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National Standard of the People's Republic of China

GB2733—200X

Substitution for GB2733—1994, GB2735~2736—1994, GB2739~2744—1994

**Hygienic Standard for Fresh and Frozen
Marine Products of Animal Origin
(Submitted for Approval)**

Issued on XXXX-XX-XX

Executed on XXXX-XX-XX

**Issued by Ministry of Public Health of the People's Republic of China and the
Standardization Administration of China**

Introduction

On the date of execution, this standard substitutes GB2733-1994 "Hygienic Standard for Sea Water Fish", GB2735-1994 "Hygienic Standard for Cephalopoda Marine Products", GB2736-1994 "Hygienic Standard for Fresh Water Fish", GB2739-1994 "Hygienic Standard for *Gymnocypris Przewalskii*", GB2740-1994 "Hygienic Standard for River Shrimp", GB2741-1994 "Hygienic Standard for Sea Shrimp", GB2742-1994 "Hygienic Standard for Oyster", GB2743-1994 "Hygienic Standard for Sea Crab", GB2744-1996 "Hygienic Standard for Seawater Shellfish". The above-mentioned standards shall become invalid at the same time.

In comparison to GB2733-1994, GB2735-1994, GB2736-1994, GB2739-1994, GB2740-1994, GB2741-1994, GB2742-1994, GB2743-1994 and GB2744-1996, this standard mainly contains the following modifications:

- 1 The standard text format is modified according to GB/T1.1-2000;
- 2 Nine previous standards are combined into this standard;
- 3 The application of the standard is extended to all fresh and frozen aquatic products of animal origin;
- 4 The structure of previous standard is modified, with additions in classification and the requirements for food additives and production process, package, marking, storage and transport.
- 5 The methyl mercury index in CAC/GL7-1991 "Fish Methyl Mercury Guidance Value" is adopted;
- 6 Limit value of lead, cadmium, polychlorinated biphenyl are added;
- 7 Mercury index is deleted.

The standard is put forward and governed by the Ministry of Public Health of the People's Republic of China.

The standard is approved by the Ministry of Health of the People's Republic of China.

The standard is worked out by: Liaoning Provincial Food Hygienic Supervision and Inspection Institute, Shanghai Municipal Sanitary Inspection Institute, Dalian Municipal Sanitation and Antiepidemic Station, and Jiangsu Province Disease Prevention Control Center.

The standard was authored by: Wang Zheng, Liu Junwei, Zhang Hong, Chen Min, Ding Yuanmei, Yuan Baojun and Cai Yanping.

The previous standards being substituted by this standard are:

- GB2733-1981, GB2733-1994;
- GB2734-1981;
- GB2735-1981, GB2735-1994;
- GB2736-1981, GB2736-1994;
- GB2737-1981;
- GB2738-1981;
- GB2739-1981;
- GB2740-1981, GB2740-1994;
- GB2743-1994;
- GB2744-1996;
- GB2745-1981;
- GBn 139-1981;
- GBn150;
- GBn151-1981.

Hygienic standard for fresh and frozen marine products of animal origin

1 Scope

The standard stipulates the classification of fresh and frozen aquatic products of animal origin, index requirements and hygienic requirements for production process, package, marking, storage and transport and inspection method.

The standard applies to fresh and frozen aquatic products of animal origin.

2 Normative reference documents

The clauses in the following documents are referenced in this standard and become the clauses of this standard. Any modification lists (except text corrections) or revisions of the reference documents with specific date shall not apply to this standard. But, all parties of agreement based on this standard are encouraged to discuss if the newer versions of those documents are applicable. All reference documents without date, which are the latest editions, are applicable to this standard.

GB/T 5009.11 Measurement of total arsenic and inorganic arsenic in food

GB/T 5009.12 Measurement of lead in food

GB/T 5009.15 Measurement of cadmium in food

GB/T 5009.17 Measurement of total mercury and organic mercury in food

GB/T 5009.44 Analytical Method of Hygienic Standard for Meat and Meat Products

GB/T 5009.45 Analytical Method of Hygienic Standard for Aquatic Products

GB/T 5009.190 Measurement of polychlorinated biphenyl in seafood

GB 14881 General hygiene specification for food enterprises

SC/T3009 Aquatic product processing management specifications

3 Classifications

3.1 Fish: salt water fish, fresh water fish.

3.2 Crustacean: shrimp (both saltwater and freshwater), crab (both saltwater and freshwater).

3.3 Pelecypoda and shellfish: Cephalopods, shellfish (both saltwater and freshwater).

3.4 Echinoderm: sea cucumber, sea urchin.

3.5 Coelenterate: jellyfish.

3.6 Other aquatic products: saltwater animals (cuttlefish, squid, octopus), freshwater (soft-shelled turtle, bullfrog, frogs, snails).

4. Index requirements

4.1 Sensory index

Sensory index should conform to the requirements in Table 1. Mud snails, river crabs, amphibious crabs, river shrimps and fresh water shellfish must be fresh and alive.

Table 1 Sensory Indexes

Indexes	Fresh Product	Frozen Product
Texture	Intact, solid, and resilient in texture. Sample recovers after pressure.	Intact, solid, and resilient in texture. Sample recovers slowly after pressure.
Color	Showing the natural color of the aquatic products	
Odor	Showing the proper taste and odor for the aquatic products, without offensive taste or odor	

4.2 Physical and chemical indexes

Physical and chemical index should conform to the stipulations in Table 2.

Table 2 Physical and chemical indexes

Indexes		Standards
Volatile salt based nitrogen ^a , mg/100g		
Salt water fish, shrimp, and cephalopods	≤	30
Saltwater crab	≤	25
Fresh water fish and shrimp	≤	20
Shellfish	≤	15
Histamine ^b , mg/100g		
Mackerel	≤	100
Other fish	≤	30
Lead (Pb), mg/kg		
Fish	≤	0.5
Shrimp and crab (crustacean)	≤	0.5
Pelecypoda and shellfish	≤	1.0
Inorganic arsenic, mg/kg		
Fish	≤	0.1
Other aquatic products of animal origin	≤	0.5
Methyl mercury, mg/kg		
Predatory fish (shark, sailfish, tuna, pike etc.)	≤	1.0
Other aquatic products of animal origin	≤	0.5
Cadmium (Cd), mg/kg		
Fish	≤	0.1
Shrimp and crab (crustacean)	≤	0.5
Pelecypoda and shellfish	≤	1.0
Polychlorinated biphenyl ^c , mg/kg	≤	2.0
where, PCB138, mg/kg	≤	0.5
PCB153, mg/kg	≤	0.5
a and b are not for living aquatic products; c Only for seawater products, and calculated as the sum of PCB28, PCB52, PCB101, PCB118, PCB138, PCB153 and PCB180.		

4.3 Pesticide residue should be accorded with the national related standard and relevant regulations.

5 Hygienic requirements for the process of production and processing

The hygienic requirements of production process should conform to GB 14881 and SC/T3009.

6 Marking

6.1 Should conform to the relevant regulations.

7 Packaging

The packing container and materials should conform to relevant hygienic standard and regulations.

8 Storage and transport

8.1 Storage

Frozen products should be packed and stored in good condition in a cold store colder than -18 degrees Celsius. The storage period shall not be more than 9 months. Never keep it together

with poisonous, harmful or bad-smelling articles.

8.2 Transport

Frozen products shall be transported in refrigerated conditions. The transport vehicle shall be clean. Never transport together with poisonous, harmful or bad-smelling articles.

9 Inspection methodology

9.1 Sensory inspection

Take adequate amount of specimen (thaw the frozen product before test) and check it under natural light.

9.2 Physical and chemical inspection

9.2.1 Volatile salt based nitrogen: according to GB/T 5009.44.

9.2.2 Histamine: According to GB/T5009.45.

9.2.3 Inorganic arsenic: According to GB/T5009.11.

9.2.4 Lead: According to GB/T5009.12.

9.2.5 Cadmium: According to GB/T5009.15.

9.2.6 Methyl mercury: According to GB/T5009.17.

9.2.7 Polychlorinated biphenyl: According to GB/T5009.190.