

DRAFT
STANDARD FOR SALT FERMENTED FISH AND SHRIMPS (*BAGOONG*)

1. SCOPE

This standard applies to salt fermented finfish and shrimps as described in Section 3.1, intended for direct consumption as condiment, seasoning and/or ingredient for food, and for further processing. This supersedes BFAD Administrative Order No. 18 s. 1970: Regulations Prescribing the Standard of Quality and Identity (Fish or Shrimps) B-4.9 (Condiments, Sauces and Seasonings). This standard does not apply to fish sauce or *patis*, also produced by salt fermentation.

2. DEFINITION OF TERMS

For the purpose of this standard, the following terms shall mean:

Commercial sterility of thermally processed food is the condition achieved by application of heat, alone or in combination with other appropriate treatment, sufficient to render the food free from microorganisms capable of growing in food at ambient conditions at which the food is likely to be held during distribution and storage.

Container means any form of packaging material, which completely or partially encloses the food (including wrappers). A container may enclose the food as a single item or several units or types of prepackaged food when such is presented for sale to the consumer.

Current Good Manufacturing Practices (cGMP) is a quality assurance system aimed at ensuring that products are consistently manufactured, packed, repacked or held to a quality appropriate for the intended use. It is thus concerned with both manufacturing and quality control procedures.

Fermentation is the breakdown of organic substances into simpler components mainly by the action of enzymes produced by microorganisms (Mackie et al, 1971)

Fish refers to cold-blooded vertebrate animals living in water, breathing by means of gills and having limbs represented by fins or rudiments of fins. (Espejo-Hermes, 1998)

Food - any processed substance which is intended for human consumption and includes drink for man, beverages, chewing gum and any substances which have been used as an ingredient in the manufacture, preparation or treatment of food (RA 9711 Food and Drug Administration. (FDA) Act of 2009)

Food Additive refers to any substance the intended use of which results or may reasonably be expected to result, directly or indirectly, in its becoming a component or otherwise affecting the characteristics of any food (including any substance intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food; and including any source of radiation intended for any such use), if such substance is generally recognized, among experts qualified by scientific training and experience to evaluate its safety, as having been adequately shown through scientific procedures to be safe under the conditions of the intended use. (RA No.3720 Food, Drug and Cosmetic Act)

Food and Drug Administration or FDA - formerly known as Bureau of Food and Drug (BFAD) of the Department of Health (DOH); which was renamed in accordance to RA 9711. (Food and Drug Administration (FDA) Act of 2009)

Food Standard is a regulatory guideline that defines the identity of a given food product (i.e. its name and the ingredients used for its preparation) and specifies the minimum quality factors and, when necessary, the required fill of container. It may also include specific labeling requirements other than or in addition to the labeling requirements generally applicable to all prepackaged foods.

Histamine is a biogenic amine formed in fish muscle by decarboxylation of the amino acid histidine by bacteria. (Whittle and Howgate, 2002)

Ingredient is any substance including food additives, used as a component in the manufacture or preparation of a food and present in the final product in its original or modified form.

Label includes any tag, brand, mark, pictorial, or other descriptive matter, written printed, marked, embossed or impressed on, or attached to a container of food.

Labeling means any written, printed or graphic matter (1) upon any article or any of its container or wrappers or (2) accompanying the packaged food.

Lot is food produced during a period of time and under more or less the same manufacturing conditions as indicated by a specific code.

Packaging is the process of packing that is part of the production cycle applied to a bulk product to obtain the finished product. Any material, including painted material, employed in the packaging of a product including any outer packaging used for transportation of shipment. Packaging materials are referred to as primary or secondary according to whether or not they are intended to be in direct contact with the product.

Prepackaged means packaged or made up in advance in a container, ready for sale to the consumer (BFAD Administrative Order No. 88-B s. 1984: Rules and Regulation Governing the Labeling of Prepackaged of Food Products Distributed in the Philippines).

Processed Food shall refer to food that has been subjected to some degree of processing (e.g. milling, drying, concentration and canning, etc.), which partially or completely change the physico-chemical and/or sensory characteristics of the raw material.

Salt Content is the weight of salt in a given weight of fish, usually expressed as g salt/100 g fish, or as a percentage (modified from Whittle and Howgate, 2002).

Shrimps are species of crustaceans with five pairs of walking legs and five pairs of abdominal swimming legs used for locomotion (BFAR, 2001).

Use-by date (Recommended Last Consumption Date, Expiry Date) means the date which signifies the end of the estimated period under any stated storage conditions, after which the product probably will not have the quality attributes normally expected by the consumers. After this date, the food should not be regarded as marketable.

Water Activity (a_w) is the measure of free moisture in a food equal to the ratio of water vapor pressure of a food to the vapor pressure of pure water at the same temperature. It describes the degree in which water is bound in the food material and its availability to act as a solvent and participate in chemical/biochemical reactions and growth of microorganisms.

3. DESCRIPTION

3.1 Product Description

Salt fermented fish (*bagoong isda*) and shrimps (*bagoong hipon/alamang*), are:

- a. made from fish and shrimps which include the species listed, but not limited to those enumerated in Annex 1;
- b. salted and fermented;
- c. have a salty and savory taste with the flavor characteristic of the species used;
- d. may be heat treated or pasteurized with or without optional ingredients; and,
- e. packed in appropriate containers

3.2 Process Description

The fish or shrimps is mixed with salt and allowed to ferment at ambient conditions. Subsequent processing of the fermented mass may include: grinding; straining; blending with saturated brine and/or other ingredients; heating/cooking; or, a combination of these treatments. The products are packed in appropriate containers.

4. ESSENTIAL COMPOSITION AND QUALITY FACTORS

4.1 INGREDIENTS

4.1.1 Basic Ingredients

- a. **Fish or shrimp** - shall be sound and wholesome, fresh, chilled or frozen. It is obtained or prepared from any of the species listed but not limited to those in Annex 1 - Species of Finfish and Shrimps for the Production of Salt Fermented Fish and Shrimps (*Bagoong*).
- b. **Salt** - shall be of food grade quality and meets the requirements and standards for iodized salt as per R.A. No. 8172: An Act Promoting Salt Iodization Nationwide and for Related Purposes (Annex 2) including Bureau Circular No. 2007-009 Updated Standards for Iodine Level of Salts.

4.1.2 Optional Ingredients

All other ingredients used for subsequent process after fermentation shall be of food grade quality and conform to all applicable standards, which may include, but not limited, to the following:

- a. Cooking oil
- b. Vinegar and other natural acidulants
- c. Sugar or other sweetening agents
- d. Spices

4.2. QUALITY AND SAFETY CRITERIA

4.2.1 Physico-chemical Properties

- 4.2.1.1 Protein content, total solids, salt content and water activity (a_w)

Table 1. Parameters for Physico-chemical Properties

Parameters	Without heat treatment		Heated/pasteurized	
	Salt fermented Fish	Salt fermented Shrimp	Salt fermented Fish	Salt fermented Shrimp
% Protein, min.	12.0	10.0	12.0	10.0
% Total solids, min.	40.0	35.0	40.0	35.0
% Salt, as NaCl, min.	15.0	15.0	10.0	8.0
Water activity (a_w), max.	0.85	0.85	0.85	0.85

4.2.1.2 Histamine content shall not exceed 200 ppm for Salt Fermented Fish only.

4.2.2 Microbiological Properties

4.2.2.1 Salt fermented products, without heat treatment should conform to the following limits:

Table 2. Parameters for Microbiological Properties

Test/Microorganism	n	c	m	M
SPC/APC, cfu/g	5	2	5×10^5	10^7
<i>Staph. aureus</i> (coagulase +), cfu/g	5	2	10^3	10^4
* <i>Coliforms</i> , cfu/g	5	2	10	10^2

**Coliforms* must be negative for *E. coli*

Legend:

- n - the number of sample units selected from a lot of food to be examined
- m - the acceptable level of microorganism determined by a specified method; the values are generally based on levels that are achievable under GMP
- M - the level which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage
- c - the maximum allowable number of defective or marginally acceptable units

4.2.2.2 Heat treated or pasteurized products shall pass commercial sterility test.

4.2.3 Sensory Properties

- a. The color of the products shall be characteristic of the raw material used. It may be adjusted by the addition of food grade colorant/s as stated in Table 3.

- b. The products shall have the typical fermented odor and taste
- c. The products shall have the characteristic texture and/or consistency.

5. DEFECTS

A sample unit shall be considered defective when it exhibits any of the defects as defined and described in the following subsections.

5.1 Types of Defects

5.1.1 Foreign Matters

The presence in the sample unit of any matter which has not been derived from the components or constituents of ingredients used in the product and listed in subsection 4.1.1; and, does not pose a threat to human health and can be recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

5.1.2 Appearance

- a. Visible foreign matters, like stones, shells or woods, which are not part of the raw materials used.
- b. Presence of species other than the fish or shrimps used as raw materials
- c. Discoloration characterized either by fading or excessive darkening.
- d. Presence of molds (Note: "White spots" that are not molds found on surface are not considered defects)

5.1.3 Odor and Flavor

- a. Objectionable odors or flavors indicative of decomposition or deterioration, like putrefaction and rancidity
- b. Peculiar odor and flavor taints, not characteristic of the raw materials used.

5.2 Classification of Defectives

A container whose contents exhibit any of the defects described in subsections 5.1.1 to 5.1.3 and in which the number of defects observed per unit lot exceeds the acceptance number prescribed in the appropriate sampling plan (Annex 5) shall be considered as “defective”.

6. Lot Acceptance

A lot shall be considered acceptable when it complies with the applicable Quality Criteria as prescribed in Sub-section 4.2 and the number of “defectives”, as defined in Sub-section 5.2, does not exceed the acceptance number prescribed in the appropriate sampling plan (Annex 5).

7. FOOD ADDITIVES

Food additives when used shall be in accordance with the regulations prescribed by the Food and Drug Administration (FDA) under Bureau Circular No. 016, s.2006: Updated List of Food Additives) and/or the Codex General Standard for Food Additives (GSFA) Codex Stan 192-1995; 2011 Revision), and/or their future amendments. The food additives listed but not limited to those in **Table 3** may be used for the manufacture of salt fermented fish and shrimps (*bagoong*).

Table 3. Food Additives for Salt Fermented Fish and Shrimps (Bagoong) FDA B.C. No. 016, s. 2006: Updated List of Food Additives)* or Latest GSFA

Food Additive	Maximum Use Level
a. Food Coloring	
Allura Red AC (FD&C Red # 40)	500mg/kg
Annatto extract	10 mg/kg
Canthaxanthin	100 mg/kg
Erythrosine Red (FD&C Red # 3)	300 mg/kg
b. Artificial Sweeteners	
Acesulfame potassium	** 200 mg/kg
Saccharin	200 mg/kg

c. Sequestrant, anti-oxidant	
Calcium Disodium Ethylene Diamine Tetra Acetate (EDTA)	340 mg/kg
d. Preservative	
Sodium benzoate	1000 mg/kg

* Based on the Food Category System No. 09.4: Fully preserved, including canned or fermented fish and fish products including mollusks, crustaceans, and echinoderms

** GSFA 2011 (CXS_192)

8. WEIGHTS AND MEASURES

8.1.1 Minimum Fill

The container should be well filled with the product, which should occupy not less than 90% of the water capacity of the container. The water capacity of the container is the maximum volume of distilled water at 20°C that the sealed container can hold when completely filled.

8.1.2 Classification of “Defectives”

A container that fails to meet the requirement for the minimum fill (90% container capacity) of subsection 8.1.1 shall be considered as defective.

8.1.3 Lot acceptance

A lot will be considered as meeting the requirements of sub-section 8.1.1 when the number of “defectives” as defined in subsection 8.1.2 does not exceed the acceptance number (c) of the appropriate sampling plan (Annex 3)

9. HYGIENE

The products covered by the provisions of this standard shall be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1 – 1969, Rev. 4-2003) and/or the A.O. No. 153 s. 2004 – Revised

Guidelines on Current Good Manufacturing Practices in Manufacturing, Packing, Repacking or Holding Food and processed according to the Recommended Code of Practice for the Processing of Salt Fermented Fish and Shrimps (*Bagoong*) (PNS/FDA 37:2012).

10. PACKAGING AND LABELING

- 10.1 The product shall be packed in appropriate primary packaging material that will maintain its commercial sterility during storage and transport.
- 10.2 Labeling of *retail* packages/container - Each retail container shall be labeled and marked with the information in accordance with current BFAD Labeling Regulations and shall contain the following information:
- a. The name of the product shall be “Salt fermented fish” and “Salt fermented shrimp” wherein the specific name of the fish should be specified (e.g. “Salt fermented anchovies”). The term “Salt fermented” can be substituted with the common or local name “*bagoong*” as in “Salt fermented *monamon*” to “*bagoong monamon*”. For further process salt fermented shrimp, it may be called sautéed “*bagoong*” or “*ginisang bagoong*.” The products may be called by other common names provided that such names are accepted in the country of distribution.
 - b. The name and the address of the manufacturer, packer, distributor, importer, exporter or vendor of the food.
 - c. The complete list of ingredients and food additives used in the preparation of the product in descending order of proportion. The common, local or usual name of the raw material used shall be specified.
 - d. The net content by weight in the metric system. Other systems of measurement required by importing countries shall appear in parenthesis after the metric system unit.
 - e. The words “Use by date” / “Consume Before” indicating end of period at which the product shall retain its optimum quality attributes at defined storage conditions.
 - f. Lot identification marked in code identifying product lot.

g. The words “Product of the Philippines” or the country of origin if imported.

h. Additional requirements

A pictorial representation of the product(s) on the label should not mislead the consumer with respect to the product so illustrated

10.3 Labeling of Non-retail, Bulk Containers

The name of the product, lot identification code and the name and address of the manufacturer or packer shall appear in the container. However, the name and address of the manufacturer may be replaced by identification marks provided that such mark is clearly identified with accompanying documents.

10.4 Nutrition Labeling

Nutrition labeling shall conform to established regulations by the FDA

11. METHOD OF SAMPLING AND ANALYSIS

11.1 Method of Sampling

Sampling shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (CAC/RM 42-1969), Codex Alimentarius Volume 13, 1994 (Annex 5)

11.2 Methods of Analysis

11.2.1 Determination of Protein Content by determining Total Nitrogen

According to the AOAC Official Methods of Analysis, 18th ed., 2005 Method No. 940.25.

11.2.2 Determination of Total Solids

According to the AOAC Official Methods of Analysis, 18th ed., 2005. Method No. 952.08.

11.2.3 Determination of Salt Content, as Sodium Chloride (NaCl)

According to the AOAC Official Methods of Analysis, 18th ed., 2005. Method No 973.13.

11.2.4 Determination of Water Activity (a_w)

According to the AOAC Official Methods of Analysis, 18th ed., 2005. Method No. 978.18.

11.2.5 Determination of pH

According to the AOAC Official Methods of Analysis, 18th ed., 2005. Method No. 981.12.

11.2.6 Histamine Content

According to the AOAC Official Methods of Analysis, 18th ed., 2005. Method No. 977.13

11.2.7 Commercial Sterility Test

According to the method of the USFDA Bacteriological Analytical Manual (BAM) On-line Edition (USFDA, 2008)

11.2. 8 Standard Plate Count (SPC)/Aerobic Plate Count (APC)

According to the method of the USFDA Bacteriological Analytical Manual (BAM) On-line Edition (USFDA, 2008)

11.2.8 *Staphylococcus aureus*

According to the method of the USFDA Bacteriological Analytical Manual (BAM) On-line Edition (USFDA, 2008)

11.2.9 Coliforms

According to the method of the USFDA Bacteriological Analytical Manual (BAM) On-line Edition (USFDA, 2002)

11.2.10 Determination of Net Weight

According to the procedure described in Annex 6 - Determination of Net Weight.

12. REFERENCES

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ANNEX 1

Species of Fish and Shrimps Utilized in the Production of Salt Fermented Fish and Shrimps (*Bagoong*)

English Name	Local Name	Scientific Name
A. Finfishes		
1. Anchovy	<i>Dilis</i>	<i>Stolephorus spp</i>
2. Lizard fish	<i>Kalaso</i>	<i>Saurida spp.</i>
3. Bream, threadfin	<i>Bisugo</i>	<i>Nemipterus spp.</i>
4. Parrotfish	<i>Loro, Molmol</i>	<i>Leptuscarus sp.</i>
5. Short bodied mackerel	<i>Hasa-hasa</i>	<i>Rastrelliger brachysoma</i>
6. Indian mackerel	<i>Alumahan</i>	<i>Rastrelliger kanagurta</i>
7. Striped mackerel	<i>Alumahan</i>	<i>Rastrelliger kanagurta</i>
8. Narrow-barred Spanish mackerel	<i>Tanigue, tanguigi</i>	<i>Scomberomorus commerson</i>
9. Frigate tuna	<i>Tulingan</i>	<i>Auxis thazard</i>
10. Smooth belly sardinella	<i>Tamban</i>	<i>Amblygaster leiogaster</i>
11. Indian oil sardines	<i>Tamban</i>	<i>Sardinella longiceps</i>
12. Fringe scaled or fimbriated sardines	<i>Tunsoy</i>	<i>Sardinella fimbriata</i>
13. White sardinella	<i>Tunsoy</i>	<i>Sardinella albella</i>
14. Round sardinella	<i>Lapad</i>	<i>Sardinella aurita</i>
15. Spotted sardinella	<i>Tamban, tunsoy</i>	<i>Amblygaster sirm</i>
16. Short finned scad or roundscad	<i>Galunggong</i>	<i>Decapterus macrosoma</i>
17. Japanese scad	<i>Galunggong</i>	<i>Decapterus maruadsi</i>
18. Mackerel scad	<i>Galunggong</i>	<i>Decapterus macarellus</i>
19. Big-eyed scad	<i>Matangbaka</i>	<i>Selar crumenophthalmus</i>
B. Shrimps		
20. Alamang Shrimps	<i>Alamang</i>	<i>Acetes sibogae</i>
21. Australian paste shrimp	<i>Alamang</i>	<i>Acetes australis</i>
22. Jawla paste shrimp	<i>Alamang</i>	<i>Acetes indicus</i>
23. Taiwan mauxia shrimp	<i>Alamang</i>	<i>Acetes intermedius</i>
24. Tsivakihini paste shrimp	<i>Alamang</i>	<i>Acetes erythraeus</i>

ANNEX 2

Standard for Iodized Salt

1. SCOPE

This standard applies to iodized salt used as condiment or an ingredient in the preparation of food in households, food service and food manufacturing establishments.

2. DESCRIPTION

Iodized salt is food grade salt that contains the prescribed level of iodine. It shall be produced refined or unrefined (crude) salt obtained from underground rock salt deposits or by evaporation of seawater or natural brine. The finished product shall be in the form of solid crystal or powder, white in color, without visible spots of clay, sand, gravel or other foreign matter.

3. IODIZATION PROCESS

3.1 Salt may be iodized with potassium iodate (KIO₃) or potassium iodide (KI) by means of any of the following methods:

- a) dry mixing of salt in powdered form
- b) dip feeding or spray mixing if salt is in crystal form
- c) submersion of ice crystals in iodated brine

4. ESSENTIAL COMPOSITION AND QUALITY FACTORS

To ensure the stability of iodine, salt to be iodized must conform with the following quality requirements:

Moisture, minimum	4 % for refined salt 7 % for unrefined salt
NaCl minimum	97 % dry basis
Calcium and magnesium, maximum	2 %
Water insolubles, maximum	0.2 %
Heavy metal contaminants	
Arsenic as As	0.5 mg/kg
Cadmium as Cd	0.5 mg/kg
Lead as Pb	2.0 mg/kg
Mercury as Hg	0.1 mg/kg

4.1 Naturally Present Secondary Products and Contaminants in Raw Salt

Notwithstanding the purity requirements in section 4.1. the raw salt may naturally contain secondary products, which are present in varying amounts

depending on the origin and method of production of salt, and which are composed mainly of calcium, potassium, magnesium and sodium sulphates, carbonates, bromides and of calcium, potassium chlorides as well as natural contaminant may also be present in amounts varying with the origin and method of production of the salt.

5. LABELLING

5.1 Iodized salt for commercial distribution shall carry appropriate labeling in accordance with BFAD rules and regulations on labeling of prepackaged foods. Specifically, the following information shall be declared in every container of iodized salt whether in bulk or retail package.

5.1.1 For locally produced iodized salt

- a) The name of the product, "IODIZED SALT", printed in bold capital letters
- b) Name and address of manufacturer
- c) Net weight
- d) Iodine compound used
- e) Chemical additives, e.g. anti-caking agents, emulsifiers
- f) Open date marking, e.g. "Best Before" or "Consume Before" Date
- g) Lot identification code (replacers must use manufacturer's lot id code)
- h) Storage Instruction: STORE IN COOL DRY PLACE

5.1.2 For imported Iodized salt

- a) same as 5.1.1 (a), (c) to (h)
- b) Name and address of Importer/Local Distributor
- c) Country of Origin

5.2 Labeling of Non-retail Containers

In the case of non-retail containers of at least 25 kg of iodized salt, the labelling information required in sections 5.1.1. (b), (d) or in 5.1.2 (b) may not be declared if such bulk packages are intended for delivery to distributors of food manufacturers/institutional users, provided every shipment or delivery is accompanied by a document containing all information in 5.1.1. or 5.1.2.

5.3 Iodine levels based on WHO recommendation

In order to meet national needs, the prescribed levels of iodized salt be indicated below:

	Type of Container	Packages
Sampling point	Bulk (>2 kg)	Retail (<2 kg)
Production site	70-150 g/kg	60-100 mg/kg
Port of entry*	70-150 mg/kg	60-100 mg/kg
Retail site	> 50 mg/kg	> 40 mg/kg

* For imported iodized salt, also at importer's/distributor warehouse

6. FOOD ADDITIVES

6.1 All additives used, including KIO and KI, and shall be of food grade quality and shall conform to the specifications prescribed by JECFA of the Food Chemicals Codex.

6.1.1 Anti-caking Agents	Maximum Level in the Final Product
6..1.1.1 Coating agents; Carbonate.) Calcium/magnesium, Magnesium) oxide; Phosphate, Tricalcium; Silicon) dioxide, amorphous; Silicates,) calcium , magnesium, sodium) alumino or sodium or sodium calcium) alumino	20 g/kg singly or in Combination
6..1.1.2. Coating hydrophobic agents,) aluminum, calcium, magnesium,) potassium or sodium salts of myristic,) palmitic or stearic acid)	
6..1.1.3 Crystal modifiers: ferrocyanide,) calcium, potassium combination or) sodium)	10 mg/kg singly or in combination, expressed as {Fe(CN)}
6..1.2. Emulsifiers Polysorbate 80	10 mg/kg
6..1.3 Processing Aid) Dimethylpolysiloxane)	10 mg of residue/kg

7. PACKAGING

All iodized salt shall be packed in woven propylene bags, clean and unused jute bags, or other non-porous material with a lining of high density polyethylene to ensure the retention of appropriate iodine level at the time of consumption.

8. STORAGE, TRANSPORT AND DISPLAY AT RETAIL

In order to minimize avoidable losses of iodine, iodized salt shall not be exposed to any of the following conditions during storage, transport and display at retail outlets:

- a) direct sunlight or near source of strong light
- b) high temperature and humidity
- c) contamination with moisture, e.g. rain, flood, etc.
- d) contamination with dust or filth from the environment

October 10, 2007

Bureau Circular
No. 2007-009

Subject: Updated Standards for Iodine level of Salts

I. RATIONALE

Rule VI, Section 1 a) of the Revised Implementing Rules and Regulations (RIRR) of Republic Act (RS) No. 8172 also known as “An Act Promoting Salt Iodization Nationwide and for other Purposes” identifies Department of Health (DOH), as the lead agency in the implementing the said Act, and that through the Bureau of Food and Drugs (BFAD), the DOH shall set and enforce standards for food-grade iodized salt and monitor the compliance thereof by the food-grade manufacturers/importers, distributors and traders as specified in Section 2 Rule VIII.

The Food Nutrition and Research Institute (FNRI) on 26 May 2007 referred to the BFAD its recommendation on the possible levels of iodine across distribution stages. In particular, the FNRI proposed the following standard for iodine content:

	Type of containers/packaging	
	Bulk (<2 kilograms)	Retail (<2 kilograms)
Iodine Content	40-70 mg/kg	15-40 mg/kg

Also, attached with said letter are syntheses of studies conducted in other countries that provided empirical basis for regulatory decision.

It is emphasized that lowering the standard will harmonize the iodine level with other countries, will reduce cost and will encourage compliance. Also emphasized in the attachments is the international iodine standard which is 15-20 mg/kg.

II. DIRECTIVE

In view of the foregoing considerations, and ease of administration of regulatory standards, the BFAD hereby adopts the following standard for iodine content in pursuant of its mandate provided for in RA 8172.

Iodine Content : 20-70 mg/kg across distribution channels, whether bulk or retail, imported or local

III. REPEALING CLAUSE

Provisions of previous issuances which are contrary to those reflected hereon are modified, and/or repealed accordingly.

IV. SEPARABILITY

If any provisions of this Order is declared as unconstitutional, or not valid, the rest of the provisions thereon shall still subsist given their effect in entirety.

V. EFFECTIVITY

This Order shall be effective within fifteen (15) days after publication.

ANNEX 3
Standard Parameters and Values for Drinking Water
 Philippine National Standards for Drinking Water 2007 (DOH AO 2007-0012)

Table 1. Standard values for bacteriological quality

Parameter	Value/Unit	Point of Compliance
Total Coliform	< 1.1 MPN/100 ml	Service Reservoir Water treatment works Consumers' taps Refilling stations Water haulers Water vending machines
Fecal Coliform	< 1.1 MPN/100 ml	Service Reservoir Water treatment works Consumers' taps Refilling stations Water haulers Water vending machines Point sources - Level 1
Heterotropic Plate Count	< 500 CFU/ml	Service Reservoir Water treatment works Consumers' taps nearest meter Refilling stations Water vending machines

Table 2. Standard values for Physical and Chemical Quality for Acceptability Aspects for Drinking Water

Constituents	Maximum Level (mg/L) or Characteristic	Constituents	Maximum Level (mg/L) or Characteristic
Taste	No objectionable taste	Hydrogen Sulfide	0.05
Odor	No objectionable odor	Iron	1.0
Color	Apparent = 10 color units True = 5 color units	Manganese	0.4
Turbidity	3 NTU	pH	6.5 – 8.5
Aluminum	0.2	Sodium	200
Chloride	250	Sulfate	250
Copper	1.0	Total Dissolved Solids	500
Hardness	300 as CaCO ₃	Zinc	5.0

Table 3. Standard Values for Organic and Inorganic Chemical Constituents of Health Significance in Drinking Water

Inorganic Chemical	Constituents	Maximum Level (mg/L)	Constituents	Maximum Level (mg/L)
	Antimony	0.02	Fluoride	1.0
	Arsenic	0.05	Lead	1.01
	barium	0.7	Mercury (total)	0.001
	Boron	0.5	Nickel	0.02
	Cadmium	0.003	Nitrate	50
	Chromium (Total)	0.05	Nitrite	3.0
	Cyanide (Total)	0.07	Selenium	0.01
Organic Chemical	Constituents	Maximum Level (mg/L)	Constituents	Maximum Level (mg/L)
	Benzene	0.01	Ethylbenzene	0.30
	Carbon tetrachloride	0.004	Nitritotriacetic acid (NTA)	0.20
	1,2-Dichlorobenzene	0.1	Polyaromatic hydrocarbons (PAHs)	0.20
	1,4-Dichlorobenzene	0.5	Polynuclear aromatic	0.0007
	1,2-Dichloroethane	0.003	Tetrachloroethene	0.02
	1,1-Dichloroethene	0.05	Styrene	0.04
	1,2-Dichloroethene	0.07	Tetrachloroethene	0.70
	Dichloromethane	1.0	Trichloroethene	0.07
	Di(2-ethylhexyl) phthalate	1.01	Vinyl chloride	0.0003
	Edetic Acid (ADTA)	0.001	Xylene	0.5
Organic Pesticide	Constituents		Maximum Level (ug/L)	Status in the Philippines
	Aldrin and Dieldrin (combined)		30.0	Banned
	Atrazine		0.03	Registered
	Carbofuran		2.0	Registered
	Chlordane		7.0	Banned
	DDT **		0.2	Banned
	1,2-Dibromo-3-chloropropane (DBCP)		1.0	Banned
	2,4-Dichlorophenoxyacetic acid (2,4-D)		1.0	Registered
	Endrin		30.	Banned
	1,2-Dibromomethane (Ethylene dibromide)		0.6	Banned
	Heptachlor and Heptachlor epoxide (combined)		0.03	Banned
	Lindane		2.0	Restricted
	MCPA (4-(2-methyl-4-chloro) phenoxy) acetic acid		2.0	Registered
	Pendimethalin		20.0	Registered
	Pentachlorophenol (PCP)		9.0	Banned

ANNEX 4**Comparative Characteristics of Fresh and Stale Fish**

Criteria	Fresh Fish	Spoiled Fish
1. Body color	Normal bright, glossy and shiny	pale, faded or dull
2. Rigidity of body	rigid or stiff	flabby or limp
3. Eyes	clear, bright (cornea clear black), bulging or protruding	cloudy or completely white, wrinkled, sunken
4. Scales	Adhere strongly	Loose
5. Gills' odor and color	bright red, fresh seaweedy odor	yellowish, gray or brown color, off-odor (stale or sour)
6. Flesh	firm and elastic, springs back when pressed	very soft, finger impressions remain when pressed
7. Skin	None to little slime	slimy, sometimes coagulated or lumpy

ANNEX 5
Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5)
(CAC/RM 42-1969)

Sampling Plan No. 1 – Normal Operations
Inspection Level 1, AQL 6.5)

1. Net weight: ≤ 1 kg

Lot Size (N)	Sample size	Acceptance Number (C)
4,800 or less	6	1
4,801 – 24,000	13	2
24,001 – 48,000	21	3
48,001 – 84,000	29	4
94,001 – 144,000	48	6
144,001 – 240,000	84	9
More than 240,000	126	13

2. Net weight: >1 kg ≥ 4.5 kg

Lot Size (N)	Sample size	Acceptance Number (C)
2,400 or less	6	1
2,401 – 15,000	13	2
15,001 – 24,000	21	3
24,001 – 42,000	29	4
42,001 – 72,000	48	6
72,001 – 120,000	84	9
More than 120,000	126	12

3. Net weight > 4.5 kg

Lot Size (N)	Sample size	Acceptance Number (C)
600 or less	1	1
601 – 2,000	13	2
2,001 – 7,200	21	3
7,201 – 15,000	29	4
15,001 – 24,000	48	6
24,001 – 42,000	84	9
More than 42,000	126	13

Sampling Plan No. 2 - In Case of Disputes
Inspection Level 2, AQL 6.5)

1. Net weight: $\geq 1\text{kg}$

Lot Size (N)	Sample size	Acceptance Number (C)
4,800 or less	13	2
4,801 – 24,000	21	3
24,001 – 48,000	29	4
48,001 – 84,000	48	6
94,001 – 144,000	84	9
144,001 – 240,000	126	13
More than 240,000	200	19

2. Net weight: $>1\text{ kg} \geq 4.5\text{ kg}$

Lot Size (N)	Sample size	Acceptance Number (C)
2,400 or less	13	2
2,401 – 15,000	21	3
15,001 – 24,000	29	4
24,001 – 42,000	48	6
42,001 – 72,000	84	9
72,001 – 120,000	126	13
More than 120,000	200	19

3. Net weight $> 4.5\text{kg}$

Lot Size (N)	Sample size	Acceptance Number (C)
600 or less	13	2
601 – 2,000	21	3
2,001 – 7,200	29	4
7,201 – 15,000	48	6
15,001 – 24,000	84	9
24,001 – 42,000	126	13
More than 42,000	200	19

ANNEX 6

Determination of Net Weight

1. APPARATUS:

Weighing balance (sensitivity: 0.10 gram)

2. PROCEDURE:

- 2.1 Weigh the sample unit on its original sample packed container. This is the gross weight.
- 2.2 Open and pour out the contents of each individual package. Wash the empty package and blot dry.
- 2.3 Weigh out the washed empty package. This is the weight of the packaging material.
- 2.4 Subtract the weight of the empty package from the gross weight. The resulting figure is the net weight of the individual package (net weight = gross weight – weight of packaging).
- 2.5 Average the results from all package of a sample representing a lot. Report result as the average net weight of the product.