



ASSESSMENT OF INDIA'S HEALTH CERTIFICATE REQUIREMENTS

For fishery products imports

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MAIN ABBREVIATIONS

AQCS	Animal Quarantine and Certification Service, under the DAHD
DAHD	Department of Animal Husbandry and Dairying, under Ministry of Fisheries, Animal Husbandry and Dairying
DGFT	Directorate General of Foreign Trade, under the Ministry of Commerce & Industry
FICS	Food Import Clearance System, the FSSAI online application system for clearance.
FSSAI	Food Safety and Standards Authority of India, under the Ministry of Health and Family Welfare
HC	Health Certificate, issued by the FSSAI
ICE GATE	Indian Custom Electronic Data Interchange Gateway, by the Central Board of Indirect Taxes and Customs (CBIC). (With an online message exchange system to the FICS)
NOC	No Objection Certificate, required for a consignment to be released a distribution. Issued by Customs/FSSAI upon inspection and analysis.
OGL	Open General Licence
SIP	Sanitary Import Permit
VC	Veterinary Certificate, issued by DAHD



INTRODUCTION

The FSSAI's new food safety Health Certificate for imports into India of fishery products was foreseen to enter into force on 1st November 2022, implementing the Food Safety and Standards (Import) Regulation, 2017. However, for administrative reasons the FSSAI postponed the entering into force of this certificate until further notice. In addition to this certificate, DAHD requires consignments of livestock and livestock products imported into India, including fisheries products intended for human consumption, to be accompanied by a Veterinary Certificate. A comparison, or gap analysis, assessed the differences between the requirements of the two (FSSAI and DAHD) certificates in the one hand and, on the other hand, the relevant European Union legislation and international standards. The present analysis deals with processed fishery products for human consumption, excluding live fish (for ornamental or other purposes).

The outcome of this comparison informs the industry and the competent authorities in the European Union on how to focus their attention on the differences identified during the comparison. The FSSAI and the DAHD foresee to merge the two certificates, but such a merged certificate was not available at the time of the conclusion of this comparison.



EXECUTIVE SUMMARY

This document is a review of the legal requirements for import to India of processed fishery products for human consumption, excluding live fish for ornamental or other purposes. Further the document includes a comparison between the applicable EU regulations and the Indian requirements. The outcome of this comparison informs the industry and the competent authorities in the European Union about issues where their attention needs to be focused in order to ensure that export from EU are compliant with the Indian requirements as well as EU requirements.

The Indian system for official control of import of processed fishery products for human consumption is currently a two stringed system with some conflicting overlaps and currently import remains subject to certification and import controls by two Ministries and related agencies. The two systems are described in chapter 1 of this document. In brief they are based on the following principles:

A Sanitary Import Permit (SIP) shall be required by the importer and issued by the Department of Animal Husbandry and Dairying (DAHD) based on documentation submitted. The SIP identifies the basic hygiene requirements for the handling of animals and animal products at the country of origin. The SIP is valid for 6-12 months depending of the type of products and is issued based on a risk analysis which is conducted with reference to the specific product and the prevailing disease situation in the exporting country vis-a-vis the disease situation in India. Thus, the requirements for the SIP may change from time to time. With a valid SIP, each consignment intended for import shall be accompanied by a Veterinary Certificate (VC). In addition to the general requirements, as required in the SIP, each Veterinary Certificate has attached Standard Conditions, which are product specific requirements for e.g. composition, microbiology, residues and contaminants. The standard conditions linked with each of the Veterinary Certificates are reviewed in chapter 2.2 of this report.

By recent regulation and related Order of October 2022, all food manufacturing facilities for production of certain groups of food, including fish and fishery products, and with intention to export to India, shall be registered under the Food Safety and Standards Authority of India (FSSAI). All exporting countries have therefore been requested to provide a list of all manufactures of products to India. Based on information received the registration will be done on the Portal of FSSAI. The Order is to be effective by 1st February 2023. In addition to the registration of manufactures, certain products, among which fish and fishery products, shall be accompanied by a Health Certificate issued by the Competent Authority of the exporting country. The Health Certificate shall be issued for each consignment and shall be an attestation of compliance with the relevant Indian regulations. The Order was foreseen to take effect by 1st November 2022. However, for administrative reasons the FSSAI postponed the entering into force of the certificate until further notice. The standard conditions linked with the Health Certificate are reviewed and compared to the applicable EU regulations in chapter 2.1 of this document.

The FSSAI and the DAHD foresee to merge the two certificates, but such a merged certificate was not available at the time of the completing this comparison.

The Standard Conditions affiliated with each of the Veterinary Certificates to accompany fishery products intended for human consumption are summarised in chapters 2.2.1-2.2.4 of this document. It is noticed that the requirements have overlap with the requirements in the different standards related with the Food Safety Regulation, 2011 as clarified in Chapter 2.1 of this report. Some conflicting requirements have been identified and comments in this regard are made and marked with red highlights where relevant.



Direct comparison to the EU requirements has not been made, since this can be extracted from chapter 2.1 and related references. Food business operators as well as official authorities issuing the Veterinary Certificates should be specifically aware that criteria for hygiene indicators, safety indicators, and MRLs for contaminants and residues of veterinary medicines are different in the two set of specifications in the Indian regulations.

The standard requirements linked with the Health Certificate are mostly designed so it is possible to compare directly to the applicable EU requirements (general hygiene requirements, microbiological criteria, use of additives, contaminants criteria and official controls). The exception from this is the requirement to comply with specific product specifications for 11 food product categories. Business operators and authorities issuing the attestation on the certificates shall be aware that the Indian Product Standards which are referred to, includes species specific requirements for marketing of the different product groups, which is in contrast to the general definitions of fishery products in the EU regulations. The chapters 2.1.1-2.1.4 provides detailed summaries of the Indian Product Standards and, where applicable, reviews and comparisons are also made to the applicable Codex Alimentarius standards. In few cases the Indian standards are similar to the Codex Alimentarius standards, while in most cases the Codex are more specific specially as regards acceptance criteria including related sampling and testing for quality and food safety parameters. In few cases there are no Codex Alimentarius standard that would match the Indian Product Standard. Chapter 2.1.5 provides a summary of the result of the comparison between the Indian Product Standards and the Codex Alimentarius standards.

Further the comparison of the Indian legal requirements referred to in the Health Certificate, which is summarised in chapter 2.1 of this document, reveals the following points that should require specific attention by the authorities in EU as well as the exporters.

- A. The Indian Food Product Standard provides MRL for formaldehyde in many most common species of finfish from freshwater and marine water origin as well as in all frozen marine fish products where the maximum limit is 100 mg/kg. This quality criterion is not addressed in the EU regulation or practices. The criterion is also not included in the Codex Alimentarius Standards for frozen fishery products.
- B. The Indian Food Product Standard for Canned and Pasteurized fishery products is more specific as regard the time temperature parameters to control a heating process than prescribed in the EU Regulation. The EU regulation however refer to international standards, e.g. Codex Alimentarius for control of these processes, which should allow for compliance with the Indian requirements.
- C. For fish sauce produced by fermentation the acceptable level of histamine is 400 mg/kg in the EU regulation while it in the Indian regulation is only 200-400 mg/kg (to be understood as average of 9 samples to be 200mg/kg with max 2 samples up to max 400 mg/kg).
- D. The Indian requirements to Hygiene Indicator Organisms are much more detailed than the Process Hygiene Indicators in the EU requirements. Business operators and authorities in EU would need to focus specifically on documenting compliance with the Indian Hygiene Criteria that apply to most food products.
- E. The Food Safety Criteria in the Indian requirements are more detailed, sometimes stricter, and applies to a wider range of products than the Food Safety Criteria in the EU Regulation.
- F. For Listeria the criteria in EU are 100 cfu/g for ready to eat food unless when that food is intended for infants or special medical purposes, where it is Absent in 25g. In the Indian regulation the criteria for Listeria are always Absent in 25 g where it applies.
- G. The EU regulation does not have any criteria for Vibrio Cholera which is included as a safety criterion for several chilled and frozen fishery products in the Indian regulations.



- H. The EU regulation does not have any criteria for or Clostridium Botulinum which in the Indian regulation is included as a safety criterion for thermal processed fishery products and fermented fishery products in which there should be Absence of viable spores and botulinum toxin (see footnote 5).
- I. The Indian regulation for contaminants and residues establishes MRLs for arsenic, chromium and safrole for which there are not MRLs established in the EU regulation.
- J. The Indian regulation (see footnote 6) establish MRLs on same level as the EU Regulation only for Tetracycline, Oxytetracycline, Trimethoprim, Oxolinic Acid in fish muscle. The EU regulation however establish MRL for residues of several other pharmacological active substances, that would be accepted, however not accepted in India.
- K. The Indian regulation and the EU regulation prohibits the authorisation, distribution and use of the same pharmacological active substances; however, the Indian standard prohibits also specifically Clenbuterol, Glycopeptides, Crystal Violet, Malachite Green, Carbadox, Sulphamethoxazole and chloroform.
 - In unprocessed fishery products the EU allow certain additives among which phosphates to fish fillets frozen at sea, while no additives are allowed to unprocessed fishery products according to the Indian regulation.
 - In unprocessed crustaceans and molluscs, the Indian standard allow only 100 ppm sulphite to crustaceans, while EU allows 150-200 ppm, depending of the size. Further the EU regulation allows for use of phosphates, Calcium disodium EDTA in frozen and deep frozen crustaceans and for 4-Hexylresorcinol in fresh, frozen or deep frozen crustaceans, which is not allowed in the Indian regulations.



METHODOLOGY

The review in Chapters 2.1 and 2.2 is comparing the Indian requirements of the FSSAI and DAHD certificates, and the results of the reviews are marked with different colours. The outcome of the validation can result into three types of different recommendations and areas for attention:

In the chapters 2.1, 2.1.6 and 2.1.7

- Compliance between EU and Indian legal requirements: green
- Issue of awareness that need specific attention or additional clarification: yellow
- In breach of current European legislation/having a significant impact on export: red

In the chapters 2.1.1, 2.1.2, 2.1.3 and 2.1.4

These chapters are summaries of the Indian product standards, to which compliance should be attested on the Indian Health Certificate. The results of the comparison to the EU Regulations are in table 2.1 with colour coding as above. However due to the nature of the Indian standards, a comparison to the related Codex Alimentarius standards is provided in these tables.

The colour coding in these tables is therefore as follow:

- The Indian standard and the Codex Alimentarius standard are similar: green
- There are deviations between the Indian standard and the Codex Alimentarius standard, most frequent where the Codex standards are more specific than the Indian standard: yellow
- There are deviations between the Indian standard and the Codex Alimentarius standard where the Codex standards are less specific than the Indian standard or where a Codex standard does not exist: red



1 GENERAL REQUIREMENTS FOR IMPORT OF FISH AND FISHERIES PRODUCTS TO INDIA

1.1 GENERAL IMPORT PRINCIPLES

Regulations for imports of food into India fall in general in three groups:

- Open General Licence (OGL)
- Restricted
- Prohibited

The Open General Licence applies to all processed fishery products (SH Groups 0302-0307 and 1601-1602), while restricted trade conditions apply to certain live fish including ornamental fish, eels, carp, different species of trout, bluefin tuna and southern bluefin tuna (SH codes 0301)¹.

Products imported under the OGL conditions are allowed free trade based on a

- basic sanitary condition declaration (Sanitary Import Permit (SIP),
- Veterinary Certificate (for animal health and hygiene)
- Health Certificate (for food safety).

The animals and animal products falling under the restricted list need to obtain an Import Permit. It is issued by the DGFT under the Ministry of Commerce & Industry based on recommendations from the DAHD.

The responsibility for import permissions and controls falls under different government ministries and agencies depending on the type of products, as illustrated in Figure 1 below.

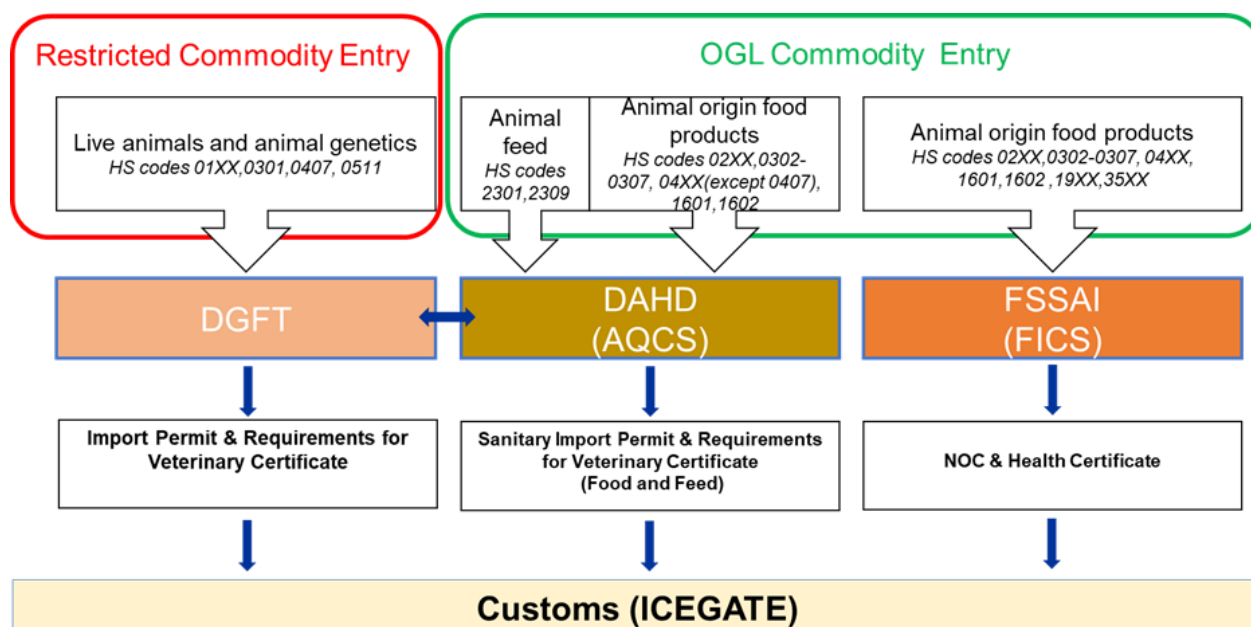


FIGURE 1: RESPONSIBILITY OF DIFFERENT AGENCIES FOR THE IMPORT OF ANIMAL PRODUCTS (FOR ABBREVIATIONS, SEE LIST OF ACRONYMS IN THE BEGINNING OF THIS DOCUMENT)

¹ <https://www.eximguru.com/hs-codes/0301-live-fish.aspx>



The analysis provided with this report is focused on the fishery products to be imported under the OGL conditions for which the Sanitary Import Permit (SIP), the Veterinary Certificate (VC) and the Health Certificate (HC) are required and for which a No Objection Certificate (NOC) shall be issued by Indian authorities upon import control and release for distribution .

1.2 THE SANITARY IMPORT PERMIT

The Sanitary Import Permit (SIP) identifies the basic hygiene requirements for the handling of animals and animal products at the country of origin. SIP is issued by the DAHD, Government of India² based on documents submitted.

The SIP will be obtained by the registered Importer based on an online application. The application shall include the following information:

1. Detailed literature of products mentioning ingredient of each product.
2. Process chart of the product.
3. Detailed list of products to be imported (Product Name, Package Size, number of packages and total weight)
4. Detailed Chemical and Microbiological data sheet of product (Certificate of Analysis).
5. Detailed end-use of the product to be imported.

The SIPs for livestock products are valid for one year or six months depending upon the nature of product and may be used for multiple consignments.

The SIP is not a licence for import, but it is a document to provide appropriate evidence that the sanitary requirements are met by the exporting country prior to the entry of the livestock products into India.

SIP requirements are set by Indian authorities based on import risk analysis. The import risk analysis is conducted by the relevant officers of the department based on internationally recognised scientific principles of risk analysis. The analysis is conducted with reference to the specific product and the prevailing disease situation in the exporting country vis-a-vis the disease situation in India. Thus, the requirements may change from time to time. The SIP endorses the specific conditions that are required to be fulfilled in respect of a consignment, including pre-shipment certifications and quarantine checks. It also specifies the post import requirements related to the quarantine, sampling, and testing of products.

1.3 THE VETERINARY CERTIFICATE

The DAHD requires a Veterinary Certificate (VC) to accompany the imported consignment of livestock and livestock products. The VC is an attestation from the competent authority of the exporting country on specific conditions, as required in the SIP to prevent the introduction of exotic diseases and minimise the human health risks due to microbial or chemical contamination³.

² <https://sip.nic.in/> Central Government is empowered to regulate, restrict, and prohibit import of live-stock products in accordance with Section 3A of the Live-stock Importation Act., 1898. In this regard, the Department has issued Notification S.O. 2666(E) dated 16th October, 2014 listing out the livestock products and procedure for import of livestock products. The import of these products is basically allowed subject to Sanitary Import Permits (SIPs) which are guided by risk analysis done through veterinary health certificates to be accompanied with the import of livestock products.

³ <https://dahd.nic.in/Trade/Sanitary-requirement-veterinary-health-certificate-import-various-livestock-products>



The veterinary certificate (VC) requirements and conditions are mentioned in the Sanitary Import permit (SIP) which is applied and issued prior to import. When imported fishery products (except live fish) will enter through the Food Import Clearance System (FICS) portal.

The document verification in FICS portal includes SIP, VC or any other relevant documents followed by physical inspection and testing as per Risk Management System of FSSAI. On clearance, No Objection Certificate (NOC) is issued.

In general, a Veterinary Certificate for all animal products requires the following information, unless specified:

1. Consignor
2. Veterinary Certificate (No., date)
3. Consignee
4. Country of origin
5. Competent authority (Ministry, department)
6. Place of loading
7. Identification of the product (Type of product, details of product, number of packages, identification of marks, quantity)
8. Name and address of the registration/ accreditation authority
9. Mode of transport
10. Destination

In addition to the general requirements, each VC Certificate has attached Standard Conditions, which are product specific requirements of e.g. composition, microbiology, residues and contaminants.

In some cases, the Veterinary Certificate may be bilaterally agreed between India and the exporting country. In the absence of the bilaterally agreed certificate, the standard Indian conditions need to be followed. It is advisable not to change the wording of the veterinary conditions in the Veterinary Certificate from the exporting country (other than the ones mentioned in the SIP or import permit) as it may result in problems at port of entry.

It is important that the exporter understands India's quarantine requirements and connects with the authority through the importer before any contracts for the supply of animals and animal products are signed. It must also be noted that no export should take place without the SIP being issued by the DAHD. Any discrepancy in the documents may lead to issues during clearance of the cargo and/or blacklisting of the exporter in the country of origin as well as the importer in India.

Standard Veterinary Certificates applies to the following fishery products intended for human consumption:

- Fish Powder
- Processed Seafood (Raw frozen, Smoked, Dried)
- Fish body oil (Refined)} Fish Lipid/ Oil (containing Eicosapentaenoic acid (EPA) & Docosahexaenoic acid
- Squid Meal/ Squid Powder /Scallop Meal/ Scallop Powder
- Squid Liver Powder
- Squid Soluble Paste
- Squid Oil
- Liquid Fish Soluble
- Fish Soluble Paste
- Canned Fish Products
- Fresh Chilled and Iced Fish

The standard conditions linked with each of the certificates are reviewed in chapter 2.2 of this report.



1.4 THE FOOD SAFETY CERTIFICATE

By Order of 3rd August 2022⁴ the Food Safety and Standards Authority of India (FSSAI) decided, in reference to the implementing of the Food Safety and Standards (Import) Regulation, 2017, that certain products among which fish and fishery products shall be accompanied by a Health Certificate issued by the Competent Authority of the exporting country. The Order took effect by 1st November 2022. The format for and content in the Health Certificate is stipulate in the Order.

The Health Certificate shall be issued for each consignment and shall be an attestation of compliance with the relevant Indian regulations; the complete information to be provided in the Health Certificate includes:

1. Country of Dispatch
2. Name, address and contact details of the Consignor or Exporter
3. Certificate Number
4. Name and contact details of Competent Authority
5. Name, address and contact details of the Consignee or Importer
6. Country of Origin, incl. ISO Code
7. Country of destination, incl. ISO Code
8. Place of loading
9. Means of Transport
10. Declared Point of Entry
11. Conditions for transport/storage
12. Total Quantity
13. Invoice no. and Date
14. Identification of the food products by
15. SH Code(s), intended purpose, Name of product, Lot no./batch no., Type of packaging, number of packages, net weight; Date of manufacture or packaging, Best Before date, Expiry date, Temperature required during storage and transportation.
16. Attestation of compliance with sanitary/food safety requirements in reference to specified requirements in the Food Safety and Standards Regulations.
17. Attestation that the source of animals has not been fed with feed containing meat or bone meal, including internal organs, blood meal and tissues of bovine or porcine origin materials, except milk and milk products.
18. Attestation that the products has/have not been manufactured using animal rennet.

The references for the Attestations and conditions for compliance are reviewed in detail in chapter 2.1 of this document.

1.5 PROCEDURE FOR REGISTRATION OF EXPORTERS BY THE INDIAN COMPETENT AUTHORITY, FSSAI

By Order of 10th October 2022⁵ the Food Safety Standards Authority of India (FSSAI) decided, in reference to the Food Safety and Standards (Import) Regulations, 1st Amendment 03.11.2021, that all food manufacturing facilities falling under certain groups of food, including fish and fishery products shall be registered under FSSAI. All exporting countries have therefore been requested to provide a list of all current manufactures of products to India as well as those that are intended to export such products to India. Based on information received the registration will be done on the Portal of FSSAI. The Order is to be effective by 1st February 2023.

⁴ F. No. 1829/Health Certificate/FSSAI/Imports-201

⁵ F.No. IC-B02/2/2022-IMPORTS-FSSAI



The information to be submitted for Registration includes as follow:

1. Country Name
2. Name, address and contact details of the Competent Authority
3. Name, address and contact details of the Manufacturer
4. Approval/Licence number by the Competent Authority
5. Name and HS codes of products to be exported to India
6. Signature and seal of the authorised signatory

1.6 SUMMARY OF GENERAL PRINCIPLES FOR IMPORT OF FISH AND FISHERY PRODUCTS TO INDIA.

In summary of the requirements outlined in section 1.1-1.5 import to India of most fishery products intended for human consumption is subject to the Open General Licence for free trade; however, import remains subject to certification and import controls by two Ministries and related agencies. A short overview is provided in table 1 below.

TABLE 1: SHORT OVERVIEW OF IMPORT CONTROLS RELATED WITH FISHERY PRODUCTS INTENDED FOR IMPORT FOR HUMAN CONSUMPTION TO INDIA

ITC HS CODE	Product Category	Import control by DAHD	Import control by FSSAI
0301	Live fish - ornamental fish	Restricted Import Permit issued by DGFT Veterinary Certificate	No
0302	Fish, fresh or chilled, excluding fish fillets and other fish meat of heading 0304	OGL SIP Veterinary Certificate except Shark fins which are prohibited	FSSAI (Import) Regulations, 2017 Registration of Foreign Food Manufacturing Facilities Health Certificate
0303	Fish frozen, excluding fish fillets and other fish meat of heading 0304	OGL SIP Veterinary Certificate (Except Shark fins which are prohibited)	
0304	Fish fillets and other fish meat – fresh chilled or frozen	OGL SIP Veterinary Certificate	
0305	Fish, dried, salted or in brine; smoked fish whether or not cooked before or during smoking process; flours, meals and pellets, of fish fit for human consumption		
0306	Crustaceans with or without shell, fresh, chilled, frozen, dried, salted or in brine, smoked whether or not cooked during the smoking process; cooked by steaming or boiling		
0307	Molluscs with or without shell, fresh, chilled, frozen, dried, salted or in brine		
1604	Prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs.		
1605	Crustaceans, molluscs and other aquatic invertebrates, prepared or preserved.		



2 COMPARATIVE REVIEW OF REQUIREMENTS FOR ATTESTATION

2.1 INDIAN HEALTH CERTIFICATES: BOX 15 ATTESTATION FOR FISH AND FISHERIES PRODUCTS INTENDED FOR IMPORT TO INDIA.

(Reference: F. No. 1829/Health Certificate/FSSAI/Imports- 2021 dated 3rd August 2022; Food Safety and Standards Authority of India)

Text of attestation in the new Health Certificate	Comment/Analysis	EU Legislation	Review
Part I. General Conditions			
a) The products were manufactured at (an) establishment(s) that has/have been approved by, or otherwise determined to be in good regulatory standing with the Competent Authority in the Exporting country	All establishments producing food of animal origin within EU shall be registered or approved by the Competent authority. On this basis, EU member state regulatory authorities should be able to make this attestation.	Regulation (EU) 853/2004 article 2 and 3 require that products of animal origin, except primary products, may be placed on the market only when produced in establishments that are approved by the Competent Authority according to Regulation (EU) 2017/625 (specifically chapter II section I and II)	No additional comments



Text of attestation in the new Health Certificate	Comment/Analysis	EU Legislation	Review
Part I. General Conditions			
<p>b) The products comply with the standards of Fish and Fish Products as specified under the Food Safety and Standards (Food Product Standards and Food Additives), Regulation 2011</p> <p>b) Part 1/2</p>	<p>The product standards are provided in the <i>Compendium Food Product Standards and Food Additives chapter 2.6, page 295-333</i>. The product standards in chapter 2.6.1 apply to the following product groups and includes specific requirements to the raw materials to be used specific processing wrapping and storage conditions and specific requirements to composition and quality criteria. For a detailed overview, please see the tables 2.1.1-2.1.4 overleaf</p> <ol style="list-style-type: none"> 1. Frozen shrimp: 2. Frozen Lobsters 3. Frozen squid and parts of squid 4. Frozen Finfish 5. Frozen fish fillets: 6. *** 7. Salted fish/dried salted fish: 8. Canned Fishery Products: 9. Frozen cephalopods 10. Smoked Fishery Products: 11. Ready –to-Eat Finfish or Shell Fish Curry in Retortable Pouches: 12. Sardine Oil 13. Edible Fish Powder: 14. Fish Pickles: 15. Frozen Minced Fish Meat 16. Freeze dried prawns (shrimps): 17. Frozen clam meat: 18. Live and Raw Bivalve Molluscs 19. Sturgeon Caviar 20. Fish Sauce 	<p>The applicable EU regulation is (EU) 853/2004 laying down specific hygiene rules for food of animal origin, specifically the definitions laid down in Annex 1 (Part 2 Live Bivalve Molluscs and Part 3 Fishery Products and Part 7.4 and 7.7 on processed products).</p> <p>Annex 3, Section VII Live Bivalve molluscs Annex 3, Section VIII, Fishery Products.</p> <p>The regulation does not include any specific product standards, only general definitions and requirements to fresh and frozen fishery products and cooked crustaceans. The regulation requires that</p> <ul style="list-style-type: none"> • Frozen fishery products shall be processed with a rapid freezing process that allow the temperature to be lowered to -18C and they shall be stored and transported at -18C. • Minced fishery products may be produced only from whole gutted fish and bones after filleting and frozen as quickly as possible or incorporated in a product intended for freezing or other stabilising treatment. • For cooked products, rapid cooling to temperature approaching that of melting ice must follow cooking; and after shelling or shucking, cooked products must be frozen immediately. • Fish oil for human consumption shall be derived from fishery products which are fit for human consumption and which comply with regulation in this regard. <p>The Health Criteria require that Food Business operators must:</p> <ul style="list-style-type: none"> • carry out an organoleptic examination of fishery products. In particular, this examination must ensure that fishery products comply with any freshness criteria. • ensure that the limits with regard to histamine are not exceeded • requirements to unprocessed fishery products are below applicable limits • ensure that products obviously contaminated with parasites are not places on the market. 	<p>The definition of 'Fishery products' in Regulation (EU) 853/2005 is general and includes all seawater or freshwater animals (except for live bivalve molluscs, live echinoderms, live tunicates and live marine gastropods, and all mammals, reptiles and frogs) whether wild or farmed and including all edible forms, parts and products of such animals.</p> <p>In contrast each of the Indian Product Standards provides specific requirements to the groups of families/species of fish for different products covered by the Indian Product standards. Operators in EU shall be aware of the species requirements for marketing of the different product groups.</p> <p>The definition of Bivalve molluscs' (filter-feeding lamellibranch molluscs) seems to be similar to the Indian understanding. The EU Requirements under Regulation 853/2005 Annex III section VII and Regulation (EU) 854/2004 may be considered compliant with the Indian requirements that both relaying and depuration of live bivalve molluscs must be subject to "appropriate controls implemented by the official government".</p> <p>The quality criterion formaldehyde is not addressed as a quality criterion in the EU regulation or practices. The criterion is also not included in the Codex Alimentarius Standards for frozen fishery products. It would need to be clarified if the parameter is applicable as a commercial quality criterion and in positive case, which marker substance and which test method would be applicable.</p>



Text of attestation in the new Health Certificate	Comment/Analysis	EU Legislation	Review
Part I. General Conditions			
<p>b)The products comply with the standards of Fish and Fish Products as specified under the Food Safety and Standards (Food Product Standards and Food Additives), Regulation 2011</p> <p>b) Part 2/2</p>	<p>21. Quick Frozen Fish Sticks (fish fingers), Fish Portions and Fish Fillets - Breaded or Battered</p> <p>22. Fresh and Quick Frozen Raw Scallop Products:</p> <p>23. Pasteurized Fish Sausage:</p> <p>24. Pasteurised Crab Meat</p> <p>25. Gelatine from Fish Processing Waste.</p> <p><i>Limit of Formaldehyde:</i> Chapter 2.6.2 provides a standard for maximum limits of formaldehyde in all most common species of finfish from freshwater and marine water origin as well as in <u>All frozen stored marine fish products</u> where the maximum limit is 100 mg/kg.</p>	<p>Food Safety Criteria are provided in (EU) 2073/2005 and includes:</p> <p>Products from fish species associated with a high amount of histidine (Particularly fish species of the families: Scombridae, Clupeidae, Engraulidae, Coryfenidae, Pomatomidae, Scombresosidae):</p> <ul style="list-style-type: none"> Histamine;100-200mg/kg histamine with a sampling plan of n=9 and c=2 <p>Products of the above-mentioned species which have undergone enzyme maturation treatment in brine:</p> <ul style="list-style-type: none"> Histamine; 200-400mg/kg with a sampling plan of n=9 and c=2 <p>Fish sauce produced by fermentation of fishery products:</p> <ul style="list-style-type: none"> Histamine 400 mg/kg histamine with a sampling plan of n=9 and c=0 <p>Process criteria for shelled and sucked cooked products of crustaceans and molluscs shellfish:</p> <ul style="list-style-type: none"> E coli: 1-10 MPN per gram with a sampling plan of n=5 and c=2 Coagulase staphylococci: 100 cfu/g with a sampling plan of n=5 and c=2 <p>Regulation (EU) 853/2004 chapter XI, lays down specific general criteria for control of heating processes, requiring the operator to define the process by objective and to check the relevant parameters to achieve it (time, temperature, pressure, sealing. In any case the process should conform to an internationally recognised standard (for example, pasteurisation, ultrahigh temperature or sterilisation.</p>	<p>Comparing of microbiological criteria for the different products are addressed under point d) in this table.</p> <p>The EU regulation is less specific as regard the parameters to control a heating process than pre-scribed in the Indian product standards for Canned and Pasteurized fishery products (Table 1.2 below) where specific targets for time and temperature are specified.</p> <p>The criteria for Histamine can be considered similar in the Indian and EU regulations except for fish sauce produced by fermentation where the acceptable level in EU is 400mg/kg while it in the Indian regulation is only 200-400 mg /kg (to be understood as average of 9 samples to be 200mg/kg with max 2 samples up to max 400 mg/kg).</p> <p>The Indian regulation lists more families and specific species as histamine sensitive than the EU regulation. See section 2.1.7 for a detailed comparison.</p>



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<p>c) The products are prepared, packed, held and transported prior to export under good hygienic conditions and an effective food safety control system, implemented within the context of HACCP systems where appropriate and in accordance with the requirements specified in <i>Schedule 4, as applicable, of the Food Safety and Standards (licensing and Registration of Food Businesses) Regulations, 2011</i> and such other guidelines as specified from time to time under the provisions of the Food Safety and Standard Act, 2006</p>	<p>Schedule 4 of India’s requirements under the Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011 is found at https://www.fssai.gov.in/cms/hygiene-requirements.php https://www.fssai.gov.in/cms/food-safetyand-standards-regulations.php and on page 42-54 in the Compendium, Part II General requirements on hygienic and sanitary practices to be followed by all food business operators.</p> <p>Section 2.1.4 provides a direct comparison of the Indian and EU requirements</p> <p>In the context of the HACCP, India’s requirements under Part II cover a number of areas, including layout/design of facilities, equipment, water supply, cleaning/maintenance, sanitation, ventilation, storage of materials, operating procedures, lab/testing facilities, personal hygiene/health, visitors, and training.</p> <p>Every food business operator (FBO) applying for licensing must have a documented FSMS plan and comply with schedule 4 of this regulation. Schedule 4 introduces the concept of FSMS based on implementation of Good Manufacturing Practices (GMP) and Good Hygiene Practices (GHP) by food businesses</p> <p>Point 6 of Part 2 of Schedule 4 require that a detailed Standard Operating Procedure (SOP) for the processing of food as well as its packing, despatch and storage will be developed for proper management which in turn would help in identifying any problem and the exact point, so that damage control would be faster.</p> <p>Technical managers and supervisors shall have adequate skills to judge food hazards, take appropriate preventive and corrective action, and to ensure effective monitoring and supervision.</p>	<p>The applicable EU regulations are (EU) 852/2004 on the hygiene of food stuff, Annex II and (EU) 853/2004 on specific hygiene rules for food of animal origin, specifically the definitions laid down in Annex 1 (Part 2 Live Bivalve Molluscs and Part 3 Fishery Products and Part 7.4 and 7.7 on processed products).</p> <p>Section 2.1.4 matches up India’s requirements under Section 4 with EU regulations. Based on our review, EU regulations fulfil all of the requirements laid out in Section 4. EU competent authorities should be in a strong position to certify EU products under this attestation.</p> <p>The Indian Standard do not have specific requirements to hygiene in handling and processing of fishery products as provided for in Regulation (EU) 853/2004 Annex III, section VII and section VIII, except those addressed in point b) of this table.</p>	<p>Reg. (EU) 852/2004 covers the requirements as stated in Schedule 4.</p> <p>Reg. (EU) 627/2019 is complementary covering the requirements in terms of audits, documentation and records</p>



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<p>d) The products conform to the microbial requirements specified in <i>Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011</i></p> <p>d) Part 1/2</p>	<p>Compendium Food Additives Regulations_03_03_2022.pdf</p> <p>The microbiological requirements to fishery products are provided in Table 1A and 1B of Appendix B to the Food Product standards and Additives Regulation 2011.</p> <p><u>Table 1A includes Hygiene Indicator Organisms that should apply either after end of chilling/freezing or at the end of the manufacturing process.</u></p> <p>Aerobic Plate Count in level 10^5-10^7, is the hygiene indicator for chilled and frozen finfish, cephalopods, crustaceans and bivalves <u>after chilling/freezing.</u></p> <p>The Hygiene Indicators that apply to the end of manufacturing processes includes in addition to the Aerobic Plate Counts also Coagulase positive Staphylococci and Yeast & moulds count for</p> <ol style="list-style-type: none"> 1. Frozen cooked crustaceans/Frozen hear shucked Mollusc 2. Dried/salted and Dried Fishery Products 3. Fermented Fishery Products 4. Smoked Fishery Products 5. Accelerated Freeze Dried Fishery Products 6. Fish Mince/Surimi Analouges 7. Fish Pickles 8. Battered and Breaded Fishery Products 9. Convenience Fishery Products 10. Powdered Fish Based Products <p>Test Methods for Hygiene Indicators are specified as:</p> <p>APC: IS: 5402/ISO 4833</p> <p>Coagulase Positive Staphylococci: IS 5887 : Part 2 or IS 5887 Part 8 (Sec 1)/ISO : 6888-1 or IS 5887 Part 8 (Sec 2)/ISO 6888-2</p> <p>Yeast and Mould: IS:5403/ISO 21527</p>	<p>The applicable EU Regulation is (EU) 2073/2005, Annex 1 Food Safety Criteria chapter 1 and chapter 2.4 Process Hygiene Criteria.</p> <p><u>The EU Process Hygiene Criteria</u> applies only to Shelled and shucked products of cooked crustaceans and molluscan shellfish and includes criteria for E coli (m=1 MPN/g - M=10 MPN/g) and coagulate positive staphylococci (m=100 cfu/g - M=1000 cfu/g). Sampling schedule (n=5, c=1).</p> <p><u>EU Food Safety Criteria</u> applies only to Ready to eat food where there are criteria for Listeria Monocytogenes</p> <p>Cooked Crustaceans where there are criteria for salmonella.</p> <p>Live bivalve molluscs, live echinoderms, tunicates and gastropods where there are criteria for Salmonella and E. Coli</p> <p>For Live bivalve molluscs and live echinoderms, tunicates and marine gastropods there are criteria for E. Coli</p> <p>M=230 – M=700 MPN/100g (n=5, c=1).</p>	<p>The Indian requirements to Hygiene Indicator Organisms are much more detailed than the Process Hygiene Indicators in the EU requirements. Business Operators and authorities in EU would need to focus specifically on documenting compliance with the Indian Hygiene Criteria that apply to most food products.</p> <p>The Food safety criteria in the Indian requirements are more detailed, sometimes more strict, and applies to a wider range of products than the Food Safety Criteria in the EU Regulation.</p> <p>For Listeria the criteria in EU is 100cfu/g for ready to eat food unless when that food is intended for infants or special medical purposes where it is Absent in 25g. In Indian regulation the criteria is always Absent in 25 g where it applies</p> <p>For salmonella the criteria are always Absent in 25 g where the criteria apply, in both regulations. However, the criteria apply to more products in India than in EU.</p> <p>For E.coli in Live Bivalve molluscs the criteria are the same in the Indian and EU regulations.</p>



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<p>d)The products conform to the microbial requirements specified in <i>Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011</i></p> <p>d) Part 2/2</p>	<p>The <u>Safety Indicators</u> includes E. Coli, Vibrio Cholerae, Salmonella, Listeria Monocytogenes and Clostridium Botulinum. Criteria for E Coli, Vibrio Cholera and Salmonellas applies to:</p> <ol style="list-style-type: none"> 1. Chilled frozen finfish 2. Chilled frozen crustaceans 3. Chilled frozen cephalopods 4. Chilled frozen Bivalves 5. For the following products indicators as mentioned above and Listeria monocytogenes applies:’ 6. Frozen cooked crustaceans/Frozen meat of shucked molluscs 7. Smoked fishery products 8. Accelerated freeze dried fishery products 9. Fish mince/surimi and analogues 10. Battered and breaded fishery products 11. Convenience fishery products <p>Clostridium Botulinum is indicator for</p> <p>Thermal processed fishery products and Fermented fishery products where there should be absence of viable spores and botulinum toxin</p> <p>For Live Bivalve Molluscs E. Coli is the and only criteria with m=230 – M=700 MPN/100g (n=5, c=1).</p> <p>Criteria for E. Coli and Salmonella applies to:</p> <ol style="list-style-type: none"> 1. Dried and salted and dried fishery products 2. Fermented fishery products 3. Fish Pickles <p>The test methods to be used are:</p> <p>APC: IS 5887 Part 1 or ISO16649-2 Salmonella: IS 5887 Part 3/ ISO 6579 Vibrio Cholera: USFDA BAM chapter 9 Online, May, 2004 L. Monocytogenes: IS14988, Part 1&2/ISO 11290-1 &2 C. Botulinum: IS 5887, Part 4 or ISO 17919.</p>	<p>See above</p>	<p>EU does not have criteria for Vibrio Cholera or Clostridium Botulinum in any product</p> <p>The prescribed Analytical methods for Listeria Monocytogenes, E. Coli and Salmonella are the same ISO methods in the Indian and EU regulations</p> <p>Criteria for histamine are addressed in the Indian Food Additives Regulations, however reviewed and compared to EU regulations under point b) in this table.</p>



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<p>e) The products do not contain drug/antibiotics/mycotoxins/pesticides/heavy metals etc. above the limits prescribed by the <i>Food Safety Standards (Contaminants, toxins and Residues) Regulation 2011</i>.</p>	<p>https://www.fssai.gov.in/cms/food-safety-and-standards-regulations.php</p> <p>The Indian Food Safety Standards establish criteria for Lead, cadmium, Mercury, Tin, Arsenic, Chromium, Pesticides, residues of pharmacological active substances from veterinary medicines including prohibited substances, biotoxins and histamine in fishery products. Table in Section 1.4.6 provides a direct comparison to the EU Regulations. Except for Histamine, the regulation does not provide criteria of sampling or performance of the analytical methods to be used for testing.</p>	<p>The applicable EU Regulation includes Regulation (EU) 37/2010 regarding residues of veterinary medicines, Regulation (EU) 1881/2006 regarding environmental contaminants, Regulation (EU) 853/2004 regarding Biotoxins and Regulation (EU) 2073/2005 on histamine and Directive 1996/22/EC on substances with hormonal or thyrostatic effect. See table in Section 2.1.6 which provides a direct comparison to the Indian standard.</p>	<p>The MRLs for heavy metals in the EU regulations are lower or similar to those in the Indian Standard, with the exception of arsenic and chromium for which there is not a MRL established in EU, while this is the case in the Indian standard</p> <p>The Indian standard also provides a MRL for Safrole which is not addressed in EU Regulation.</p> <p>The MRL for Benzo(a)pyrene in Smoked fishery products in EU Regulation is lower or similar to the Indian standard, except for smoked bivalves where the MRL in EU is 6ppb compared to 5ppb in Indian standard.</p> <p>The Indian standard establish MRL for Tetracycline, Oxytetracycline, Trimethoprim, Oxolinic Acid in fish muscle on same level as the EU regulation</p> <p>The EU regulation however establish MRL for residues several other pharmacological active substances, that would be accepted.</p> <p>In regard to prohibition of authorisation, distribution and use of pharmacological active substances in the EU regulation and the Indian standard prohibits the same substances, however the Indian standard prohibits also Clenbuterol, Glycopeptides, Crystal Violet, Malachite Green, Carbadox, Sulphamethoxazole and chloroform.</p> <p>The Indian standard also prohibits Stilbenes and other steroids and well as diethylstilbestrol, which is also prohibited under Directive 1996/22/EC.</p>



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<p>f) The products contain only those food additives as specified in <i>Appendix A of Food Safety Standards (Food Product Standards and Food Additives) Regulations, 2011 and within limits specified</i></p> <p>f) Part 1/2</p>	<p>https://www.fssai.gov.in/upload/uploadfiles/files/compendium.pdf Version-XXVIII (20.02.2023)</p> <p>Section 3.1 of the Standard includes the general requirements to additives and their use in foods and the sections 3.2-3.4 includes standards for additives, flavourings and processing aids.</p> <p>Appendix A is the tables of allowed use of additives defined by INS number in different defined food categories for which the following principles applies:</p> <p>The food category system is hierarchical, meaning that when an additive is recognised for use in a general category, it is recognised for use in all its sub-categories, unless otherwise stated. Similarly, when an additive is recognised for use in a sub-category, its use is recognised in any further subcategories or individual foodstuffs mentioned in a sub-category.</p> <p>The food category system is based on product descriptors of foodstuffs as marketed, unless otherwise stated.</p> <p><u>Section 9 of Annex A</u> list the Food Categories for fishery products as follow:</p> <p>9.0 Fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p>9.1 Fresh fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p> 9.1.1 Fresh fish</p> <p> 9.1.2 Fresh molluscs, crustaceans, and echinoderms</p> <p>9.2 Processed fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p> 9.2.1 Frozen fish, fish fillets, and fish products, including molluscs, crustaceans, and echinoderms</p> <p> 9.2.2 Frozen battered fish, fish fillets and fish products, including molluscs, crustaceans, and echinoderms</p> <p> 9.2.3 Frozen minced and creamed fish products, including molluscs, crustaceans, and echinoderms</p>	<p>Regulation (EU) 1333/2008, specifically Annex II and the related database provides information about the food additives, identified by E-number, approved for use in food in the EU and their conditions of use. The EU Food and Feed Database provides information about the permitted use of additives to different food categories. https://ec.europa.eu/food/food-feed-portal/screen/food-additives/categories</p> <p>In regard to fishery products the food categories are:</p> <p>9.1.1 Unprocessed Fish</p> <p>9.1.2 Unprocessed Crustaceans and Molluscs</p> <p>9.2 Processed fish and fisheries products including molluscs and crustaceans</p> <p>9.3 Fish Roe</p> <p>EU regulations does not allow flavourings to any of the fishery products categories https://ec.europa.eu/food/food-feed-portal/screen/food-flavourings/categories</p> <p>It is noticed that for unprocessed fish under category <u>9.1.1, including also untreated fish frozen at sea</u>, a range of additives are allowed to fresh fish under quantum satis conditions and phosphates are allowed with 5000 mg/kg to frozen and deep-frozen fish fillets while Erythorbic acid and Sodium erythorbate are allowed with 1500mg/kg on frozen and deep-frozen fish with red skin.</p>	<p>The Indian Standard use INS number as in the Codex General Standard for Food Additives 192-1995 with updates, while EU use the E-number system (However the EU Database allows for search on both number systems). The Indian Standard also defines the food categories and subcategories as the definitions in the Codex Standard, while the food categories in the EU regulation is broader with only few subgroups.</p> <p>Direct comparison between groups/subgroups is therefore not possible except for the subgroups 9.1.1 and 9.1.2 where the definitions are similar. Operators and authorities therefore need to consult the standards on case-by-case basis.</p> <p>In the subgroup 9.1.1 the EU allow certain additives among which phosphates to fish fillets frozen at sea, while no additives are allowed according to the Indian regulation.</p> <p>In the subgroup 9.1.2 the Indian standard allow only 100ppm sulphite to crustaceans, while EU allows 150-200ppm, depending of the size. Further EU regulation allows for use of phosphates, Calcium disodium EDTA in frozen and deep frozen crustaceans and for 4-Hexylresorcinol in fresh, frozen or deep frozen crustaceans.</p>



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<p>g) The products contain only those food additives as specified in <i>Appendix A of Food Safety Standards (Food Product Standards and Food Additives) Regulations, 2011 and within limits specified</i></p> <p>f) Part 1/2</p>	<p>9.2.4 Cooked and/or fried fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p style="padding-left: 20px;">9.2.4.1 Cooked fish and fish products</p> <p style="padding-left: 20px;">9.2.4.2 Cooked molluscs, crustaceans, and echinoderms</p> <p style="padding-left: 20px;">9.2.4.3 Fried fish and fish products, including molluscs, crustaceans, and Echinoderms</p> <p>9.2.5 Smoked, dried, fermented, and/or salted fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p>9.3 Semi-preserved fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p style="padding-left: 20px;">9.3.1 Fish and fish products, including molluscs, crustaceans, and echinoderms, marinated and/or in jelly</p> <p style="padding-left: 20px;">9.3.2 Fish and fish products, including molluscs, crustaceans and echinoderms, pickled and/or in brine</p> <p style="padding-left: 20px;">9.3.3 Salmon substitutes, caviar and other fish roe products</p> <p style="padding-left: 20px;">9.3.4 Semi-preserved fish and fish products, including molluscs, crustaceans and echinoderms (e.g. fish paste), excluding products of food categories 9.3.1 - 9.3.3</p> <p>9.4 Fully preserved, including canned or fermented fish and fish products, including molluscs, crustaceans, and echinoderms</p> <p>The section includes further detail descriptions of different types of products included in each of the groups and subgroups.</p> <p>Part IV table 9 lists the specific additives that are allowed for the categories and sub categories of fishery products.</p> <p>It is to be noted that no additives are allowed in <u>fresh fish under category 9.1.1, including also untreated fish frozen at sea, while for category 9.1.2 fresh molluscs, crustaceans, and echinoderms</u> 100ppm sulphites are allowed.</p> <p>For other food categories a direct comparison to the Indian provisions are not possible due to the different descriptors for the product groups. It would be necessary for operators and authorities to review for individual products.</p>	<p>In category <u>9.1.2 Unprocessed molluscs and crustaceans</u> a range of additives are allowed under quantum satis conditions while the following additives are allowed with maximum limit:</p> <p>Sulphur dioxide – sulphites: 150-300mg/kg to crustaceans, depending of size and 150mg/kg to cephalopods.</p> <p>Phosphates: 5000mg/kg to frozen and deep frozen crustaceans</p> <p>Calcium disodium EDTA: 75mg/kg to frozen and deep frozen molluscs and crustaceans.</p> <p>4-Hexylresorcinol: 2 mg/kg, only fresh, frozen or deep-frozen crustaceans</p> <p>For other food categories a direct comparison to the Indian provisions is not possible due to the different descriptors for the product groups. It would be necessary for operators and authorities to review for individual products.</p>	<p>See above</p>



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<p>h) Products are under regular inspection monitoring of checks in accordance with FSS Act 2006, rules and Regulations made thereunder and as per criteria specified by FSSAI.</p>	<p>The Food Safety and Standards Act, 2006 consolidated the laws relating to food and established the Food Safety and Standards Authority of India for establishing standards and regulating food manufacture, storage, distribution, sale, and import to ensure availability of safe and wholesome food for human consumption</p> <p>The text of the Act can be found here: https://fssai.gov.in/upload/uploadfiles/files/FOOD-ACT.pdf</p> <p>Chapter II point provides for the establishment of Food Safety Authority and defines key functions and responsibilities in relation to coordination (Advisory body), scientific panels and committees and general duties and functions of the Food Safety Authority. In general, the Chapter provides for the commitment to apply a risk based policy with focus on protection of human health.</p> <p>Chapter VI of the Act stipulates the of the food business operators are responsible for production of safe foods, in compliance with applicable regulations and standards, including responsibility to withdraw or re-call food products in case there is reason to believe that such products may be harmful to human beings.</p> <p>Chapter VII provides for the enforcement activities to be carried out by the Food Safety Authority and State Food Safety Authorities. competent authority, including the general principles and activities and power and liability of the authorised officers to conduct their duties.</p> <p>Chapter VIII provides for assignment of accredited laboratories, including referral laboratories.</p>	<p>In Reg. 852/2004 it is stated that food business operators shall ensure that all stages of production, processing and distribution of food are under their control and therefore responsibility. Article 6 describes the Official controls, registration and approval.</p> <p>Reg. (EU) 625/2017 describes the official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products.</p> <p>Reg. (EU) 627/2019 describes practical arrangements for the performance of official controls on products of animal origin intended for human consumption in accordance with Reg. (EU) 2017/625;</p>	<p>The system of official controls in EU Member States, when compliant with applicable regulations, may generally be considered equivalent to the system prescribed in the Indian Food Safety and Standards Act, 2006. Both set of regulations represents a commitment to apply significant elements of the Codex Alimentarius "Principles and guidelines for national food control systems, CAC/GL 82/2013".</p>



2.1.1 Summary of product standards for Frozen Fishery Products

Type of product and legal reference ⁶	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
1: Frozen shrimp	Raw or partially or fully cooked, peeled or unpeeled.	Product shall be obtained from species belonging to: (a) Penaeidae, (b) Solenoceridae, (c) Aristeidae, (d) Sergestidae, (e) Hippolytidae, (f) Crangonidae, (g) Palaemonidae (h) Atyidae. Sound shrimps or prawns which are of good quality to be sold fresh for human consumption	Freezing shall take place in equipment that allow for rapid achieving of -18°C and specifically that the range of temperature of maximum crystallization is passed quickly. Product temperature shall reach at least -18C or lower at the thermal centre after thermal stabilisation	<u>Cooking water and glazing water</u> shall be of potable quality or clean seawater free of contaminants and of same microbiological standard as potable water	To be kept deep frozen during transportation, storage and distribution. To be processed and packed to minimize dehydration and oxidation. Repackaging under controlled conditions that maintain the quality of the products followed by reapplication of the freezing process as defined is permitted.	-	The applicable requirements in the following general Indian standards apply: <ul style="list-style-type: none"> • Food Additives • Hygiene • Contaminants, toxins and residues • Packaging and labelling 	CODEX STAN 92-1981/Rev 2017 Quick Frozen Shrimps or Prawns The standard applies to quick frozen raw or partially or fully cooked shrimps or prawns ¹ , peeled or unpeeled of families: (a) Penaeidae (b) Pandalidae (c) Crangonidae (d) Palaemonidae The Codex standard is more specific as regard acceptance criteria including related sampling and testing for quality parameters such as glazing-%, discolouration, dehydration and flavour.

⁶ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ⁷	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
2: Frozen Lobsters	Product prepared from fresh lobster of sound quality. The product may be raw or cooked.	Product shall be obtained from species belonging to the genus Homarus of the families Nephropidae Palinuridae Scyllaridae. The Norway Lobster may be prepared from Nephros norvegicus. The product shall not be a mixture of different species.	Freezing shall take place in equipment that allow for rapid achieving of -18°C and specifically that the range of temperature of maximum crystallization is passed quickly.	The product may be glazed with water.	-	The product shall conform to the following requirements: TVBN: 30mg/100g in raw product and Absent in 25g in cooked product.	-	CODEX STAN 95-1981/Rev.2017, Quick Frozen Lobsters The standard applies to quick frozen raw or cooked (a) lobsters (families Nephropidae, Palinuridae and Scyllaridae) (b) spiny lobsters (c) slipper lobsters. (d) squat lobsters, red and yellow; (the species Cervimunida johnii, Pleuroncodes monodon and Pleuroncodes planipes of the family Galatheididae). The Norway Lobster may be prepared from Nephros norvegicus if presented as Norway Lobster. The Codex standard establish connection between acceptable commercial names and family/species names. The Codex standard is more specific as regard acceptance criteria including related sampling and testing for quality parameters such as glazing-%, discolouration, dehydration and flavour.

⁷ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ⁸	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
3: Frozen squid and parts of squid	Product prepared from fresh squid of sound quality	Product shall be obtained belonging to squid species of the families: Loliginidae, Ommastrephidae Onychoteuthide Thysanotenthidae	Freezing shall take place in equipment that allow for rapid achieving of -18°C and specifically that the range of temperature of maximum crystallization is passed quickly.	The product may be glazed with water.	-	No food additive is allowed in this product. The product shall conform to the following requirements: TVBN: 30mg/100g in raw product and	-	CODEX STAN 191– 1995, Quick Frozen raw Squid. The standard applies to quick frozen raw squid and parts of raw squid, as defined below and offered <u>for direct consumption without further processing</u> (a) Loliginidae (b) Ommastrephidae. The Codex standard applies to only to species of two of the four families that are covered by the Indian standard. The Codex standard is more specific as regard acceptance criteria including related sampling and testing for quality parameters such as glazing-%, discolouration, dehydration and flavour. The Codex standard does not establish criteria for TVBN.

⁸ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ⁹	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
4: Frozen Finfish	Frozen finfish refers to finfish species suitable for human consumption, with or without the head, <u>from which the viscera or other organs may have been completely or partially removed.</u> The products may be offered for direct consumption and for further processing.	-	Freezing shall take place in equipment that allow for rapid achieving of -18 C and specifically that the range of temperature of maximum crystallization is passed quickly. Product temperature shall reach at least -18C or lower at the thermal centre after thermal stabilisation	Glazing water (if used) shall be of potable quality or clean seawater free of contaminants and of same microbiological standard as potable water	To be kept deep frozen during transportation, storage and distribution.	The raw material shall not contain <u>more than 100 mg/Kg of histamine</u> in products of the species of Carangidae, Chanidae, Clupeidae, Coryphaenidae, Engraulidae, Istiophoridae, Mugilidae, Pristigasteridae, Scombridae and Xiphiidae.	The applicable requirements in the following general standards apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	CODEX STAN 36-1981, Quick Frozen Finfish The standard shall apply to frozen finfish un-eviscerated and eviscerated. The product shall not contain more than 10 mg/100 g of histamine in products of the species of: (a) Clupeidae, (b) Coryphaenidae (c) Scombridae (d) Scombresocidae (e) Pomatomida The criteria for histamine in the Indian standard include more families than in the Codex Standard AOAC and NMKL methods for sampling and testing are specified in the Codex standard. The Codex standard is more specific as regard acceptance criteria including related sampling and testing for quality parameters such as glazing-%, discolouration, dehydration and flavour.

⁹ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹⁰	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
5: Frozen fish fillets:	Frozen fillets are slices of fish which are removed from the carcass of the same species of fish suitable for human consumption by cuts made parallel to the backbone and sections of such fillets cut so as to facilitate packing, and further processing. The products may be offered for direct consumption and for further processing.	-	Freezing shall take place in equipment that allow for rapid achieving of -18 C and specifically that the range of temperature of maximum crystallization is passed quickly. Product temperature shall reach at least -18C or lower at the thermal centre after thermal stabilisation.	Glazing water (if used) shall be of potable quality or clean seawater free of contaminants and of same microbiological standard as potable water	To be kept deep frozen during transportation, storage and distribution.	<u>Fillets may be presented as boneless, provided that boning has been completed including the removal of pin-bones.</u> The raw material shall not contain more than 100 mg/Kg of histamine in products of the species of (a) Carangidae, (b) Chanidae, (c) Clupeidae, (d) Coryphaenida (e) Engraulidae, (f) Istiophoridae, (g) Mugilidae, (h) Pristigasterid (i) Scombridae (j) Xiphiidae_	The applicable requirements in the following general standards apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling.	CODEX STAN 190 -1995/Rev. 2017, Quick Frozen Fish Fillets. Product definitions same as in the Indian standard. The raw material shall not contain more than 10 mg/100 g of histamine in products of the species of (a) Clupeidae, (b) Coryphaenidae, (c) Scombridae (d) Scombridae (e) Pomatomidae The criteria for histamine in the Indian standard include more families than in the Codex Standard The Codex Alimentarius establish standard standards for number, type and size of bones that may remain in fillets that may be denounced as "boneless". The Codex Alimentarius standard establish standard for number and size of visible parasites determined by the non-destructive method specified. The Codex standard is more specific as regard acceptance criteria including related sampling and testing for quality parameters such as glazing-%, discolouration, dehydration and flavour.

¹⁰ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹¹	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
9: Frozen cephalopods	Raw frozen cephalopods and parts of raw cephalopods, offered for direct consumption and for further processing. To be prepared from sound squid, cuttlefish or octopus which is of a good quality to be sold fresh for human consumption	<p>Products from the following groups and families are included:</p> <p><u>Squid:</u></p> <ul style="list-style-type: none"> - Loliginidae - Onychoteuthidae - Ommastrephidae - Thysanoteuthidae <p><u>Cuttlefish</u></p> <ul style="list-style-type: none"> - Sepiidae - Sepiolidae <p><u>Octopus</u></p> <ul style="list-style-type: none"> - Octopodidae <p>To be prepared from sound squid, cuttlefish or octopus which is of a good quality to be sold fresh for human consumption</p>	Freezing shall take place in equipment that allow for rapid achieving of -18 C and specifically that the range of temperature of maximum crystallization is passed quickly. Product temperature shall reach at least -18C or lower at the thermal centre after thermal stabilisation	Glazing water (if used) shall be of potable quality or clean seawater free of contaminants and of same microbiological standard as potable water	To be kept deep frozen during transportation, storage and distribution.	-	The applicable requirements in the following general standards apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	<p>CODEX STAN 191 – 1995 – Quick frozen squid Applies to products of families: a) Loliginidae b) Ommastrephidae.</p> <p>There is no Codex standard that covers Cuttlefish and Octopus.</p> <p>The Codex standard includes procedures and instructions for sampling, examination and analyses for quality assessment, including acceptance criteria.</p>

¹¹ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹²	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
15: Frozen minced fish Meat	Frozen minced fish meat offered for direct consumption and for further processing.	Fresh fish which do not show any signs of degradation and spoilage.	Product shall be quick frozen at a temperature not exceeding -30°C in polyethylene wrappers and packed in waxed cartons in the minimum possible time. cold storage at a temperature minimum - 23°C.	Shall be prepared from the fish that are: <ul style="list-style-type: none"> properly iced and maintained at max 5°C till transported to the freezing factory gutted; the tail, entrails, bones, tips, skin, head and other non-edible portion shall be removed. washed thoroughly with clean potable water to remove the blood. 	-	The variety of fish used shall be specified; Thawed minced fish meat shall have clean appearance and shall be found undamaged and free from defects. Deterioration, such as dehydration, oxidative rancidity and adverse changes in the texture shall not be present. The product shall be free from foreign matter and finishing agents. Max 1% bone content by weight. Colour, texture, odour and flavour shall be characteristic of the species.	The applicable requirements in the following general standards apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	CODEX STAN 165-1989/Rev.2016. Frozen blocks of fish fillet, minced fish flesh and mixtures of fillets and minced fish flesh Applies to quick frozen blocks of cohering fish flesh, prepared from a) fillets b) minced fish flesh c) mixture of fillets minced fish flesh, which are intended for further processing, and which may comprise single species of mix of species. The Codex standard requires only a normal quick freezing process to -18°C while the Indian standard seem to require that freezing temperature (not storage temperature) shall be -30°C. The Codex standard specifies max 10 mg/100 g of histamine based on the average of the sample unit and max 20mg/100g in any sample unit tested if the species origin from families of Clupeidae, Scombridae, Scombrosocidae, Pomatomidae and Coryphaenidae. The Codex standard includes procedures and instructions for sampling, examination and analyses for quality assessment, including acceptance criteria.

¹² The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹³	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
17: Frozen clam meat	Raw Frozen Clam Meat (RFCM) and Cooked Frozen Clam Meat (CFCM)	Products from the following groups and families are included: Vallarta species Meretrix species or Any other edible species of clams	-	Clams treated with hot water to opening the shell prior to picking the meat shall not be considered cooked.	-	The frozen clam meat shall have the characteristic appearance and colour. It shall be free from discolouration, deterioration, sand particles, pieces of shell, filth or any other foreign matter	The applicable requirements in the following general standards apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	There is no Codex standard for raw or cooked frozen clam meat. The closest would be CODEX STAN 312-2013 on live abalone and for raw fresh chilled or frozen abalone for direct consumption or for further processing. No comparison made.

¹³ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹⁴	Product Presentation(s)	Raw materials	Freezing process	Water ...	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
21: Quick Frozen Fish Sticks (fish fingers), Fish Portions and Fish Fillets - Breaded or Battered	<p>Fish sticks (fish fingers), fish portions cut from quick frozen fish flesh blocks, formed from fish flesh, and natural fish fillets, breaded or with batter coatings, singly or in combination. Product may be raw or partially cooked and offered for direct human consumption without further industrial processing.</p> <p>A fish stick (fish finger) means the product which includes the average percent of fish flesh must not be less than 50 per cent of total weight. Each stick shall be not less than 10 mm thick.</p>	<p>Quick frozen breaded or battered fish sticks (fish fingers) breaded or battered fish portions and breaded or battered fillets shall be prepared from fish fillets or minced fish flesh, or mixtures thereof, of edible species which are of a quality such as to be sold fresh for human consumption .</p>	<p>Freezing shall take place in equipment that allow for rapid achieving of -18 C and specifically that the range of temperature of maximum crystallization is passed quickly. Product temperature shall reach at least -18C or lower at the thermal centre after thermal stabilisation</p>	-	<p>Industrial repacking or further industrial processing of intermediate quick frozen material under controlled conditions which maintains the quality of the product, followed by the re-application of the quick freezing process, is permitted.</p>	<p>In fish stick/fish finger the average percent of fish flesh must be min. 50% of total weight. Each fish stick/ fish finger shall be not less than 10 mm thick. May be prepared from a single species of fish or from a mixture of species with similar sensory properties. Fish fillets are to be slices of fish which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets, with or without the skin. Content of histamine shall be max 10mg/100g based on the average of the sample unit tested in products of the families Clupeidae, Scombridae, Scombresocidae, Pomatomidae Coryphaenidae There is a descriptive standard for defectives in the cooked products (foreign matters, <u>bones</u>, colour, odour and flesh abnormalities). Please consult the standard for details.</p>	-	<p>CXS 166–1989/Rev. 2016 for quick frozen fish sticks (fish fingers), fish portions and fish fillets - breaded or in batter.</p> <p>The Codex standard defines as follow: a) Fish Finger/fish stick shall weigh 20-50g, be at least 10mm thick and length to be at least 3xwidth b) Fish Portion may be of any weight, shape or size. c) Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets, with or without the skin. Fish sticks or portions may be prepared from a single species of fish or from a mixture of species with similar sensory properties. The Codex standard specifies max 10 mg/100 g of histamine based on the average of the sample if the species origin from families of Clupeidae, Scombridae, Scombresocidae, Pomatomidae and Coryphaenidae. The Codex standard includes procedures and instructions for sampling, examination and analyses for quality assessment, including different methods of determination of fish content and acceptance criteria. The specifications regarding bones are similar in the two standards.</p>

¹⁴ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



Type of product and legal reference ¹⁵	Product Presentation(s)	Raw materials	Freezing process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
22: Fresh and Quick Frozen Raw Scallop Products:	Fresh or Quick Frozen Scallop Meat”, which is the <u>scallop adductor muscle</u> meat. “Fresh or Quick Frozen Roe-on Scallop Meat”, which is the <u>scallop adductor muscle meat and attached roe</u> . (c) Quick Frozen Scallop Meat”, or “Quick Frozen Roe-on Scallop Meat”, <u>with added water and/or solutions of water and phosphates</u> . Intended for direct human consumption or for further processing.	The Pectinidae family	Freezing process carried out in appropriate equipment so the range of temperature of maximum crystallisation is passed quickly. Repacking conditions quick frozen products under controlled which will maintain the quality of the product, followed by the reapplication of the quick freezing process is permitted.	In Quick Frozen Scallop Meat or Quick Frozen Roe-on Scallop Meat Processed <u>with Added Water or Solution of Water and Phosphates</u> the exact water uptake shall be labelled and is in level that is acceptable in accordance with the law or custom of the country in which the product is sold. Water for glazing and solutions shall be of potable quality. phosphates and salt shall be food grade.	Products shall be processed and packaged so as to minimise dehydration and oxidation.	There are descriptive standards for: <ul style="list-style-type: none"> preparing/presentation of the four product groups to which the standard applies. defectives in the final products (foreign matters, deep dehydration, odour, flavour, texture and colour and parasites . <p>Please consult the standard for details.</p>	-	CODEX STAN 315-2014/Rev. 2016 for fresh and quick frozen raw scallop products. <p>The standard applies to the same product groups as the Indian standard.</p> <p>The quality criteria are basically the same in the two standards, but they are more specific in the descriptions in Codex than in the Indian standard.</p> <p>The Codex standard describes specific work instructions and methods for sampling, examination and analysis, eg. Determination of pieces, count, added water and net-weight, including acceptance criteria.</p>

¹⁵ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information (e.g. 1: Frozen shrimp means that further information can be found in subdivision 1 of chapter 2.6.1. in the Compendium referred to)



2.1.2 Summary of product standards for Canned and Pasteurized Fishery Products

Type of product and legal reference ¹⁶	Product Presentation(s)	Raw materials	Thermal Treatment process	Water in Processing and/or other processing conditions.	Packaging ...	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
8: Canned Fishery Products Part 1/2	Canned finfish, crustaceans or molluscs solid packed or packed in oil, water or other suitable medium.	The standard specify that products shall be of <u>species</u> of the following categories of finfish, crustaceans and molluscs: <ul style="list-style-type: none"> • Sardine and other clupeoids • Tuna and Bonito • Mackerel • Seerfish • Pomfret • Shrimp/prawns • Crabs • Mussels • Squid Please consult the standard for details of species within each group.	Products to be packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure <u>commercial sterility</u> . There are defined <u>criteria for vacuum and headspace in the can</u> . Please consult the Standard for all details.	-	-	For canned shrimp the head, shell and antennae shall be removed Canned crab meat is prepared singly or in combination from the leg, claw, body and shoulder meat from which the shell has been removed. On opening the can is shall not display any appreciable disintegration of the product. Pieces from which portions have separated out would be treated as disintegrated units.	The applicable requirements in the general standards on the following subjects apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	CXS 3-1981. Canned salmon CXS 37-1991/Rev. 2018. Canned shrimps or prawns CXS 70-1981/Rev. 2018. Canned tuna and bonito CXS 90-1981/Rev. 2018. Canned crab meat CXS 94 – 1981/Rev. 2018. Sardines and sardine-type products CXS 119 – 1981/Rev. 2018. Canned Finfish The Indian standard does not apply to canned salmon. The Indian standard applies to same families of shrimp/prawns as the Codex standard, but also to some other shrimp/prawn families that are not addressed in the Codex standard. For Tuna and bonito the standards applies to the same species, but the Codex standard has additional two species in the scope of the standard.

¹⁶ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ¹⁷	Product ...	Raw ...	Thermal ...	Water in Processing and/or other processing conditions.	Pack ...	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
8: Canned Fishery Products Part 2/2	See above	See above	See above	<p>There are descriptive standards for the raw material qualities to be of sound quality without spoilage and deterioration.</p> <p>Canned crab meat shall be prepared from crabs that are alive immediately prior to the commencement of processing.</p> <p>Histamine in raw materials of species sensitive to histamine formation (specified): max. <u>10mg/100g</u>, based on the average of the sample unit tested.</p> <p>Please consult the Standard for all details.</p>	-	<p><u>The percentage of detached portion of fish calculated on the basis of the drained mass shall not exceed 5 percent by mass based on the average of 5 cans.</u></p> <p><u>In final products of sardine and mackerel:</u></p> <p>3.5% NaCl in brine treated cans.</p> <p>0,06-0,20% (m/v) acidity as citric acid in brine.</p>	<p>The applicable requirements in the general standards on the following subjects apply:</p> <p>Food Additives</p> <p>Hygiene</p> <p>Contaminants, toxins and residues</p> <p>Packaging and labelling</p>	<p>For crabs the Codex standard applies to King Crab (species of the family Lithodidae) while the Indian standard applies to three names species of mud crab and swimming crab species (Scylla and Portunus families)</p> <p>For Sardine and Sardine type products the Indian standard defines only two of the species that are listed under the product definition in the Codex standard. Most of the species listed in the product definitions in the two standards are different from each other.</p> <p>The Codex standard for canned finfish applies to products produced from the flesh of any species of finfish (other than canned finfish covered by other Codex product standards) which is suitable for human consumption and may contain a mixture of species. The Codex standard would then cover also products of mackerel, seer fish and pomfret species that are addressed in the Indian standard.</p> <p>The Indian standard applies also to products of Mussels and squid for which there is no Codex standard.</p> <p>The Codex Alimentarius standards include recommendations to prepare and handle the products in accordance with appropriate sections of the Codex Alimentarius Code of Hygienic Practice for Low and Acidified Low Acid Canned Foods (CAC/RCP 23-1979) which include detailed guidance's to design and control of the complete heating process.</p>

¹⁷ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ¹⁸	Product Presentation(s)	Raw materials	Thermal Treatment process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
11: Ready-to-Eat Finfish or Shell Fish Curry in Retortable Pouches	Edible portions of fish or shellfish, <u>packed in gravy</u> of spices, vegetable fat and other ingredients appropriate to the product and <u>heat processed</u> by an appropriate manner <u>after being sealed in a container</u> so as to prevent spoilage.	Finfish or shellfish species of sound quality without any visible sign of decomposition.	Retortable pouches, exhausted or vacuumized and heat-sealed. Exhausting either by steam injection or hot filling to achieve residual air level of less than 2%. Processing (Retorting) in over pressure autoclave F ₀ value of 8-10 minutes at the slowest heating point. Cooling water shall be as per IS 10500:2012 standards and chlorinated to maintain free residual chlorine of less than 2 mg/l.	There are descriptive standards for the raw material qualities to be of sound quality without spoilage and deterioration. Fish may be gutted or un-gutted (see further details in the standard) TVBN in raw materials of fin fish or shell fish: Max 35mg/100g.	There are descriptive standards to the pouch materials composition and parameters for their physical strength. Please consult the Standard for all details.	The product shall be presented in curry packing medium. There are descriptive criteria for odour, flavour and colour, % disintegration, foreign elements. Proportion of fish:curry shall be in ration 60:40 NaCl in final product: max 1-2%. Please consult the Standard for all details.	-	There is no Codex Alimentarius Standard for these types of products.

¹⁸ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ¹⁹	Product Presentation(s)	Raw materials	Thermal Treatment process	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
23: Pasteurized Fish Sausage	Fish sausage is a fish mince based product comprising fish mince, seasoning, spices, and food additives, which are mixed thoroughly and stuffed into suitable casing and heat processed to achieve pasteurization. Ready to eat or to be cooked before consumption.	Any fish meat of acceptable quality for human consumption or surimi	Pasteurization of stuffed and sealed sausages: F value at 85°C: 31 min; Z value: 8.9°C Cooled immediately in chilled water at 4-5°C for 10 min. The sausages shall be air dried and stored at refrigerated temperature (<3°C).	-	Fish sausages shall be packed in transparent food grade containers and best before use to be provided.	There are criteria for composition as regard fish mince, fat, binding agents, spices and criteria for sensory parameters. Please consult the Standard for all details. +Microbiological criteria (Convenience Fishery Products), +level of additives	The applicable requirements in the general standards on the following subjects apply: Packaging and labelling	There is not Codex Alimentarius Standard for these types of products.

¹⁹ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁰	Product Presentation(s)	Raw materials	Thermal Treatment process	Water in Processing and/or other processing conditions.	Packaging ...	Specific product standards	Other Indian standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
24: Pasteurized crab meat	Crab meat that has been cooked, pasteurized and chilled, intended for direct consumption with or without cooking and for further processing.	Pasteurized crab meat shall be processed from live blue swimming crabs that have been subject to: <ul style="list-style-type: none"> • Washing, • cooking, • cooling, • dressing, • picking and • sorting 	It is recommended that the crab meat shall be pasteurized to a minimum cumulative total lethality of F85°C= 31 minutes, where z = 90 C. Equivalent processes to same z values may be used.	-	-	There are descriptive standards for: Fill of containers Sensory parameters (colour, odour, taste and texture). Foreign matters Disodium diphosphate or Sodium acid pyrophosphate permitted at level 10mg/kg. +Microbiological criteria (Convenience Fishery Products).	The applicable requirements in the general standards on the following subjects apply: Packaging and labelling.	There is not Codex Alimentarius Standard for these types of products.

²⁰ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



2.1.3 Summary of product standards for Smoked, salted or dried Fishery Products

Type of product and legal reference ²¹	Product Presentation(s)	Raw materials	Specific process of preservation	Water in Processing and/or other processing conditions.	Pack...	Specific product standards	Other standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
7: Salted fish/dried salted fish	Dried/salted and dried fishery products	Fish shall be bled, gutted, beheaded, split or filleted and washed prior to salting and drying.	Split or filleted fish	Salt shall be clean, free from foreign matter, show no visible signs of contamination with dirt, oil, bilge or other extraneous materials.	-	Criteria for chemical parameters (Aw, Salt%, Ash). For histamine sensitive species the histamine content shall be max 200mg/kg. Please consult the standard for complete information.	The applicable requirements in the general standards on the following subjects apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	CXS 167 – 1989/Rev. 2018 Salted fish and dried salted fish of the gadidae family. Apply to products prepared of fish of Gadidae family and which are fully saturated with salt (heavy salted) or partly salted to min 12% by weight. Drying and salting processes defined and further described as follow: - Dry salting, wet salting or brine injection - Natural drying. Artificial drying Products may be presented as: Split fish, Split fish with entire backbone, Fillet, and other presentations if adequately described on label and meeting all other criteria in the standard. The Indian standard is not limited to certain species and do not include details of different product types or requirements to processing as the Codex Alimentarius Standard. The Indian product standard includes min. 12% salt and aw of less than 0,78 The Indian standard for histamine is not relevant for species of the Gadidae family, hence of cause not addressed in the Codex Alimentarius standard. The Codex standard describes specific work instructions and methods for sampling, examination and analysis of salt and visual and sensory defects including acceptance criteria.

²¹ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²²	Product Presentation(s)	Raw materials	Specific process of preservation	Water	Pack...	Specific...	Other ...	Related Codex Alimentarius Standard or Code of Practice
10: Smoked Fishery Products	Smoked, smoke-flavoured and smoke-dried fish prepared from fresh, chilled or frozen raw material. For direct consumption, further processing or ingredient in other products.	Whole fish, fillets and sliced and similar products thereof.	Reference to Regulation 3 regarding the smoking process <u>Smoked fish</u> : has undergone hot or cold smoking process. <u>smoke-dried fish</u> : has undergone combined smoking and drying process and eventually also a salting process. <u>smoke-flavoured fish</u> : fish that has been treated with smoke flavours, without employing a smoking process. Smoking process shall be designed to minimise the formation of polycyclic aromatic hydrocarbons (PAH); Descriptive definitions of the different smoke processes provided. Please consult the standard for complete information.	-	-	-	The applicable requirements in the general standards on the following subjects apply: Food Additives Hygiene Contaminants, toxins and residues Packaging and labelling	CXS 311- 2013, 2018 Smoked fish, smoke-flavoured fish and smoke-dried fish. <u>Smoked fish</u> is prepared from fish that has undergone a hot or cold smoking process (as further defined in the standard). <u>Smoke-flavoured fish</u> is prepared from fish that has been treated with smoke flavours, without undergoing a smoking process (as further defined in the standard) Smoke-dried fish is prepared from fish that has undergone a combined smoking and drying process and may include a salting process (as further defined in the standard). The product and process definitions are similar in the Indian and the Codex Alimentarius standard. The Codex Alimentarius standard includes additionally detailed instructions and guidelines for Sampling, examination and analysis of relevant quality and food safety criteria, eg. Salt content, water activity, histamine, Listeria monocytogenes, clostridium botulinum and viable parasites. Guidance to control of Clostridium botulinum through combinations of temperature, water activity and packaging are also provided in the Codex Alimentarius standard.

²² The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²³	Product Presentation(s)	Raw materials	Specific process of preservation	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
13: Edible Fish Powder	Fine powder free from needle-like bones. It shall blend easily with cereal flours.	Fresh fish of edible quality which is normally consumed whole. Non-oily white fish like sprats, single or mixed species. Poisonous fish like marine snakes, elasmobranch fish with a high quantity of urea, oily fish and fish with black viscera are <u>not</u> considered suitable for preparation of edible fish powder.	-	Fish may be un-gutted but washed and cooked before the drying process. Organic solvents or chemicals shall <u>not be used</u> in its preparation.	Requirements to physical parameters for packaging materials are specified. Please consult the standard for complete information.	<u>Sensory</u> : faint yellow colour and the characteristic flavour and taste of dry fish. It shall be free from rancidity and off-flavours. <u>Particle Size</u> : powder shall pass completely through a 100-mesh sieve (un <u>Protein Efficiency Ratio (PER)</u> : Min. than 2,5 (less otherwise specified). Requirements to chemical composition are specified; Please consult the standard for complete information.	The applicable requirements in the general standards on the following subjects apply: <ul style="list-style-type: none"> • Food Additives. • Hygiene • Contaminants, toxins and residues. • Packaging and labelling. 	There is no Codex Alimentarius standard for this type of product.
16: Freeze dried prawns (shrimps)	Freeze dried prawns/shrimps	Any edible species; clean, wholesome and fresh prawns, and shall not show any visible sign of spoilage. Peeled and cooked, deveined or non-deveined dorsal tract removed or not removed.	-	Potable water with 5mg/kg available chlorine.	-	Moisture: max 2% Rehydration: min 300% Specification for physical defects, e.g. broken and damaged pieces are provided. Please consult the standard for complete information.	-	There is no Codex Alimentarius Standard for this type of product.

²³ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



2.1.4 Summary of product standards for products *other than those covered in Table 2.1.1-2.1.3* above

Type of product and legal reference ²⁴	Product Presentation(s)	Raw materials	Specific process of preservation	Water ...	Pack...	Specific product standards	Other standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
12: Sardine Oil	A bright and clear liquid when heated to a temperature of 40°C.	Fresh or well preserved or frozen sound wholesome sardine fish (<i>Sardinella longiceps</i>). Whole or head-off	Cooking pressing and separating oil from press liquor by centrifugation or by any other suitable means	-	-	Descriptive quality criteria and criteria for chemical quality parameters are provide. Please consult the standard for complete information.	The applicable requirements in the general standards on the following subjects apply: Hygiene Contaminants, toxins and residues Packaging and labelling	There is no Codex Alimentarius Standard specifically for this type of product. However, CXS 329-2017, Fish Oils, applies to fish oils derived from different named and not specifically named species and fractions of fish (e.g. cod liver oil) including also concentrated fish oils but not including specifically sardine oils. The Indian standard includes criteria for chemical composition in broad terms (e.g., the rancidity indicators is Iodine value) while the Codex standard has specific criteria for several rancidity indicators indicating different stages of rancidity (Peroxide value, acid value, anisidine value, and total oxidation value) and complete fatty acid profiles for oils from named species and vitamin content for cod oil. Regarding sampling and testing, the Codex Alimentarius Standard refer to CXS 234-1999 Recommended Methods of Analysis and Sampling.

²⁴ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁵	Product Presentation(s)	Raw materials	Specific process of preservation	Water...	Packaging and storage conditions	Specific product standards	Other standards that apply (See summaries and references in chapter 2.1 of this document)	Related Codex Alimentarius Standard or Code of Practice
14: Fish Pickles	-	Product includes: <ul style="list-style-type: none"> • Edible fish; • Spices and condiments such as ginger garlic, chillies, curry powder; • Edible common salt; • Preservation media; • Vinegar (4 % acetic acid); • Edible vegetable oils. 	-	-	Fish pickles shall ordinarily be packed in glass containers or in food grade polyethylene pouches as may be found suitable so as to protect it from deterioration.	Good uniform colour and appearance and shall be practically free from defects, visible fungal growth and disintegration of meat. Good texture, not be unduly hard, or tough, and free from development of any softening. Chemical quality criteria are provided. Please consult the standard for complete information.	The applicable requirements in the general standards on the following subjects apply: <ul style="list-style-type: none"> • Food Additives • Hygiene • Contaminants, toxins and residues • Packaging and labelling. 	There is no specific Codex Alimentarius standard for this type of products.

²⁵ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁶	Product Presentation(s)	Raw materials	Specific process of preservation	Water in Processing and/or other processing conditions.	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
19: Sturgeon Caviar	Granular sturgeon caviar of the fish of the Acipenseridae family. and intended for direct human consumption	<p>Four genera of Acipenseridae</p> <ul style="list-style-type: none"> • Acipenser, • Huso, • Pseudoscaphirhynchus Scaphirhynchus • and hybrid species of these genera <p>Mixing of caviar from different sturgeon species or lots shall be <u>not permitted</u>.</p>	<p>Addition of salt. Salt content: 3-5 g/100gm in the end product.</p> <p>In addition to treatment or conditions sufficient to prevent the growth of spore and non-spore forming pathogenic microorganisms.</p>	<p>Ovulated eggs are harvested after hormonal induction of ovulation of the female. The eggs are appropriately treated to remove adhesive layer and to harden the shell. Permitted hormones may be used to produce ovulated eggs.</p>	<p>Product temperature during packaging, storage and retail: 2°C - 4°C,</p> <p>Product temperature for wholesale business, including storage and transportation, to -4°C - 0°C.</p> <p>Freezing and frozen storage of caviar is not permitted unless the deterioration of quality is avoided.</p> <p>Re-packaging of the product from larger to smaller containers under controlled conditions which maintain the quality and safety of the product is permitted.</p>	<p>Descriptive criteria for composition and sensory quality are provided. Please consult the standard for complete information.</p>	-	<p>CXS 291-2010/Rev. 2018. Sturgeon Caviar.</p> <p>Product to be prepared of eggs of fishes of the Acipenseridae family (four genera Acipenser, Huso, Pseudoscaphirhynchus and Scaphirhynchus and hybrid species of these genera).</p> <p>The product and the process definitions are similar in the Indian and the Codex Alimentarius standard.</p> <p>The Codex Alimentarius Standard includes also standards for naming the food in addition to the word caviar, depending of the species (e.g. caviar, Beluga for the eggs from the specie Huso Huso).</p> <p>The Codex Alimentarius standard includes references to other standards for sampling, examination and analysis of quality and food safety criteria, including acceptance criteria.</p>

²⁶ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁷	Product Presentation(s)	Raw materials	Specific process of preservation	Water in Processing and/or other processing conditions.	Pack...	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
20: Fish Sauce	A translucent, not turbid liquid product with a salty taste and fish flavour obtained from fermentation of a mixture of fish and salt. Intended for direct consumption as a condiment, seasoning or ingredient.	Sound and wholesome fish or parts of fish in a condition fit to be sold fresh for human consumption.	Fermentation in covered containers by mixing fish and salt and eventually including other ingredients to assist the fermentation process Fish sauce produced by acid hydrolysis is not in the scope to this standard.	-	-	Descriptive criteria for composition (nitrogen, amino acid nitrogen, pH and salt) and sensory quality are provided. Please consult the standard for complete information.	-	CXS 302-2011/Rev. 2018, Fish Sauce Standard applies to fish sauce produced by means of fermentation by mixing fish and salt and may include other ingredients added to assist the fermentation process. Fish sauce produced by acid hydrolysis is not in the scope to this standard. Standards for chemical composition and sensory and physical defects are similar to the Indian standard. The Codex Alimentarius standard include also requirements to minimum fill of the container as well as references to AOAC methods of analysis of the chemical parameters.
25: Gelatine from Fish Processing Waste	-	Fish processing waste comprising of skin, bones, swim bladder and scales.	-	Water washed and alkali/acid treatment. Water extraction at elevated temperature (usually > 40°C) Separation, evaporation, drying and grinding.	-	Extraction method determines Type A or Type B Gelatine. Descriptive standards for composition (pH, moisture, and amino acid composition) are provided. Descriptive physical quality criteria are provided. Please consult the standard for complete information.	-	There is no Codex Alimentarius Standard for this type of product.

²⁷ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁸	Product Presentation(s)	Raw materials	Specific process of preservation	Water ...	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
18: Live Bivalve Molluscs	Live bivalve molluscs are products that are alive immediately prior to consumption. Presentation includes the shell.	Harvested alive from a harvesting area either approved for direct human consumption or classified to permit harvesting for an approved method of purification, e.g. relaying or depuration, prior to human consumption.	Both relaying and depuration must be subject to appropriate controls implemented by the official agency having jurisdiction	-	Live bivalve molluscs shall be labelled by weight, count, count per unit weight, or volume as appropriate to the product. Shall be alive when sold.	Live bivalve molluscs shall possess organoleptic characteristics associated with freshness, as well as an adequate response to percussion (i.e. the shellfish will close by themselves when tapped). Descriptive sensory quality criteria are provided. Please consult the standard for complete information	-	CXS 292-2008/Rev. 2015 Live and Raw Bivalves. For live bivalves the product description including general presentation, organoleptic characteristics and defectives are similar in the Indian and the Codex Alimentarius standard. The Codex standard require that live bivalve molluscs shall be harvested only from areas that are under control/monitoring and either approved for direct human consumption or classified to permit harvesting for an approved method of purification, e.g. relaying or depuration, prior to human consumption. The Codex standard include also criteria for content of different biotoxins as well as references to methods for analysis of the biotoxins as well as criteria for E coli. in growing areas under monitoring which are not addressed in the Indian standard. The Codex standard also provides requirements for storage and labelling of the product in re-tail and non-retail containers to ensure its viability at the time of consumption. The Codex standard includes also provisions for Sampling, examination and analyses of all quality and food safety parameters including acceptance criteria

²⁸ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



Type of product and legal reference ²⁹	Product Presentation(s)	Raw materials	Specific process of preservation	Water ...	Packaging and storage conditions	Specific product standards	Other ...	Related Codex Alimentarius Standard or Code of Practice
18: Raw Bivalve molluscs	Raw bivalve molluscs <u>processed</u> for direct consumption or for <u>further processing</u> are products where the molluscs were alive immediately prior to the commencement of processing.	Raw bivalve molluscs shall be of a quality fit for human consumption.	-	-	The label shall specify the conditions for storage and temperature that will maintain the product safety or viability during transportation, storage and distribution (?)	Descriptive sensory and physical quality criteria are provided. Please consult the standard for complete information.	-	CXS 292-2008/Rev. 2015 Live and Raw Bivalves. The Codex standard require the raw materials to be harvested only from approved areas under control as required for the live bivalves. The descriptive sensory and physical quality parameters are similar to those in the Indian standard. The Codex Alimentarius standard have provisions for Sampling, examination and analysis of quality and food safety parameters. The standard for content of Biotoxins that applies to live bivalve applies also to raw bivalves.

²⁹ The point numbers given with each type of product refer to the subdivisions of chapter 2.6.1 of the Compendium Food Product Standards and Food Additives, 2011. Please consult the document for complete information



2.1.5 Summary of the result of comparison of Indian Product standards and the Codex Alimentarius Product standards.

The results of the direct comparisons between the Indian Product Standards and the Codex Alimentarius standards are summarised, for product groups as they are defined in the Indian Product standards, in the tables 2.1.1 to 2.1.4 with focus on similarities as well as significant differences that may impact food safety and or trade relations. This summary is focused on the significant differences between the Indian Product Standards and the applicable Codex Alimentarius standards which is further outlined in the tables below.

Availability of standards

For some of the Indian product standards there are not any applicable Codex Alimentarius standard. This is the case for Ready to eat Finfish or Shellfish Curry in Retortable pouches, Pasteurized Fish Sausages, Pasteurized Crab Meat, Edible Fish Powder, Freeze Dried Prawns /Shrimps, Fish Pickles, Gelatine from Fish Processing Waste and Cooked Frozen Clam Meat.

Scope of Standards

In some cases, although covering the same product groups, the Indian Standard and the Codex Alimentarius Standard have partly different scopes. This is the cases in the standards for:

Frozen shrimp, where the Indian standard mention that the products may be prepared from species of 8 different families, while the Codex Alimentarius standard include only species from four of the families.

Frozen lobster, where the Indian standard cover only three families of the genus Homarus as well as Norway lobster while the Codex Alimentarius cover also spiny lobsters, slipper lobsters, and squat lobsters. The Codex Alimentarius standard establish connection between acceptable commercial names and scientific names.

Frozen Squid, where the Indian standard cover products of species from four different families, the Codex Alimentarius cover only two of these families. Further the Codex standard applies only to products offered for direct consumption without further processing while the Indian standard have no such limitations.

Frozen cephalopods, where the Indian standard cover species of the four families of squid as well as species of Cuttlefish and Octopus. There is no Codex Alimentarius standard for Cuttlefish and Octopus.

Frozen minced fish meat, where the Codex Alimentarius standard is specific to frozen blocks of fish fillets, minced fish flesh and mixtures of fillets and minced fish flesh intended for further processing. The Indian standard do not have any such limitations or further specifications in the scope.

Canned Fishery Products, where there is only one Indian standard covering several fish species, shrimps/prawns, crabs, mussels and squid while the Codex Alimentarius divides the provisions in 6 different standards for salmon, shrimps/prawns, tuna and bonito, other finfish, crab meat and sardine type products respectively. For all types of products, the scopes as regard families and species are partly different. Specifically, the Codex Alimentarius standard applies to King Crab (species of the family Lithodidae) while the Indian standard applies to named species of mud crabs and swimming crabs Crab (the Scylla and Portunus families). The Indian standard applies also to canned products of mussels and squid for which there is no Codex Alimentarius standard.

Salted Fish/Dried Salted Fish, where the Indian standard is short and quite general and seems to apply to salted/dried salted fish of all species, while the Codex Alimentarius standard are specific to products prepared of fish from the Gadidae family only. The Codex Alimentarius standard are also more specific as regard the presentation of the products.



Sardine Oil, where there is a specific Indian standard, while the Codex Alimentarius standard for Fish Oils applies to oils derived from different fish species and fractions of fish, e.g. liver, however not including sardines.

Specific handling and processing/production conditions

In some cases, one of the standards are more specific as regard certain handling and/or processing conditions to an extent where it could be questioned whether the standards are similar or where the differences may lead to trade implications when referred to. This is the case in the standards for:

Frozen Fish Fillets, where the Indian standard specify that fillets may be presented as boneless if “boning has been completed including the removal of pin-bones”, while the Codex Alimentarius specify a standard for content of number, size and type of bones that may be found in fillets denounced as boneless. Similarly, the Codex Alimentarius standard establish criteria for number and size of parasites determined by non-destructive visibility method.

Frozen Minced Fish Meat, where the Indian standard require the product to be frozen at a temperature not exceeding -30°C and kept in cold storage at a temperature of at least -23°C , while the Codex standard only specify as normal that the quick-freezing process should ensure that the product temperature should reach -18°C and that the frozen products shall be “kept deep frozen so as to maintain the quality during transportation, storage and distribution”.

Canned Fishery Products, where the Codex Alimentarius standards include recommendations to prepare and handle the products in accordance with appropriate sections of the Codex Alimentarius Code of Hygienic Practice for Low and Acidified Low Acid Canned Foods (CAC/RCP 23-1979) which include detailed guidance’s to design and control of the complete heating process, from filling and control of containers until storage of the final product, while the Indian standard just mention that the products shall have received a processing treatment “sufficient to ensure commercial sterility”, including a standard for minimum vacuum and headspace in the containers.

Salted Fish/Dried Salted Fish, where the Codex Alimentarius standard defines the acceptable salting and drying processes to be used, including the related names to be used for the different products, the Indian standard defines a minimum of 12% salt and water activity of less than 0,78 for all types of products, which is not addressed in the Codex Alimentarius standard.

Smoked fishery products, where the Codex Alimentarius refer specifically to Code of Practice for the Reduction of Contamination of Food with Polycyclic Hydrocarbons (PAH) from Smoking and Direct Drying Processes (CXC 68-2009) and further includes guidance on how to control the risk for formation of Clostridium botulinum toxin through combinations of temperature, water activity and packaging. These issues are not addressed in the Indian standard. The Codex Alimentarius standard also address the potential risk for alive parasites, which should not be present and where the raw material shall be frozen prior to smoking, if a parasite hazard exists. This risk is not addressed in the Indian standard.

Live and Raw Bivalve Molluscs, where the Codex Alimentarius has one standard including both types of products there are two Indian standards. The Codex Alimentarius standard require that the raw bivalve molluscs for direct consumption or for further processing shall be harvested and eventually undergo relaying and depuration in the same way as described for live bivalve molluscs, while the Indian standard only specify that the raw bivalves shall be alive immediately prior to commencement of the processing.



Food Safety and Quality Criteria in general

The descriptive quality and food safety criteria are in several cases more or less similar in the Indian standards and the Codex Alimentarius standards; there are however also some cases where the Codex Alimentarius standard are more detailed than the Indian standard. Certain chemical and microbial criteria are also more detailed in some cases. Such cases are:

- criteria for TVBN in frozen lobsters which is established in the Indian standard but does not exist in the Codex Standard
- criteria for fatty acids and rancidity indicators in fish oils/sardine oil where the Codex Alimentarius standard for the different fish oils are more detailed and precise than the criteria for sardine oil established in the Indian standard.
- criteria for biotoxins in live and raw bivalve molluscs which are specified with acceptable limits and related analytical methods in the Codex Alimentarius standard, while not mentioned in the Indian standard.
- criteria for E. coli in the harvest area for live bivalves, which are established with acceptable limits and the related analytical method in the Codex Alimentarius standard, while not mentioned in the Indian standard.

Sampling, examination and analysis

All Codex Alimentarius are systematic in prescribing work instructions and methods for sensory, physical, chemical and microbiological methods, including acceptance criteria. The prescriptions may be direct in the standard or by reference, e.g. to test methods. These elements are in general not addressed in the Indian standards.

References to other related standards

Both the Indian standards and the Codex Alimentarius standards refer to other applicable standards within their systems, that the products shall adhere to where applicable. This is most typical standards for Food Hygiene, Food Additives, Contaminants, toxins and residues, Packaging and labelling and Microbiological criteria. These standards have not been compared in this document as the Indian standards are already compared to the EU regulations in the chapters 2.1 and 2.1.6 - 2.1.7 of this document.



2.1.6 Comparison of Schedule 4, Hygiene Requirements in India's Food Safety and Standards Regulations, with EU Regulations

Requirements Specified in Schedule 4	Applicable EU Regulation(s)	Review - Requirements Specified in Schedule 4 and Applicable EU regulation(s)
Part II. General Requirements on Hygienic and Sanitary Practices to be followed by all Food Business Operators applying for License (provisions in India's regulation are summarized in this column)		
1. Location and surroundings		
Food establishment is located away from environmental pollution and industrial activities, pests and wastes that threaten to contaminate food production area. Appropriate measures taken to protect manufacturing area from pollution hazards from any nearby industry. No direct access to any residential area.	EC Regulation No 852/2004, Annex II Chapter I: General requirements for food premises	No additional comments
2. Layout and design of food establishment premises		
Layout of establishment prevents cross-contamination from other pre- and post-manufacturing operations. Floors, ceiling, doors, and walls maintained in sound and easy to clean condition. Adequate drainage. Control measures to prevent entry of insects and rodents. Windows, doors, and other openings screened to protect premises from insects/pests/animals. Separation of bathroom and waste facilities from production area.	EC Regulation No 852/2004, Annex II Chapter I: General requirements for food premises Chapter II: Specific requirements in rooms where foodstuffs are prepared, treated or processed	Complementary relevant legislation: EC Regulation No 852/2004, Annex II Chapter IX: Adequate procedures are to be in place to control pests
3. Equipment and containers		
Equipment and containers are corrosion-free, non-toxic and easy to clean, kept in good order/repair and clean/sanitary condition. Food, utensils and containers protected from dust/contaminants. Equipment designed and located to permit cleaning and maintenance. Containers and equipment used for waste, by-products, inedible products, and cleaning products are properly labelled and stored separately to prevent accidental contamination of food.	EC Regulation No 852/2004, Annex II Chapter V: Equipment requirements	No additional comments



Requirements Specified in Schedule 4	Applicable EU Regulation(s)	Review - Requirements Specified in Schedule 4 and Applicable EU regulation(s)
<p>4. Facilities</p> <p>Only potable water used as an ingredient. Water for washing of such quality to not create a hazard or contamination to final food product. Periodic cleaning of water storage system with maintenance record. Non potable water pipes should be clearly distinguished from those for potable water. Adequate facilities for the cleaning of utensils and equipment. Adequate facilities for washing raw food. Ice and steam must be made from potable water. Food waste and other waste materials handled properly to prevent contamination of food or water supply and in compliance with local regulations. Personnel facilities shall be adequate for proper hygiene of workers. Restroom and refreshment rooms separate from food processing area and do not open directly to production, service, or storage areas. Proper design of ventilation to prevent air flow from contaminated areas to clean areas. Proper lighting.</p>	<p>EC Regulation No 852/2004, Annex II Chapter I: General requirements for food premises Chapters VI: Food waste Chapter VII: Water supply</p>	<p>Complementary relevant legislation: EC Regulation No 852/2004, Annex II Chapter II (Art. 2&3): -Adequate facilities for the cleaning, disinfecting and storage of working utensils and equipment -Adequate provision is to be made for washing food.</p>
<p>5. Food operation and controls</p> <p>Raw materials shall conform to standards and regulations, be inspected, recorded, handled properly with respect to temperature, segregated, etc. Systems in place to control time and temperature to ensure safety throughout processing, storage, distribution. Packaging shall provide protection from damage, contamination. Food grade packaging used when there is direct contact with product. Temperature and humidity are controlled through supply chain to sustain quality and safety and to prevent spoilage.</p>	<p>EC Regulation No 852/2004, Article 5 EC Regulation No 852/2004, Annex II Chapter IX: Provisions applicable to foodstuffs</p>	<p>Complementary relevant legislation: EC Regulation No 852/2004, Chapter II: FOOD BUSINESS OPERATORS' OBLIGATIONS: Article 4 in addition to 5</p>
<p>6. Management and supervision</p> <p>Detailed SOP developed and maintained. Personnel have qualifications, knowledge and skills regarding food hygiene principles and practices</p>	<p>EC Regulation No 852/2004, Chapter II Articles 4 & 5 EC Regulation No 852/2004, Annex II Chapter XII: Training</p>	<p>No additional comments</p>



Requirements Specified in Schedule 4	Applicable EU Regulation(s)	Review - Requirements Specified in Schedule 4 and Applicable EU regulation(s)
7. Food testing facilities		
Facility must have a well-equipped laboratory for testing food materials for physical, microbiological and chemical purposes. If there is no on-site laboratory, testing is done through an accredited lab.	EC Regulation No 852/2004, Article 4	The producers should establish and implement effective monitoring procedures at critical control points and establish procedures, which shall be carried out regularly, to verify that the measures outlined in subparagraphs are working effectively; and should establish documents and records commensurate with the nature and size of the food. However, no hard reference to what extent the measurements and analysis should be carried out by own facilities or can be delegated to accredited labs, can be retrieved. It is common practice that less analysis is carried out by food producers in their own facilities. In this respect, they call on (accredited) external labs.
8. Audit, documentation and records		
Periodic audits are required. Records are kept for at least a year or the shelf-life of product	EU Regulation No 627/2019, Chapter 1, Articles 3 & 4 EC Regulation No 852/2004, Chapter II Article 5	No additional comments
9. Sanitation and maintenance of establishment premises		
A regular cleaning program is maintained and recorded. Cleaning materials are handled and used according to instructions and stored away from food materials. Pest control system is maintained prevent pest access and to address any infestations.	EC Regulation No 852/2004, Article 5 EC Regulation No 852/2004, Annex II Chapter I: General requirements for food premises	EC Regulation No 852/2004, Chapter II Article 5 EC Regulation No 852/2004, Annex II and additionally EC Regulation No 852/2004, Chapter IX (4)
10. Personal hygiene		
Health status of personnel monitored to prevent infected persons from entering production facility. Food handlers will observe proper personal hygiene practices and wear protective clothing to ensure cleanliness of production facility and environment. Visitors should be controlled to ensure safety and hygiene is not compromised.	EC Regulation No 852/2004, Annex II Chapter VIII: Personal hygiene	No additional comments



Requirements Specified in Schedule 4	Applicable EU Regulation(s)	Review - Requirements Specified in Schedule 4 and Applicable EU regulation(s)
11. Product information and consumer awareness		
Packaged food products shall carry a label and information per provisions of the Food Safety and Standards Act, 2006.	Labelling is responsibility of food manufacturer	Regulation (EU) No 1169/2011 on the provision of food information to consumers
12. Training		
Food business shall ensure that all food handlers are aware of role in protecting food from contamination or deterioration. Food handlers are trained in food hygiene and safety. Training programs are periodically reviewed and updated.	EC Regulation No 852/2004, Annex II Chapter XII: Training	No additional comments



2.1.7 Comparison of Indian and EU Regulations on environmental contaminants, toxins and residues of veterinary medicines in food.

Substance Group and substances.	Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011	EU Regulations (EU) 1881/2006 (EU) 37/2010
Heavy Metals		
Lead	Canned Fish: 5 mg/kg Fish: 0,3 mg/kg	Muscle Meat of fish and cephalopods: 0,3mg/kg Crustaceans: 0,5mg/kg Bivalve molluscs: 1,5mg/kg
Arsenic	Fish and Crustaceans: 76 mg/kg	No criteria in EU Regulation
Tin	Canned Fish Products: 200 mg/kg	Canned food: 200 mg/kg
Cadmium	Fish: 0,3 mg/kg	Muscle meat of fish species not listed with other criteria below: 0,05mg/kg Muscle meat of mackerel (<i>Scomber species</i>), tuna (<i>Thunnus species</i> , <i>Katsuwonus pelamis</i> , <i>Euthynnus species</i>), bichique (<i>Sicyopterus lagocephalus</i>): 0,1 mg/kg Muscle meat of bullet tuna (<i>Auxis species</i>): 0,15mg/kg Muscle meat of the following fish: anchovy (<i>Engraulis species</i>), swordfish (<i>Xiphias gladius</i>), sardine (<i>Sardina pilchardus</i>): 0,25mg/kg Crustaceans: muscle meat from appendages and abdomen: 0,5mg/kg Bivalve molluscs: 1,0 mg/kg Cephalopods (without viscera): 1mg/kg
Mercury	Fish: 0,5 mg/kg Predatory fish (Tuna, Marlin, Sword Fish, Elasmobranch): 1,0 mg/kg	Fishery products and muscle meat of fish excluding species listed with other criteria below: 0,50 mg/kg Muscle meat of a range of predatory fish among which Swordfish (<i>Xiphias gladius</i>), Tuna (<i>Thunnus species</i> , <i>Euthynnus species</i> , <i>Katsuwonus pelamis</i>), Marlin (<i>Makaira species</i>): 1,0 mg/kg Cephalopods: 0,3 mg/kg
Chromium	All fishery products: 12 mg/kg	No criteria for fishery products in EU Regulation



Substance Group and substances.	Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011	EU Regulations (EU) 1881/2006 (EU) 37/2010
Naturally occurring toxic substances (NOTS)		
Saffrole	Fish preparations and fish products: 10 ppm	No criteria in EU Regulation
PCBs and PAH		
Polychlorinated biphenyls (Sum of PCB28, PCB52, PCB101, PCB138, PCB153 and PCB180)	Inland and Migratory Fish: 2ppm (= 2000 ng/g) Marine Fish, Crustaceans and molluscs: 0,5ppm (= 500ng/g)	Muscle meat of fish and fishery products and products thereof with the exemption of: — wild caught eel — wild caught spiny dogfish (<i>Squalus acanthias</i>) — wild caught fresh water fish, with the exception of diadromous fish species caught in fresh water — fish liver and derived products — marine oils: 75 ng/g Muscle meat of wild caught fresh water fish, with the exception of diadromous fish species caught in fresh water, and products thereof: 125 ng/g Muscle meat of wild caught spiny dogfish (<i>Squalus acanthias</i>) and products thereof: 200 ng/g Muscle meat of wild caught eel (<i>Anguilla anguilla</i>) and products thereof: 300 ng/kg Fish liver and derived products thereof, including marine fish oils intended for human consumption: 200 ng/g
Benzo(a)pyrene	Smoked Fishery Products: 5ppb (= 5 µg/kg)	Muscle meat of smoked fish and smoked fishery products, except those mentioned below with other criteria: 2 µg/kg Smoked sprats and canned smoked sprats (<i>Sprattus sprattus</i>); Smoked Baltic herring ≤ 14 cm length and canned smoked Baltic herring ≤ 14 cm length, (<i>Clupea harengus membras</i>); Katsuoibushi (dried bonito, <i>Katsuwonus pelamis</i>); bivalve molluscs (fresh, chilled or frozen); heat treated meat and heat treated meat products sold to the final consumer: 5 µg/kg Bivalve molluscs, smoked: 6 µg/kg
Insecticides		
Carbaryl	Fish: 0,2 ppm	Residues of pesticides in fish and fishery products are not specifically addressed in Regulation (EU) 396/2005, hence the default level 0,01mg/kg applies.
Quinalphos	Fish: 0,01 ppm	
Antibiotic Residues		
Tetracycline	Sea foods including shrimps, prawns or any other variety of fish and fishery products: 0,1 ppm (=100µg/kg)	Regulation (EU) 37/2010, Table 1 Fish Muscle: 100 µg/kg Fish Liver: 300 µg/kg
Oxytetracycline	Sea foods including shrimps, prawns or any other variety of fish and fishery products: 0,1 ppm (=100µg/kg)	Fish Muscle: 100 µg/kg Fish Liver: 300 µg/kg
Trimethoprim	Sea foods including shrimps, prawns or any other variety of fish and fishery products: 0,05 ppm (=50µg/kg)	Fish Muscle: 50 µg/kg Fish Liver: 50 µg/kg
Oxolinic Acid	Sea foods including shrimps, prawns or any other variety of fish and fishery products: 0,3 ppm (=300µg/kg)	Fish Muscle: 100 µg/kg Fish Liver: 150 µg/kg



Substance Group and substances.	Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011	EU Regulations (EU) 1881/2006 (EU) 37/2010
Prohibited Substances		
<p>Nitrofurans including metabolites: (i) Furaltadone (ii) Furazolidone (iii) Nitrofurantoin (iv) Nitrofurazone 2. Chloramphenicol 3. Sulphamethoxazole 4. Aristolochia spp and preparations thereof 5. Chloroform 6. Chlorpromazine 7. Colchicine 8. Dapsone. 9. Dimetridazole 10. Metronidazole 11. Ronidazole 12. Ipronidazole and other nitromidazoles 13. Clenbuterol 14. Diethylstilbestrol 15. Glycopeptides 16. Stilbenes and other steroids 17. Crystal Violet 18. Malachite Green 19. Carbadox</p>	<p>The Extraneous Maximum Residue Limit of 0.001 mg/kg will be applicable except for Chloramphenicol for which it shall be 0.0003 mg/kg (0.3 µg/kg).</p>	<p>Regulation (EU) 37/2010, Table 2 Nitrofurans (including furazolidone) Chloramphenicol Aristolochia spp. and preparations thereof Chlorpromazine Colchicine Dapsone Dimetridazole Metronidazole Ronidazole EU Directive 1996/22/EF prohibits the use of substances having a hormonal or thyrostatic action (Thyrostatic substances, Stilbenes, stilbene derivatives, their salts and esters, Oestradiol 17β and its ester-like derivatives) and Beta-agonist. For aquaculture animals' young fish may be treated for the first three months for the purpose of sex inversion with veterinary medicinal products that have an androgenous action and are authorized in accordance with Directives 81/851/EEC and 81/852/EEC. Malachite green and crystal violet are not specifically prohibited but also not allowed for treatment of aquaculture animals in EU, however for malachite green a low reference Point of Action is established. Regulation (EU) 2019/1872 establish Reference Point of Action as follow 0,5µg/kg for malachite green and Leucomalachite green 0,5 µg/kg fro Nitrofuran Metabolites 0,15µg/kg for Chloramphenicol</p>
Albendazole	Fish: 0,1ppm	Not authorised for fishery products by Table 1 of Regulation (EU) 37/2010.



Substance Group and substances.	Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011	EU Regulations (EU) 1881/2006 (EU) 37/2010
Biotoxins		
Paralytic Shellfish Poison (PSP)	Bivalve Molluscs 80 µg/100g (Saxitoxin Equivalent)	Paralytic shellfish poison (PSP), 800 µg/kg of saxitoxin
Amnesic Shellfish Poison (ASP)	Bivalve Molluscs 20 µg/g (Domoic acid equivalent)	Amnesic shellfish poison (ASP), 20mg/kg of domoic acid
Diarrhetic shellfish poison (DSP)	Bivalve Molluscs 160 µg of Okadaic acid equivalent/Kg	Okadaic acid and dinophysistoxins together 160 µg/kg micrograms of okadaic acid equivalents
Azaspiracid poison (AZP)	Bivalve Molluscs 160 µg of azaspiracid equivalent/Kg	Azaspiracids, 160 µg/kg of azaspiracid equivalents.
Brevetoxin (BTX)	Bivalve Molluscs 200 mouse units or equivalent/Kg	Not addressed in the EU Regulations.
Histamine	<p>All products from a long list of families and species with high histidine hence with potential to cause histamine fish poisoning (see the regulation for details)</p> <p>Dried/ Salted and Dried fishery products; Fermented Fishery products; Fish Pickle of the listed species: m=200mg/kg and M=400mg/kg</p> <p>All other products of the listed species: m=100mg/kg and M=200mg/kg</p> <p>Sampling: n=9, c=2 m: is the acceptable level in a sample M: is the specified level, when exceeded in one or more samples, the result would cause the lot to be rejected</p>	<p>Regulation (EU) 2073/2005 Products from fish species associated with a high amount of histidine (Particularly fish species of the families: Scombridae, Clupeidae, Engraulidae, Coryfenidae, Pomatomidae, Scombrosidae):</p> <p>Products of the above-mentioned species which have undergone enzyme maturation treatment in brine:</p> <ul style="list-style-type: none"> • m=200mg/kg • M: 400mg/kg <p>Fish sauce produced by fermentation of fishery products:</p> <ul style="list-style-type: none"> • 400 mg/kg histamine <p>All other products of the above-mentioned species:</p> <ul style="list-style-type: none"> • m=200mg/kg • M: 400mg/kg <p>Sampling: n=9 and c=2</p> <p>Compliance is achieved if:</p> <ul style="list-style-type: none"> - the mean value observed is $\leq m$ - a maximum of c/n values observed are between m and M - no values observed excess the limit of M.

2.2 ATTESTATION ON INDIA VETERINARY CERTIFICATES

In the next four sections, the Standard Conditions affiliated with each of the Veterinary Certificates to accompany fishery products intended for human consumption. It will be seen that the requirements have overlap with the requirements in the different standards related with the Food Safety Regulation, 2011 as clarified in Chapter 2.1 of this report. Some conflicting requirements have been identified and comments in this regard are made and marked with red highlights where relevant in the tables 2.2.1 – 2.2.4. Direct comparison to the EU requirements has not been made, since this can be extracted from chapter 2.1 and related references.



2.2.1 Standard conditions for Veterinary Certificates required for import of Processed Seafood, and Smoked Seafood, and Dried Seafood specifically to India.

Conditions to be satisfied with the Veterinary Certificate	5. Raw frozen fish	5. Smoked Fish	5. Dried Seafood	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Food Safety/HACCP	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	-
Labelling/traceability	Proper labelling, ensuring traceability	No specific requirements for attestation	No specific requirements for attestation	-
Composition	-	-	Moisture, NaCl and acid insoluble ash according to BIS, IS-14956:2001	-
Processing Conditions	-	Heating regime shall be as per standards of smoked fishery products to inactivate pathogens and	Drying to be done as per internally acceptable hygienic standards.	-
Pathogenic bacteria and other hazards	<p><i>Raw Products</i> E. coli - < 20/g Coagulase positive Staphylococci - < 100/g Salmonella - Absent/25g; Vibrio cholerae - Absent/25g; Kanagawa positive Vibrio parahaemolyticus - Absent/25g; Shall be free from OIE listed pathogens for aquatic animals</p> <p><i>Cooked Products</i> - E.coli: < 10 / gm - Staphylococcus: < 100/gm</p>	E. coli: < 10/gm Staphylococcus: < 100/gm	Free from infestation with visible fungal, bacterial, maggots, insect or mites. Free from any extraneous/colouring matters. Viable egg/cysts shall be absent.	See Section 2.1, row d) for requirements according to Indian Regulation Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011. The Safety Indicators includes only E. coli, coagulase positive Staphylococci, Salmonella, Vibrio Cholerae and Listeria; not Kanagawa positive Vibrio parahaemolyticus as mentioned for raw frozen fish



Conditions to be satisfied with the Veterinary Certificate	5. Raw frozen fish	5. Smoked Fish	5. Dried Seafood	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Hygiene indicator bacteria	<p><i>Raw Products</i> Total Bacterial Count (TPC) at 37°C - < 500,000 cfu/g (5x10⁵ /g)</p> <p><i>Cooked Products</i></p>	TPC < 100 000 cfu/g	Within permissible limit	<p>See Section 2.1, row d) for requirements according to Indian Regulation Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011</p> <p>The hygiene Indicator organisms at end of production process includes also coagulase positive Staphylococci, yeast and moulds.</p>
Residues of Veterinary medicines	For Farmed Shrimp: Antibiotics and harmful chemicals have not been used in the farming practices. Free from residues of chloramphenicol and nitrofurans and its metabolites	No requirements for attestation	No requirements for attestation	<p>See Table 2.1.6 for requirements according to Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011. Tetracycline, oxytetracycline and Oxolinic acid are accepted with MRL 100µg/kg and Trimethoprim with 50µg/kg</p>
Contaminants	<p><i>For cephalopods</i> Heavy metals shall not exceed the following limits:</p> <ul style="list-style-type: none"> - Arsenic: < 1.0 ppm - Cadmium: < 1.5 ppm - Lead: < 1.0 ppm - Mercury: < 1.0 ppm - Tin: < 250 ppm - Nickel: < 80 ppm - Chromium: < 12 ppm 	Benzopyrene: < 5 ppb.	Within permissible limit	<p>See Table 2.1.6 for requirements according to Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011. For Fish the following limits applies, there is not specific limits for cephalopods: Lead: 0,3 ppm Arsenic: 76 ppm Cadmium: 0,3 ppm Mercury: 0,5 ppm</p>
Other issues	The product is free from OIE listed pathogens for aquatic animals viz. diseases of fish, diseases of crustacean and diseases of molluscs in accordance with the type of products.	-	-	-



2.2.2 Standard conditions for Veterinary Certificates required for import of Fish body oil (Refined) and Fish Lipid/ Oil (containing Eicosapentaenoic acid (EPA) & Docosahexaenoic acid to India

Conditions to be satisfied with the Veterinary Certificate	6. Fish body oil (Refined) and Fish Lipid/ Oil (containing Eicosapentaenoic acid (EPA) & Docosahexaenoic acid	10. Squid oil	-	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Food Safety/HACCP	-	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	-	-
Composition	Free fatty acids < 0.10% (as oleic acid); Moisture < 0.5%; Peroxide value < 10 milliequivalent/kg of oil. Eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA) 5-15% (by weight) Transfat: < 0.1 %	Acid value < 50mg/KOH/g; Iodine value > 190 Peroxide value: < 20 /kg milliequivalent/kg Moisture: < 1%. Transfat: <0.1	-	-



2.2.3 Standard conditions for Veterinary Certificates required for import of Fish and Squid Meal/Powder, Scallop Meal/Powder and Squid Liver Powder to India.

Conditions to be satisfied with the Veterinary Certificate	4. Fish Powder	7. Squid Meal, Squid Powder Scallop Meal, Scallop Powder	8. Squid Liver powder	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Food Safety/HACCP	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	The product, where intended for human consumption, shall have been processed in compliance with HACCP norms in approved processing establishments.	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	-
Labelling/traceability	Proper labelling, ensuring traceability	No specific requirements for attestation	No specific requirements for attestation	-
Composition	Moisture: < 10% Salt: 3-7%	Product shall adhere to the following specifications: Protein: > 40% Moisture: 8-10% Fat: 25% (maximum)	Product shall adhere to the following specifications: Protein > 45% Fat < 12% Moisture < 10% Fibre > 8% Ash < 12%	-
Processing Conditions	To be processed out of steam cooked and sterilized raw material	No requirements for attestation	No requirements for attestation	-
Pathogenic bacteria	Free from pathogenic bacteria viz. Salmonella sp, pathogenic Vibrios, viruses and cysts of parasites	Free from pathogenic bacteria viz. Salmonella sp, pathogenic Vibrios, and viruses	Free from pathogenic bacteria viz. Salmonella sp, pathogenic Vibrios, and viruses	See Section 2.1, row d) for requirements according to Indian Regulation Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011 The Safety Indicators includes only E. coli, coagulase positive Staphylococci, Salmonella, Vibrio Cholerae and Listeria; not Kanagawa positive Vibrio parahaemolyticus In addition, the hygiene Indicator organisms at end of production process would apply, including coagulase positive Staphylococci, yeast and moulds.



Conditions to be satisfied with the Veterinary Certificate	4. Fish Powder	7. Squid Meal, Squid Powder Scallop Meal, Scallop Powder	8. Squid Liver powder	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Hygiene indicator bacteria	No requirements for attestation	No requirements for attestation	No requirements for attestation	-
Residues of Veterinary medicines	Free from all banned antibiotics, chemicals and pharmacologically active substances. Steroid hormones shall be absent and	No requirements for attestation	No requirements for attestation	See Table 2.1.6 for requirements according to Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011. In sea foods including shrimps, prawns or any other variety of fish and fishery products the following are accepted: Tetracycline, oxytetracycline and Oxolinic acid are accepted with MRL 100µg/kg and Trimethoprim with 50µg/kg
Environmental Contaminants and mycotoxins	Aflatoxins: <10 ppb Heavy metals shall not exceed the following limits: - Arsenic: < 1.0 ppm - Cadmium: < 1.5 ppm - Lead: < 1.0 ppm - Mercury: < 1.0 ppm - Tin: < 250 ppm - Nickel: < 80 ppm - Chromium: < 12 ppm	Heavy metals shall not exceed the following limits: - Arsenic: < 1.0 ppm - Cadmium: < 1.5 ppm - Lead: < 1.0 ppm - Mercury: < 1.0 ppm - Tin: < 250 ppm - Nickel: < 80 ppm - Chromium: < 12 ppm	Heavy metals shall not exceed the following limits: - Arsenic: < 1.0 ppm - Cadmium: < 1.5 ppm - Lead: < 1.0 ppm - Mercury: < 1.0 ppm - Tin: < 250 ppm - Nickel: < 80 ppm - Chromium: < 12 ppm	Would the limits that are provided in Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011 also apply to these types of products (see table 2.1.6).
Other issues	Certificate shall be furnished to the effect that the fish powder shall be free from mammalian meal and bone meal.	No further requirements for attestation	No further requirements for attestation	-



2.2.4 Standard conditions for Veterinary Certificates required for import of Canned Fishery Products/Fish Extract and fresh, chilled iced fish to India

Conditions to be satisfied with the Veterinary Certificate	15. Canned Fish	18. Fresh, chilled iced fish	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Food Safety/HACCP	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	The product shall have been processed in compliance with HACCP norms in approved processing establishments.	-
Composition	Can content shall be free from heads, gills, tail tips, fins and other extraneous matter. Entrails shall be completely removed. NaCl: max 2% if brine treated cans and max 3.5% in case of fish extract Acidity: 0,2 w/v (for canned products)	The fish shall be free from dehydration, discoloration and spots. Material shall not show any sign of deterioration and shall be free from off odour and foreign odour. Texture of meat shall be normal with characteristic flavour of fresh fish. Material to be free for extraneous matter	-
Processing conditions	Commercial sterility shall be ensured. Water used for cooling of the can shall be maintained in cooled conditions and chlorinated to maintained a minimum free residual chlorine concentration of 1ppm	Temperature: < 4° C	-
Pathogenic bacteria	Commercial sterility shall be ensured	E. coli: < 20/g Coagulase positive Staphylococci: < 100/g Salmonella: Absent/25g; Pathogenic Vibrios: Absent/25g;	See Section 2.1, row d) for requirements according to Indian Regulation Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011 For canned fish there is a criterion on "absence of viable spores and toxin of Clostridium botulinum"



Conditions to be satisfied with the Veterinary Certificate	15. Canned Fish	18. Fresh, chilled iced fish	Cross References and observations of conflicting requirements with Indian Food Safety regulations.
Hygiene indicator bacteria	-	Total Bacterial Count (TPC) at 37°C: < 5,00,000/g (5x10 ⁵ /g)	See Section 2.1, row d) for requirements according to Indian Regulation Appendix B of Food Safety and Standards (Food Product standards and Additives) Regulations 2011 Aerobic Plate Count in level 10 ⁵ -10 ⁷ , is the hygiene indicator for chilled and frozen finfish, cephalopods, crustaceans and bivalves after chilling/freezing.
Residues of Veterinary medicines	-	For Farmed Fish: Antibiotics and harmful chemicals have not been used in the farming practices. Free from residues of chloramphenicol and nitrofurans and its metabolites	-
Contaminants	Heavy metals shall not exceed the following limits: - Arsenic: < 1.0 ppm - Lead: < 1.5 ppm - Mercury: < 0,5 ppm - Tin: < 250 ppm (for products in plated tin containers) - Tin: < 50mg/kg (for products in other containers) - Zinc: < 50% - Copper: <10,0 mg/kg	Histamine in scombroid fish: < 20ppm	See Table 2.1.6 for requirements according to Indian Regulation Food Safety and Standards (Contaminants, toxins and Residues) Regulations, 2011. For canned fish the following limits applies: Lead: 5 ppm Arsenic: 76 ppm Tin: 200 ppm Mercury: Fish – 0,5 ppm; predatory fish 1.0 ppm

