Government of the Union of Myanmar
Ministry of Livestock and Fisheries
DEPARTMENT OF FISHERIES

DIRECTIVE No. (4/98)

August 3, 1998

In exercise of the power conferred by Section 23 of the Myanma Marine Fisheries Law 1990, the Director General of the Department of Fisheries hereby issues the following Directive for Food Additives used in the Fish and Fishery Products.

Food Additives used in the Fish and Fishery Products

1.1 This Directive applies to additives other than colours, sweetener and flour treatment agents.

1.2 Only additives which satisfy the requirements laid down by this Directive for Food may be used in foodstuffs.

1.3 For the purpose of this Directive:

(a) **'preservatives'** are substances which prolong the shelf-life of foodstuffs by protecting them against deterioration caused by micro-organisms.

(b) **'antioxidants'** are 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, are 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'** are substances which increase the acidity of a foodstuff and / or impart a sour taste to it;

(e) **'acidity regulators'** are substances which alter or control the acidity or alkalinity of a foodstuff;

(f) **'anti-caking agents'** are substances which reduce the rendency of individual particles of a foodstuff to adhere to one another.

(g) **'anti-foaming agents'** are substances which prevent or reduce foaming;

(h) **'bulking agents'** are substances which contribute to the volume of a foodstuff without contributing significantly to its available energy value;

(i) **'emulsifiers'** are substances which make it possible to form or maintain a homogenous mixture of two or more immiscible phases such as oil and water in a foodstuff;

(j) **'emulsifying salts'** are substances which convert proteins contained in cheese into a dispersed form and thereby bring about homogenous distribution of fat and other components;

(k) **'firming agents'** are substances which make or keep tissue of fruit or vagetables firm or crisp, or interact with gelling agents to produce or strengthen a gel;

(l) **'flavour enhancers'** are substances which enhance the existing taste and/or odour of a foodstuff.

(m) **'foaming agents'** are substances which make it possible to form a homogenous dispersion of a gaseous phase in a liquid or solid foodstuff.

(n) **'gelling agents'** are substances which give a foodstuff texure through formation of gel;

(o) **'glazing agents'**(including lubricants) are substances which, when applied to the external surface of a foodstuff, impart a shiny appearance or provied a protective coating.

(p) **"humectants"** are substances which prevent foodstuff from drying out by counteracting the effect of an atmosphere having a low degree of humidity, or promote the dissolution of a powder in a aqueous medium;

(q) **"modified starches'** are substances obtained by one or more chemical treatments of edible starches, which May have undergone a physical or enzymatic treatment, and may be acid or alkali thinned or bleached;

(r) **"packaging gases'** are gases other than air, introduced into a container before, during or after the placing of a foodstuff in that container;

(s) **"propellants'** are gases other than air which expel a foodstuff from a container;

(t) **"raising agents"** are substances or combinations of substances which liberate gas and thereby increase the volume of a dough or a batter;

(u) **"sequestrants"** are substances which form chemical complexes with metallic ions;

(v) **"stabilizers"** are substances which make it possible to maintain the physico-chemical state of a foodstuff; stabilizers include substances which enable the maintenance of a homogenous dispersion of two or more immiscible substances in a foodsfuff and include also substances which stabilize, retain or intensify an existing colour of a foodstuff;

(w) **"thickeners"** are substances which increase the viscosity of a foodstuff;

2.1 Only substances listed in Annexes I, II & III may be used in foodsstuffs for the purposes mentioned in sub-clause 1.3

2.2 Food additives listed in Annex I are permitted in foodstuffs, for the purpose mentioned in sub-clause 1.3, following the 'quantum satis' principle.

2.3 Except where specifically provided for, sub-clause 2.2 does not apply to:

(a) - unprocessed foodstuffs.
- non-emulsified oils and fats of animal or vegetable origin.
- butter,
- natural mineral water as defined in DOF Directive (5/98)

Within the meaning of this Directive, the term 'unprocessed' means not having undergone any treatment resulting in a substantial change in the original state of the foodstuffs; however, the food stuffs may have been, for example, divided, parted, severed, boned, minced, skinned, pared, peeled, ground, cut, cleaned, trimmed, deep-frozen or frozen, chilled, milled or husked, packed or unpacked;

2.4 Additives listed in Annexes II & III may only be used in the foodstuffs referred to in those Annexes and under conditions specified therein.

2.5 Maximum levels indicated in the Annexes refer to foodstuffs as marketed and exported, unless otherwise stated.

2.6 In the Annex of this Directive, "quantum satis" means that no maximum level is specified. However, additives shall be used in accordance with good manufacturing practice, at a level not higher than is necessary to achieve the intended purpose and provided that they do not mislead the consumer.

Rejection of lot for export

3.1 If an authorized officer inspects fish and fishery product that does not meet the requirements of this Directive, officer shall reject the food for export or placing on the market as fit for human consumption.

4.1 Any licence-holder for the processing of fish and fishery products shall abide by this Directive as one of the conditions of the licence.

4.2 On violation of the any terms or conditions of the Directive, criminal action may be taken under Section 45 of the Myanma Marine Fisheries Law 1990 and the licence-holder may also be liable to suspension, revocation, termination and cancellation of the licence under Section 24 of the said Law.

Sd xx Soe Win

Director General
Department of Fisheries.

ANNEX I

FOOD ADDITIVES GENERALLY PERMITTED FOR USE IN FISH & FISHERY FOODSTUFFS NOT REFERRED TO IN SUB-CLAUSE 2.3

Note

1. Substances on this list may be added to all fish & fishery foodstuffs with the exception of those referred to in sub-clause 2.3 following the quantum satis principle.
2. The substances listed under numbers E 407 and E 440 may be standardized with sugars, on condition that this is stated in addition to the number and designation.
3. Explanation of symbols used:
   # The substances E 410, E 412, E 415 and E 417 may not be used to produce dehydrated foodstuffs intended to rehydrate on ingestion.

E No	Name
E 170	Calcium carbonates
	(i) Calcium carbonate
	(ii) Calcium hydrogen carbonate
E 260	Acetic acid
E 261	Potassium acetate*
E 262	Sodium acetates
	(i) Sodium acetate
	(ii) Sodium hydrogen acetate (sodium diacetate)
E 263	Calcium acetate
E 270	Lactic acid
E 290	Carbon dioxide
E 296	Malic acid

E No	Name
E 300	Ascorbic acid
E 301	Sodium ascorbate
E 302	Calcium ascorbate
E 304	Fatty acid esters of ascorbic acid
	(i) Ascorbyl palmitate
	(ii) Ascorbyl stearate
E 306	Tocopherol - rich extract
E 307	Alpha - tocopherol
E 308	Gamma - tocopherol
E 309	Delta - tocopherol
E 322	Lecithins
E 325	Sodium lactate
E 326	Potassium lactate
E 327	Calcium lactate
E 330	Citric acid
E 331	Sodium citrates
	(i) Monosodium citrate
	(ii) Disodium citate
	(iii) Trisodium citrate
E 332	Potassium citrates
	(i) Monopostassium citrate
	(ii) Tripotassium citrate
E 333	Calcium citrates
	(i) Monocalcium citrate
	(ii) Dicalcium citrate
	(iii) Trocalcium citrate
E 334	Tartaric acid (L(+)-)

E No	Name
E 335	Sodim tartrates
	(i) Monosodium tartrate
	(ii) Disodium tartrate
E 336	Potassium tartrates
	(i) Monopotassium tartrate
	(ii) Dipotassium tartrate
E 337	Sodium potassium tartrate
E 350	Sodium malates
	(i) Sodium malate
	(ii) Sodium hydrogen malate
E 351	Potassium malate
E 352	Calcium malates
	(i) Calcium malate
	(ii) Calcium hydrogen malate
E 354	Calcium tartrate
E 380	Triammonium citrate
E 400	Alginic acid
E 401	Sodium alginate
E 402	Potassium alginate
E 403	Ammonium alginate
E 404	Calcium alginate
E 406	Agar
E 407	Carrageenan
E 410	Locust bean gum #
E 412	Guar gum #
E 413	Tragacanth
E 414	Acacia gum (gum arabic)

E No	Name
E 415	Xanthan gum#
E 417	Tara gum#
E 418	Gellan gum
E 422	Glycerol
E 440	Pectins
	(i) pectin
	(ii) amidated pectin
E 460	Cellulose
	(i) Microcrystalline cellulose
	(ii) Powdered cellulose
E 461	Methyl cellulose
E 463	Hydroxypropyl cellulose
E 464	Hydroxypropyl methyl cellulose
E 465	Ethyl methyl cellulose
E 466	Carboxy methyl celulose
	Sodium carboxy methyl cellulose
E 470a	Sodium, potassium and calcium salts of fatty acids
E 470b	Magnesium salts of fatty acids
E 471	Mono-and diglycerides of fatty acids
E 472a	Acetic acid esters of mono-and diglycerides of fatty acids
E 472b	Lactic acid esters of mono-and diglycerides of fatty acids
E 472c	Citric acid esters of mono-and diglycerides of fatty acids
E 472d	Tartaric acid esters of mono-and diglycerides of fatty acids
E 472e	Mono-and diacetyl tartaric acid esters of mono-and diglycerides of fatty acids
E 427f	Mixed acetic and tartaric acid esters of mono-and diglycerides of fatty acids

E No	Name
E 500	Sodium carbonates
	(i) Sodium carbonate
	(ii) Sodium hydrogen carbonate
	(iii) Sodium sesquicarbonate
E 501	Potassium carbonates
	(i) Potassium carbonate
	(ii) Potassium hydrogen carbonate
E 503	Ammonium carbonates
	(i) Ammonium carbonate
	(ii) Ammonium hydrogen carbonate
E 504	Magnesium carbonates
	(i) Magnesium carbonate
	(ii) Magnesium hydroxide carbonate
	(syn: Magnesium hydrogen carbonate)
E 507	Hydrochloric acid
E 508	Potassium chloride
E 509	Calcium chloride
E 511	Magnesium chloride
E 513	Sulphuric acid
E 514	Sodium sulphates
	(i) Sodium sulphate
	(ii) Sodium hydrogen sulphate
E 515	Potassium sulphate
	(i) Potassium sulphate
	(ii) Potassium hydrogen sulphate
E 516	Calcium sulphate
E 524	Sodium hydroxide
E 525	Potassium hydroxide

E No	Name
E 526	Calcium hydroxide
E 527	Ammonium hydroxide
E 528	Magnesium hydroxide
E 529	Calcium oxide
E 530	Magnesium oxide
E 570	Fatty acids
E 574	Gluconic acid
E 575	Glucono-delta-lactone
E 576	Sodium gluconate
E 577	Postassium gluconate
E 578	Calcium gluconate
E 640	Glycine and its sodium salt
E 938	Argon #
E 939	Helium #
E 941	Nitogen #
E 942	Nitrous oxide #
E 948	Oxygen #
E 1200	Polydextrose
E 1404	Oxidized starch
E 1410	Monostarch phosphate
E 1412	Distarch phosphate
E 1413	Phosphate distarch phosphate
E 1414	Acetylated distarch phosphate
E 1420	Acetylated starch
E 1422	Acetylated distarch adipate
E 1440	Hydroxy propyl starch
E 1442	Hydroxy propyl distarch phosphate
E 1450	Starch sodium octenyl succinate

ANNEX II

CONDITIONALLY PERMITTED PRESERVATIVES AND ANTIOXIDANTS

PART A

Sorbates, benzoates and p-hydroxybenzoates

E.No	Name	Abbreviation
E 200	Sorbic acid	Sa
E 202	Potassium sorbate	
E 203	Calcium sorbate	
E 210	Benzoic acid	Ba (1)
E 211	Sodium benzoate	
E 212	Potassium benzoate	
E 213	Calcium benzoate	
E 214	Ethyl p-hydroxybenzoate	PHB
E 215	Sodium ethyl p-hydroxybenzoate	
E 216	Propyl p-hydroxybenzoate	
E 217	Sodium propyl p-hydroxybenzoate	
E 218	Methyl p-hydroxybenzoate	
E 219	Sodium methyl p-hydroxybenzoate	

(1) Benzoic acid may be persent in certain fermented products resulting from the fermentation process following good manufacturing practice.

Note:

1. The levels of all substances mentioned above are expressed as the free acid.
2. The abbreviations used in the table mean the following:
   - Sa + Ba : Sa and Ba used singly or in combination

- Sa + PHB : Sa and PHB used singly or in combination.
- Sa + Ba + PHB : Sa, Ba and PHB used singly or in combination.

3. The maximum levels of use indicated refer to foodstuffs ready for consumption prepared following manufactures' instructions.

Foodstuff	Maximum level (mg/kg or mg/l as appropriate)					
	Sa	Ba	PHB	Sa+Ba	Sa-PHB	Sa+Ba+PHB
Semi-preserved fish products including fish roe products				2000		
Salted-dried fish				200		
Shnmps-cooked				2000		
Crangon crangon and Carngon bulgaris, cooked				6000		

PART B
Sulphur dioxide and sulphites

E No.	Name
E 220	Sulphur dioxide
E 221	Sodium sulphite
E 222	Sodium hydorgen suiphite
E 223	Sodium metabisulphite
E 224	Potassium metabisulphite
E 226	Calcium sulphite
E 227	Calcium hydrogen sulphite
E 228	Potassium hydrogen sulphite

Note

1. Maximum levels are expressed as SO_2 in mg/kg or mg/1 as appropriate and relate to the total quantity, avatlable from all sources.
2. An SO_2 content of not more than 10 mg/kg or 10 mg/1 is not considered to be present.

Foodstuff	Maxium level (mg/kg or mg/1 as appropriate) Expressed as SO_2
Crustaceans and cephalopods	
_fresh, frozen and deep-frozen crustaceans. *penaeidae solenceridae, aristeidae family:*	150 [1]
_up to 80 units	150 [1]
_between 80 and 120 units	200 [1]
_over 120 units	300 [1]
_cooked	50 [1]

PART C

Other preservatives

E No	Name	Foodstuff	Indicative ingoing amount (mg/kg)	Residual amount
E 251	Sodium nitrate	Cured meat products Canned meat products	300	250 [4]
E 252	Potassium nitrate	Hard, semi-hard and semi-soft cheese Dairy-based cheese analogue		50[4]
		Pickled herring and sprat		200[5]

[4] Expressed as $NaNO_3$.
[5] Residual amount, nitrite formed from nitrate included, expressed as $NaNO^2$.

PART D

Other antioxidants

E No	Name	foodstuff	Maximum level (mg/kg)
E 315 E 316	Erythorbic acid Sodium erythorbate	Preserved and semi-preserved fish products Frozen and deeps frozen fish with red skin	1500 expressed as erythorbic acid

ANNEX III

OTHER PERMITTED ADDITIVES

The maximum levels of use indicated refer to foodstuffs ready for consumption prepared following manufactures instructions.

E No	Name	Foodstuff	Maximum level
E 452	Polyphosphates	Surimi	1 g/kg
	(i) Sodium polyphosphate		
	(ii) Potassium polyphosphate	Fish and crustacean paste	5 g/kg
	(iii) Sodium calcium polyphosphate	Fillets of unprocessed fish, frozen and deep-frozen	5 g/kg
	(iv) Calcium polyphosphates	Frozen and deep-frozen crustacean products	5 g/kg
E 385	Calcium disodium ethylene diamine tetra-acetate	Emulsified sauces	75 mg/kg
	(Calcium disodium EDTA)	Canned and bottled pulses legumes, mushrooms and artichokes	250 mg/kg
		Canned and bottled crustaceans and molluses	75 mg/kg
		Canned and bottled fish	75 mg/kg
		Minarine	100 mg/kg
		Frozen and deep-frozen crustaceans	75 mg/kg
E 420	Sorbitol		quantum stais
	(1) Sorbitol		
	(2) Sorbitol syrup		
E 421	Mannitol	Frozen and Deep-frozen unprocessed fish, crustaceans, molluscs and cephalopods	{for purpose other than sweetening}
E 953	Isomalt		
E 965	Maltiol		
	(1) Maltiol		
	(2) Maltiol syrup		
E 966	Lactitol		
E 967	Xylitol		
E 621	Monosodium glutamate	Foodstuffs in general (except those referred to in sub-clause 2.3 of this directive)	10 g/kg Individually or in combination