg/kg;  
(c) cooked shrimps up to a maximum level of 2000 mg/kg; and  
(d) cooked Crangon crangon and Crangon vulgaris up to a maximum level of 6000 mg/kg.

whereby the levels of all substances mentioned above are expressed as a free acid.

- (3) The following preservative food additives that are described as sulphur dioxide and sulphites  
E220 Sulphur dioxide  
E221 Sodium sulphite  
E222 Sodium hydrogen sulphite  
E223 Sodium metabisulphite  
E224 Potassium metabisulphite

E226 Calcium sulphite  
E277 Calcium hydrogen sulphite  
E228 Potassium hydrogen sulphite  
may be used alone or in combination with:

- (a) fresh and frozen crustaceans and cephalopods up to a maximum level of 150 mg/kg in the edible parts;
  - (b) crustaceans, family of penaeidae, solenoceridae, aristeidae
    - (i) up to 80 units/kg, and a maximum level of 150 mg/kg in the edible parts;
    - (ii) between 80 and 120 units/kg, and a maximum level of 200 mg/kg in the edible parts;
    - (iii) over 120 units/kg, and a maximum level of 300 mg/kg in the edible parts; and
    - (iv) cooked, and a maximum level of 50 mg/kg in the edible parts.
  - (c) whereby
    - (i) maximum levels are expressed as SO<sub>2</sub> in mg/kg and relate to the total quantity, available from all sources; and
    - (ii) a SO<sub>2</sub> content of not more than 10 mg/kg is not considered to be present.
- (4) The food preservative food additives, E251 Sodium nitrate and E252 Potassium nitrate may be used at 200 mg/kg in pickled herring and sprat whereby residual amount, nitrite formed from nitrate included, is expressed as NaNO<sub>2</sub>.
- (5) The food preservative food additive E284 Boric acid and E285 Sodium tetraborate (borax) may be used at 4 g/kg, expressed as boric acid in Sturgeon eggs (caviar).

**Art. 8 Antioxidants**

- (1) The antioxidants E315 Erythorbic acid and E316 Sodium erythorbate may be used at 1500 mg/kg, expressed as erythorbic acid, in
  - (a) preserved and semi-preserved fish products; and
  - (b) frozen fish with red skin.
- (2) The antioxidant E385 Calcium disodium ethylene diamine tetra-acetate (Calcium disodium EDTA) may be used up to a maximum level of 75 mg/kg in :
  - (a) canned and bottled crustaceans and molluscs; and
  - (b) canned and bottled fish.

**Art. 9 Polyphosphates as cryoprotectants**

The following polyphosphates (E452)

- (a) Sodium polyphosphate;
- (b) Potassium polyphosphate;
- (c) Sodium calcium polyphosphate; and
- (d) Calcium polyphosphates.

May be used in

- (a) Surimi up to a maximum level of 1g/kg;

- (b) Fish and crustacean paste up to a maximum level of 5g/kg;
- (c) Frozen fillets of unprocessed fishery products up to a maximum level of 5g/kg; and
- (d) Frozen crustacean products up to a maximum level of 5g/kg.

**Art. 10 Effective Date**

These Regulations shall come into force on the date of their publication in the Gazette of Eritrean Laws.

Done at Asmara, this 30<sup>th</sup> day of April, 2003  
Ahmed Haj Ali,  
Minister of Fisheries.