

2.3.4. Enterprises of food and processing industry  
( technological processes and raw materials)

Sanitary Rules and Norms SanPiN 2.3.4.050-96

"Production and sale of fish products "

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Sanitary Regulations for Practice and Distribution of Fishery  
Products

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### 1. Field of application

1.1. These Sanitary Rules and Norms (hereinafter referred to as Sanitary Rules) are elaborated in compliance with the Law of RFSSR "On the sanitary-epidemiological well-being of population", Law of Russian Federation "On the protection of consumer rights", Law of Russian Federation "On the certification of products and services", "Regulation on state sanitary - epidemiological norms", approved by the Governmental Decree of Russian Federation dated 5 June 1994, N 625, Commission Guidelines of the European Union (EC): Council Directives 80/778/EEC, 91/492/EEC, 91/493/EEC, 92/48/EEC, 95/149/EC; Commission Directives 93/140 /EEC, 93/185/EEC, 94/356/EEC; EEC Rules 1093/94 and hereby set out official requirements to the production and sales of fish and fishery products.

1.2. These Sanitary Rules and Norms include the existing coastal fish processing enterprises and vessels that produce fishery products, independently on departmental belonging and forms of property \*(1).

1.3. These Sanitary Rules and Norms establish the sanitary requirements for the production and sales of fishery products for export \*(2), produced and processed on vessels. Production and sale of products within the country is effected in compliance with the Sanitary Rules valid for the sea vessels of the fishing fleet of USSR, Sanitary Requirements to the Processing of Fish Products on Vessels, N 4393-87 and p.5 of these Sanitary Rules and Norms.

1.4. For the existing fish processing enterprises producing products intended for export the requirements of these Sanitary Rules and Norms shall be executed in the full extent.

1.5. For the existing fish processing enterprises producing products for sale within the country:

- the requirements related to the sanitary maintenance of facilities are applied in the full extent;

- the requirements that may be implemented after reconstruction and mechanization of production processes must be met within 5 years from the moment of enactment of these Sanitary Rules and Norms;

- the requirements related to the planning the territorial development must be met within the deadlines agreed with the respective centers of state sanitary and epidemiological supervision.

1.6. For the newly constructed fish processing enterprises and vessels these Sanitary Rules and Norms shall be applied in full extent.

1.7. These Sanitary Rules and Norms set out requirements to the production and sale of live bivalve mollusks.

1.8. The control upon the observation of requirements contained in these Sanitary Rules and Norms by the fish processing enterprises and vessels is exercised by the competent authorities \*(3).

## 2. Normative references

These Sanitary Rules contain references to the following documents.

2.1. Law of RFSSR "On the sanitary-epidemiological wellbeing of population".

2.2. Law of Russian Federation "On the protection of consumer rights".

2.3. Law of Russian Federation "On the certification of products and services".

2.4. "Regulation on state sanitary - epidemiological norms", adopted by the Governmental Decree of Russian Federation dated 5 June 1994, No 625.

2.5. Law of RFSSR "On the protection of surrounding environment" No. 2060-1 dated 19.12.91.

2.6. Medical-biological requirements and sanitary quality norms for production raw materials and foodstuffs. Ministry of Health of USSR, No. 5061-89. M., 1990.

2.7. Temporarily admissible levels (TAL) of radio nuclides of Caesium - 134, caesium-137, strontium-90 in foodstuff products. TAL-93. Decree of State Commission for Sanitary and Epidemiological Supervision of Russia "On the approval of hygienic norms" No. 7 dated 21.07.93.

2.8. Council Directive 91/492/EEC dated 15 July 1991 "On the sanitary-hygienic conditions of production and sale of live bivalve mollusks".

2.9. Council Directive 91/493/EEC dated 22 July 1991 "On the sanitary-hygienic conditions of production and sale of fishery products".

2.10. Council Directive 92/48/EEC dated 16 July 1992 "On the minimum sanitary-hygienic rules for fishery products onboard sea vessels pursuant to art. 3(1) (a) (1) of the Directive 91/493/EEC".

2.11. Council Directive 79/923/EEC dated 30 October 1979 "On the sanitary-hygienic requirements to the quality of water used for the holding of mollusks".

2.12. Commission Decision 93/51 EEC dated 15 December 1992 "On the microbiological criteria for the production of culinary processed crustaceans and mollusks".

2.13. Commission Decision 93/140/EEC dated 19 January 1993 "On the detailed rules of visual control for the detection of parasites in fishery industry".

2.14. Commission Decision 93/185/EEC dated 15 March 1993 "On the actions for the certification of fishery products arriving from third countries pursuant to the Council Directive 91/493/EEC".

2.15. Commission Decision 94/356/EC dated 20 May 1994 "On the detailed rules for the implementation of Council Directive 91/493/EEC for the proper sanitary-hygienic control upon the production of fishery products".

2.16. Commission Decision 95/149/EC dated 8 March 1995 "On the established maximum concentrations of total nitrogen of volatile alkali (TNVA) in certain types of fishery products and norms of analytical methods".

2.17. Council Rules (EC) No. 1093/94 dated 6 May 1994 "Conditions for the unloading and sale of catch in the ports of the Union by the fishing vessels of third countries".

2.18. Council Directive 80/778/EEC dated 15 July 1980 "On the quality of water for human consumption".

2.19. Instruction for the sanitary-microbiological control of production of foodstuffs of fish and invertebrates, No. 5319-91. J., GHYPRORYBFLOT, 1991.

2.20. Instruction for the sanitary processing of technological equipment at fish-processing enterprises and vessels, No. 2981-84. M., Transport, 1985.

2.21. Instruction for the sanitary-parasitological evaluation of sea fish and fishery products (raw fish, cooled and frozen sea fish for sale in retail network and public catering enterprises). M., 1989, adopted 29.12.88.

2.22. Instruction on the sanitary-technical control of conserved food at production enterprises, wholesale storage facilities, in retail sale and public catering enterprises. VNIICOP, M., 1993 No. 01-19/9-11 dated 21.07.92.

2.23. Instruction on the conduction of compulsory medical examination upon employment and periodic medical examination of workers and drivers of individual transportation vehicles, approved by the Order of MH of USSR 29.09.89, No. 555 coordinated with the Secretariat of VCSPS 27.09.89, No. 20-27.

2.24. Methodological instruction for the sanitary-microbiological control at fish canning enterprises and vessels, No. 4222-86, adopted on 5.12.86.

2.25. Attachments 1, 2 to the order of MoH of USSR No. 555 dated 29.09.89 "On the improvement of the system of medical examination of workers and drivers of individual transportation vehicles" (except No. p.p.1-3).

2.26. Attachments No. 1, 2 to the order of Ministry of Health and Medical Industry of Russia and State Commission for Sanitary and Epidemiological Supervision of Russia dated 05.10.95 No. 280/88 On the approval of temporary lists of harmful and dangerous substances and production factors, and works requiring preliminary and periodical medical examination of workers (in part No. p.p.1-3).

2.27. Collection of technological instructions for the processing of fish, vol.1. Instruction for ice production (TI No. 9). M., 1992.

2.28. Sanitary Rules on the use of food additives, No. 1927-78.

2.29. Sanitary Rules on the sanitary-helminthological expertise of fish and conditions of its decontamination from larvae of diphyllbothrium and opisthorchid flukes, adopted 3.12.90. SanPiN 15-6/44. M., 1990.

2.30. Sanitary Rules and Norms for the protection of surface waters against pollution (SanPiN 4630-88).

2.31. Sanitary Rules and Norms for the protection of coastal waters of seas against pollution in the regions where sea water is used by the population (SanPiN 4631-88).

2.32. Potable water and water supply of localities. Zones of sanitary protection of water sources and water supply systems of utility destination (SanPiN 2.1.4. 027-95).

2.33. Conditions and terms of storage of easily degradable products. SanPiN 42-123-4117-86.

2.34. Sanitary norms of microclimate of production rooms, No. 4088-86 Dated 31.03.86.

2.35. Sanitary norms of admissible noise levels at workplaces, No. 3223-85, adopted 12.03.85.

2.36. Sanitary norms for sea vessels of the fishing fleet of USSR, 1977, No. 1814-77 dated 22.12.77.

2.37. Sanitary norms of design of industrial enterprises (CH245-71).

2.38. Sanitary requirements to the onboard processing of sea products, No. 4393-87.

2.39. Methodological indications for the sanitary-microbiological analysis of surface water objects, No. 2285-81. M., 1981.

2.40. Methodology of parasitological inspection of sea fish and fishery products (raw sea fish, cooled and frozen fish), adopted on 29.12.88. M., 1989.

- 2.41. Rules of veterinary-sanitary expertise of fresh-water fish and crawfish. M., 1989.
- 2.42. System of technological documentation. Order of elaboration of sterilization regimes and pasteurization of conserved semi-finished products. WD 10.03.02-88.
- 2.43. Surface water protection rules. State Committee for Environment Protection. M., 1991.
- 2.44. Construction Norms and Rules (SNIIP 01.01-82). System of normative documents in construction. General provisions adopted by Gosstroy of USSR.
- 2.45. Construction Norms and Rules (SNIIP 2.04.01-85). Internal water supply and sewerage systems of buildings.
- 2.46. Construction Norms and Rules (SNIIP-P-4-79). Natural and artificial illumination. Design norms. Changes to BST No. 8, 10, 1996.
- 2.47. Construction Norms and Rules (SNIIP 2.04.05-91). Heating, ventilation and air conditioning.
- 2.48. Construction Norms and Rules (SNIIP 2.09.04-87). Administrative and utility buildings.
- 2.49. GOST 18963-73. Potable water. Methods of sanitary-bacteriological analysis.
- 2.50. GOST 2874-82. Potable water. Hygienic requirements and quality control.
- 2.51. GOST 13830-84. Alimentary table salt.
- 2.52. GOST 8.002-86. State supervision and authority control upon measuring devices. General provisions.
- 2.53. GOST 12.1.005-88. General sanitary-hygienic requirements to the air in the working zone.
- 2.54. GOST 11771-93. Canned fish and sea products, preserves. Packaging and marking.
- 2.55. GOST 7630-87. Fish, sea mammals, sea invertebrates, algae and products of their processing. Marking.

### 3. Requirements to coastal fish processing enterprises

#### 3.1. General provisions

- 3.1.1. Depending on the capacity and assortment of products, the fish processing enterprise may include the following sections: refrigeration, salting, canning, preserving, roe and balyk, smoking, culinary, fish oil, protein concentrates, protein roe, fodder and technical production, ice generation, tin and can section, etc..
- 3.1.2. When designing the new or reconstructing the existing coastal fish processing enterprises one should follow the Construction Norms and Rules (SNIIP 01.01-82. System of normative documents in construction. General provisions, adopted by Gosstroy USSR).
- 3.1.3. The construction designs of new and the reconstruction of the existing fish processing enterprises, as well as elaboration and implementation of new equipment must be coordinated with the state sanitary and epidemiological supervision centers.
- 3.1.4. Upon finalization of construction works the fish processing enterprise must be entered into operation by a commission with the compulsory participation of a representative from the state sanitary and epidemiological supervision center.
- 3.1.5. Changes to the technological process of manufacturing of fish products in each particular case must be coordinated with the state sanitary and epidemiological supervision center.
- 3.1.6. Startup of new technological equipment, as well as repaired and reconstructed equipment is permitted only after due sanitary treatment with compulsory microbiological control.
- 3.1.7. In all sections of fish processing enterprise regular sanitary days and shifts must be organized. The schedule of sanitary days in the enterprise must be coordinated with the enterprise's laboratory and approved by the director.
- In cases of inadequate sanitary state of production facility at the request of laboratory an extra sanitary day may be organized.

3.1.8. The sanitary control must encompass all the objects coming in direct contact with the foodstuffs.

3.1.9. The safety parameters and the maximum admissible values of fishery products must comply with the Medical-Biological Requirements and Sanitary Quality rules for production materials and foodstuffs, as well as with the requirements of other ND\*(4).

3.1.10. The sanitary-microbiological control of raw materials, semi-finished products, auxiliary materials and finite products is performed in accordance with the instructions "Sanitary-microbiological control of production of fishery products and products made of sea invertebrates" and "Sanitary-technical control of canning production".

3.1.11. The visual control of raw materials, semi-finished products, finished products and sanitary state of technological equipment is compulsory and must be performed after each two hours of each shift.

3.1.12. The enterprises producing canned food and preserves, low-salt products with sodium chloride content less than 5%, smoked, culinary, roe, boiled-frozen products must have production laboratories with compulsory position of microbiologist in the staff.

### 3.2. Planning of enterprises

3.2.1. The territory of the fish processing enterprise must have transportation ways, foot-paths and production sites with solid impermeable coverage, provided with storm water evacuation system excluding the stagnation of atmospheric precipitation, with adequate fencing and comply with the sanitary requirements in regard of green areas, natural illumination and ventilation and groundwater levels.

3.2.2. The location of fish processing enterprise must exclude the possibility of unfavorable impact of other enterprises.

3.2.3. The complex of production sections must be located at least at 15 m away from the road line (street, highway).

3.2.4. The utility zone (repair workshops, garages, storage facilities, etc.) must be located at a distance of at least 50 m from the immediate openings of production sections.

3.2.5. Storage of construction materials, equipment, inventory, tare and fuel in the yard is allowed only in the specially provided places with observation of all applicable rules.

3.2.6. All water supply boreholes and water treatment facilities must be provided with strict sanitary protection zones.

3.2.7. It is prohibited to locate any buildings not related to the production process on the territory of the fish processing enterprise.

3.2.8. For the due sanitary treatment of transportation vehicles a special site with water-resistant coverage must be provided in the utility area, with a slope assuring the drainage of effluent waters into the sewerage system, with a system of vessels for the preparation of disinfection solutions.

3.2.9. Special storage facilities must be provided for the storage of substances used for the disinfection and disinfection with a temperature of at least 5° C and at most 30 °C, humidity - 75-80 %. These facilities must be closed and marked respectively. All substances must have legible labels.

3.2.10. For the collection of solid wastes metallic containers must be installed on an asphalted or concrete site, its area must exceed the area of the container base by at least 1 m in all directions. The site for solid waste containers must be provided at a distance of at least 50 m from the production and storage facilities. The solid waste containers site must be fenced from three sides with a concrete or brick wall with a height of at least 1,5 m and be provided with water supply and a connection to the sewerage system.

3.2.11. The toilets for forwarding agents, drivers, heavers, etc. are recommended to be provided in an auxiliary building with a separate exit to the territory.

3.2.12. The sections of technical products must be located at a distance of at least 100 m from the foodstuff production sections and separated with a zone of green plantations.

3.2.13. The working rooms, devices and working equipment must be used exclusively for working with fishery products. However, by the permission of of state sanitary and epidemiological supervision centers, after thorough washing, cleaning and disinfection they may be used for operations with other foodstuffs.

### 3.3. Production rooms

3.3.1. The enterprise should have sufficient production areas for the performance of all necessary operations in the adequate hygienic conditions.

3.3.2. the area and volume of production rooms are determined depending on the particular technological processes and based on the rate of at least 4.5m<sup>2</sup> per one employee \*(5) and at least 15 m<sup>3</sup> of air per one employee\*(6).

3.3.3. Depending on the used equipment and conditions of removal of excessive heat, moisture and gases from the working area the height of production rooms must be at least 4,2 m; production rooms of small capacity may have a height of 3 m. The height of rooms of fat-and-flour sections, lacquer and lithographic sections, tin production and agar-agar production sections must be not lower than 6 m.

3.3.4. The design and zoning of enterprises must be executed in such a way as to prevent the pollution of products and completely isolate the "dirty" and the "clean" parts of the building.

3.3.5. The location of production rooms in the building and production buildings on the territory must assure the regular flows of technological processes and exclude the possibility of intersection of flows of raw materials, semi-finished products and wastes with the flows of finished products, as well as transportation of semi-finished products not protected against the influence of surrounding environment, through the open spaces.

3.3.6. The foodstuff and medical production sections must be fully isolated from the sections producing technical and fodder products and have separate entrances and utility rooms.

3.3.7. For the storage of fish products the enterprise must have a refrigerator or cold storage chambers with temperature compliant with the ND for each specific type of product.

3.3.8. In the buildings with several floors the sections with maximum water consumption must be located on the first floor in order to reduce the effluent load onto the drainage channels passing through the ceilings.

3.3.9. if the adequate ventilation is provided, in the basement rooms it is allowed to locate storage facilities, refrigeration chambers, brine pots, fuel and machinery sections of the refrigeration equipment, as provided by the safety codes.

3.3.10. The production and storage rooms of fish processing enterprises all measures must be undertaken in order to prevent the penetration of rodents (tight doors, thorough closing of orifices around communication pipes, metallic gratings on the ventilation openings).

3.3.11. The zoning of production and technological rooms and the equipment location schemes must provide for its adequate sanitary treatment.

3.3.12. The floors of production rooms must be covered with solid and non-absorbent and non-sliding, non-toxic material, resistant to acids, alkali and oils, easily cleanable and disinfected, dried in the regular manner.

3.3.13. The floor must have a slope without breasts and water stagnation areas.

3.3.14. The slopes of grooves and channels must not be smaller than the slope of floor. The slope direction must be so that to assure the drainage of effluents into the orifices of grooves, channels and traps provided with removable gratings, without crossing the passages and foot-paths.

3.3.15. In case of absence of slope the sections must be provided with water removal equipment.

3.3.16. Connections between the floor and the walls must be water-resistant and easily accessible for cleaning and disinfection, the hydraulic isolation carpet must be lifted onto the walls for at least 300 mm,

3.3.17. The internal walls must have a smooth water and impact-resistant surface, painted in a light color and easily washable.

3.3.18. For the internal trimming of walls must be used only the materials approved by the health protection authorities: plastered cement, ceramic

tiles, various corrosion-resistant metallic sheets (steel sheets or aluminum alloys) or non-metallic covering materials with a good surface quality, resistant to mechanical impacts and easily repairable.

3.3.19. The slots between the cover sheets must be closed with mastic or another substance resistant to hot water.

3.3.20. The walls should have no breasts and prominence areas. All pipes and cables must be recessed into the walls or accurately closed.

3.3.21. The doors through which the fish and other products are accepted, must be wide enough, made of or trimmed with corrosion and impact-resistant materials and easily cleanable.

3.3.22. The ceilings must be designed and executed so that to exclude the accumulation of dirt, condensate and be easily cleanable.

3.3.23. The ceilings must have a smooth water resistant surface and painted in a light color with emulsion paints or lime.

3.3.24. In the buildings with prominent elements below the ceiling (beams, pipes, etc.) it is recommended to install suspended ceilings.

3.3.25. In case the roof beams can not be closed and the internal side of the roof is used as a ceiling, all connections must be compacted and the supporting structures painted in a light color. The roof surface must be smooth, easily cleanable and exclude penetration of dust, pollutants and condensate into the fishery products.

3.3.26. For the storage of maintenance tools, detergents and disinfecting substances special rooms, boxes and bins must be provided.

3.3.27. The production rooms must be provided with:

- wash-of faucets: 1 faucet per 150 m<sup>2</sup> of area (at least one faucet per room), supports for flexible hoses;

- for hand washing the rooms must be provided with sinks connected to cold and hot water, equipped with mixers and provided with soap, disinfecting fluid, single-use towels or electrical hand dryers.

Sinks must be located in each production room at the entrance, at a distance of at most 15 m from each workplace, based on the norm of 1 mixer per 20 persons;

- for drinking purposes fountains or saturator devices must be located at a distance of at most 70 m from workplace;

- the temperature of drinking water should not exceed 15 °C.

3.3.28. The faucets in working rooms and toilets must not be manual.

#### 3.4. Water supply and sewerage

3.4.1. The fish processing enterprises must be supplied with water from the centralized water supply system. In the absence of centralized system an independent water supply system must be constructed. Water must comply with the requirements of GOST 2874. The laboratory-production control of water supply must be performed in accordance with Attachment 7.1.

3.4.2. The water supply system, the choice of water sources and its equipment must be coordinated with the centers of state sanitary and epidemiological supervision.

3.4.3. All water supply systems, independently on their belonging, with surface or underground sources must be provided with sanitary protection zones in accordance with the requirements of SanPiN 2.1.4.027-95.

3.4.4. Interconnection of drinking and technical water supply pipes is strictly prohibited.

3.4.5. The pipes, the armature and equipment used for the hot and cold water supply must comply with the provisions of SNiP 2.04.01-85.

3.4.6. All internal water supply, sewerage, steam and gas pipes must be painted in conventional colors for visual distinction.

In order to prevent the condensation of water on the pipes with a temperature below the room temperature such pipes must be thermally insulated

3.4.7. When determining the need for water for utility purposes, for the watering of green plantations and other scopes one must use the following water consumption norms (Table 1).



Table 1

Destination of water	Water consumption, l/day.	
	enterprise	
	with sewerage	without sewerage
For drinking purposes and personal per (1 person.)	25	15
shower (per 1 person)	40	
Canteen (per 1 lunch)	20	
Mechanical laundry (per 1 kg of dry clothes)	60	
Transport (per 1 automobile)	600	
Watering of passages (per 1 m <sup>2</sup> )	2	
Watering of green plantations (per 1 m <sup>2</sup> )	4	
Club, red corner (1 visitor)	6	
Medical assistance points (1 visit)	6	
Laboratory (per 1 faucet-h)	40-60	

3.4.8. The water consumption norm for the washing of floors, panels and walls during the shift:

- production rooms requiring a special sanitary regime (fish butchering rooms, roe rooms, canning rooms, culinary and preserve sections, medical oils sections, etc.) - 10 l/m<sup>2</sup>;

- rooms with insignificant pollution of floors - 5 l/m<sup>2</sup>\*(7).

3.4.9. The section cleaning hoses are connected to the hot and cold water supply via mixers. The hose ends must be provided with pistol nozzles and devices not allowing them to come in contact with the floor.

3.4.10. The water used for technological purposes must comply with the provisions of GOST 2874 "Potable water".

The sea water must be preliminarily disinfected by solution of chlorinated lime or chloramine with a concentration of 10 g/dm<sup>3</sup> and bactericidal preparations of catamine AB or catapol with a concentration of 0,2-0,5 g/dm<sup>3</sup>. For disinfection also may be used the ozonization, electrical chlorination and ultraviolet irradiation with bactericidal bulbs.

The glass pots must be washed with potable or desalinated sea water, or treated with steam. It is allowed to use desalinated sea water for steam generation.

3.4.11. The water used for the production of canned foodstuffs must comply with the provisions of the instruction "On the modality of sanitary-technical quality control of canned food at the production enterprises, wholesale facilities, in retail commerce and enterprises of public catering".

3.4.12. For the production of fishery products for their subsequent exportation must be used the potable or clean sea water compliant with the provisions of attachment 7.2.

Use of catamine and catapol for the disinfection of water used for the cooling of canned foodstuffs is not admitted.

For the needs of fire extinguishing systems and cooling of refrigeration equipment sea water may be used. The pipelines installed for these purposes must not be used for any other needs and may not be a pollution source for the products.

3.4.13. The intake of sea water must be arranged far from the coasts in the zones not polluted with oil products, effluents, decaying algae, etc.

3.4.14. the water of surface water objects used for the utility and technological purposes, for the preparation of detergent and disinfectant solutions, for the washing and flushing of equipment must comply with the requirements of "Sanitary Rules and Norms for the protection of surface waters against pollution" and "Sanitary Rules and Norms for the protection of coastal sea waters from pollution in places of their use by the population".

3.4.15. The water connection point must be located in an isolated lockable room and be provided with manometers, sample collection faucets, drainage traps, backvalves allowing the movement of water in one direction only.

3.4.16. The analysis of potable water is performed in compliance with the GOST "Potable water. Methods of sanitary-bacteriological analysis", while the water of open water objects and the sea water - in compliance with the "Methodological guidance for the sanitary-microbiological analysis of surface water objects".

3.4.17. The sewerage system designs of the fish processing enterprises must comply with the requirements of SNIIP "Sewerage. External networks and facilities" and "Internal pipework and sewerage of buildings", as well as with the provisions of the present SanPiN.

3.4.18. The enterprises must be provided with separate networks for production and utility sewerage systems and for storm water evacuation. It is prohibited to interconnect the production and the utility sewerage systems.

3.4.19. The traps and pipes for the evacuation of production wastes located in the inter-panel ceilings must be impermeable and designed in such a way as not to be located above the fishery production equipment, above the workplaces and rooms intended for the storage of products and ingredients.

### 3.5. Illumination, heating and ventilation

3.5.1. The illumination of production rooms must comply with SNIIP "Natural and artificial illumination. Design norms".

3.5.2. The worklights with luminescent bulbs must be provided with protection grills (nets), dissipaters or special bulb sockets excluding the fall-out of bulbs from the worklights; worklights with incandescent bulbs must be provided with blind protection glasses.

3.5.3. Luminescent illumination is allowed only if the problem of recycling of defective mercury luminescent bulbs is adequately resolved.

3.5.4. For the illumination of rooms with open technological processes the worklights must be located in such a way as to exclude the possibility of ingress of splinters into the products.

3.5.5. The sanitary treatment of worklights must be performed at least once per trimester, while in the rooms of roe production - at least once a week, in accordance with the sanitary treatment schedule of the section.

The responsibility for the sanitary state and operation of worklights is vested with a technically trained person.

3.5.6. All the production rooms of roe sections must be provided with bactericidal lamps based on the rate of 1,5-2,2 W per 1 m<sup>3</sup> of air. Bactericidal lamps must be switched on by one hour before the beginning of work (presence of people in the rooms with bactericidal lamps switched on is prohibited). Since the switch-off of bactericidal lamps it is permitted to enter the rooms after at least 30 minutes.

The operation time of bactericidal lamps (in accordance with their passport life) is recorded in a special register.

3.5.7. The areas of windows in the basic production sections must constitute at least 30% of the floor area. In order to prevent excessive brightness, the windows must be oriented to the north. The best illumination characteristics are obtained by the location of window lower edge at the height of 80-90 cm from the floor and the upper edge - at 20-30 cm below the ceiling. The width of walls between the windows must not exceed the width of windows by more than one and a half times.

3.5.8. The external glass surfaces of windows (windows, transoms, wickets) must be cleaned from dust and smoke depending on the rates of pollution, but at least once per quarter, the internal surfaces must be cleaned at least once per month. During the winter time it is permitted to clean only the surfaces of internal frames of window openings.

Broken glasses in the windows must be immediately replaced. It is prohibited to install split glasses into the windows.

The illumination openings both from inside and outside the building must never be blocked with foreign objects.

3.5.9. The location of machines and equipment in the rooms must be effected in such a way as to maximize the lighting of workplaces, however, the direct sunlight must be excluded.

3.5.10. In case of change of destination of production rooms, rearrangement or replacement of production equipment the worklights must also be rearranged and adapted to the new conditions without infringement of illumination norms.

3.5.11. All production, administrative and utility rooms must be provided with ventilation assuring the air environment conditions in accordance with SNiP "Heating, ventilation and air conditioning", SNiP "Administrative and utility buildings", GOST "General sanitary-hygienic requirements".

3.5.12. For the natural ventilation of rooms wickets, openable transoms and frames with mechanical devices for opening and fixing, as well as shutters must be provided. Windows must open inwards in order to ease washing.

3.5.13. All air intake devices must be located in the places excluding the penetration of dirty air, gases and water. For the removal of dust from the air the air intakes must be equipped with filters.

3.5.14. The forced draft ventilation systems and aspiration orifices of natural ventilation systems must be equipped with protection nets in order to prevent insects from penetrating into the rooms.

3.5.15. The ventilation channels and diverticles of technological devices must be periodically (but at least once a year) dismantled and cleaned from inside.

3.5.16. In order to prevent the excessive cooling of production rooms at the technological openings and tambours heat curtains must be installed.

3.5.17. Recirculation of air in the ventilation and air heating systems in the production sections emitting poisonous vapors, gases and dust, as well as in the machinery sections of ammonia refrigerating installations is prohibited.

3.5.18. Each production section must have independent ventilation systems. It is prohibited to connect to a common aspiration system the dust collectors and the collectors of easily condensed vapors and substances that upon mixing form poisonous or explosive mixtures.

3.5.19. The enterprises must be provided with centralized heating.

3.5.20. The air temperature and the relative humidity in the production rooms, chambers and storage facilities designed for the storage and maturing of products must comply with the requirements of GOST 12.1.005-88 and technological instructions.

3.5.21. Heating of refrigerators, rooms for the defrosting of raw materials, in the cold salting sections and in the storage facilities must be provided in accordance with the requirements SNiP "Heating, ventilation and air conditioning" and technological instructions.

The heating systems in the production rooms must be water-filled with the heat carrier temperature of 150 °C or steam-filled (130 °C) with local radiators having smooth surfaces, easily accessible for cleaning.

In the administrative-utility rooms the temperature of heat carrier for double-pipe heating systems is 95 °C and for the single-pipe systems - 105 °C.

3.5.22. All production sections with significant differences in the temperature and humidity regimes must be located in separate rooms, access being provided via tambours, corridors, doors, etc.

3.5.23. All sources of significant steam and heat emission must be thermally isolated (closed with covers, isolated with encasements, equipped with cowls).

3.5.24. The production rooms must be provided with automatic air temperature regulation systems, depending on the external meteorological conditions.

### 3.6. Maintenance of territories and production rooms

3.6.1. The territory of fish processing enterprise (section) must be kept clean and ordered, during the summer it must be watered and during the winter - cleared from snow and ice.

3.6.2. Clearing of territory during the summer must be effected at least twice a day.

3.6.3. The storm sewerage pipes for the evacuation of storm water, meltwater and surface drain from foot-paths must be regularly cleared and repaired.

3.6.4. Clearance of territory, production, utility and auxiliary rooms must be performed by specially assigned and instructed personnel that may not be involved in the production of foodstuffs.

3.6.5. At the end of work clearance and cleaning of sections, equipment, tools and tare must be effected. Doors, cornices, windowsills, heating devices, etc. must be wiped with soft tissue, then the floors are washed. Floors and walls are washed with hot water with addition of liquid detergents and then are disinfected.

During the work the wet cleaning of floors is effected depending on the degree of their soiling.

3.6.6. For the maintenance of sections and sites in the due sanitary state sanitary days are organized at all fish processing enterprises:

- in the canning, preserve, roe, culinary, smoking, forcemeat production sections - once a week;
- in the boiled-frozen crustaceans, salted roe sections - once per 5 days;
- in the frozen, salted and condimented products, fodder flour and fat sections - once per 10 days.

After the sanitary days the microbiological control must be conducted.

3.6.7. The duration of standstills, the terms of repair works and their volumes must be approved by the company management.

3.6.8. The cosmetic repair of enterprises, sections and sites must be performed depending on the degree of soiling, but at least once a year. In case of appearance of mould the walls and corners must be treated with sodium oxyphenolate or any other permitted antiseptics. It is prohibited to effect the treatment, paintwork and repairs during the production process.

In order to prevent deterioration of trimming and of wall paintwork, fender corners and travel limits must be installed on the floor.

The places with knocked-off plastering must be immediately re-plastered with subsequent whitening or painting.

3.6.9. Location and installation of equipment in the production sections should not result in the appearance of places inaccessible for cleaning and disinfection.

3.6.10. It is prohibited to fill the containers with production wastes for over 2/3 of their volume, thereupon they must be freed-up (at least once a day during the summer and once per two days during the winter), cleaned, washed and disinfected. It is strictly prohibited to discharge liquids into the waste containers.

3.6.11. All debris, crushed glass, broken tare, fuel burning wastes, etc. must be deposited in specially designed places into containers and regularly removed by special transport.

3.6.12. Presence of home animals on the territory and in the rooms of fish processing enterprises is strictly prohibited (except for adequately kept guarding dogs).

3.6.13. It is strictly prohibited to eat and conduct foreign activities in the production rooms.

3.6.14. The access of foreign persons to the production rooms and storage facilities is allowed only with the management's consent and only in special or sanitary clothing.

3.6.15. At the entrance to the production rooms shoe cleaning tools must be installed: scrapers, grates, carpets, brushes, etc. These tools must be cleaned outside at least twice per shift.

Entrances to production, storage and utility rooms must be provided with disinfection carpets impregnated with 0,5 % solution of chlorinated lime or chloramine. Disinfection carpets must be changed once per shift.

### 3.7. Requirements to equipment, tools and tare

3.7.1. All working devices and equipment, butchery tables, vessels, conveyor belts and knives must be made of materials admitted for contact with foodstuffs, be easy to clean and disinfect.

The metallic structures must be made of stainless materials.

The use of wood for butchery tables and other structures is prohibited.

3.7.2. The design of equipment must provide for its quick disassembly and easy access to all components in order to be able to clean, wash and disinfect all parts coming in contact with the foodstuffs. Pallets must be easy to move. The height of pallets above the floor level is at least 30 cm.

3.7.3. All parts of technological equipment coming in direct contact with the foodstuffs must be oiled by alimentary oils exclusively.

3.7.4. Hoppers, vats, tubs, block forms and other vessels for raw materials, semi-finished products and ready products must have smooth surfaces, providing easy cleaning, washing the disinfection.

3.7.5. Table coverings must be smooth and made of non-corrosive metals or synthetic materials permitted for direct contact with foodstuffs by State Committee for Sanitary and Epidemiological Supervision of Russia.

3.7.6. It is prohibited to use mercury-filled measurement devices. All glass measurement devices must have metallic cases.

3.7.7. When making various fillings one must use stainless steel mixers with plastic handles.

3.7.8. Sample collection for analyses must be done exclusively with metallic spoons, pipes and probes.

3.7.9. All production inventory must be marked. Use of occasional inventory is prohibited.

3.7.10. All equipment, inventory, tare, including the covers, coming into direct contact with foodstuffs and raw materials must be made of materials approved by the State Committee for Sanitary and Epidemiological Supervision of Russia.

3.7.11. The consumers' tare for ready products must comply with the requirements of ND and packed into cardboard boxes with separators or PE bags without affection of integrity and deformation of packaging materials.

3.7.12. The tare used for the prepackaging of canned products must comply with the requirements of ND. The periodicity of quality control of the tare and evaluation of its sanitary condition is set out in the rules of sample collection and methods of testing set out in the departmental documents. The requirements to the washing and disinfection of tins for conserved and preserved foodstuffs are set out in the Attachment 7.3.

3.7.13. The glass pot covers must arrive to the rooms clean, packed into impermeable paper or into sealed PE bags. Covers shall be taken out from packaging materials immediately before loading into the feeder of the canning machine.

Metallic covers for glass pots, polymer and metallic containers must be clean and packed into impermeable or oiled paper.

If removed from packages immediately before canning they can be used without preliminary processing.

3.7.14. The painting of the internal surfaces of tins and covers must be resistant and comply with the provisions of ND.

3.7.15. The pot tare must be stored in clean and dry rooms, at the temperature corresponding to each type of material. It is prohibited to store at light the tare made of polymer materials.

3.7.16. Casks must be stored in clean and dry rooms or under sheds on pallets.

3.7.17. Membranes used for the packaging of sausages and frankfurters, as well as the films for the packaging of finite products must be approved for use by the State Committee for Sanitary and Epidemiological Supervision of Russia.

3.7.18. The tare and auxiliary materials used for the packaging of fishery products must be clean and dry, without foreign smells and comply with the requirements of ND. Use of soiled and mouldy tare is prohibited.

3.7.19. Washing and disinfection of production rooms, equipment, tools, tare and transport at the enterprise are performed in accordance with the

"Instruction for the sanitary processing of technological equipment at fish-processing enterprises and vessels ", using the detergents and disinfecting substances approved by the State Committee for Sanitary and Epidemiological Supervision of Russia.

3.7.20. the use of new detergents and disinfecting substances is allowed only upon approval of the State Commission for Sanitary and Epidemiological Supervision of Russia. The detergents and disinfectants must not exert any negative impact on the equipment and products.

3.7.21. The microbiological control of the quality of washing and disinfection of technological equipment, inventory and tare is performed in compliance with the "Instruction for sanitary-microbiological control of foodstuffs made of fish and sea invertebrates " and "Methodological instruction for the sanitary-microbiological control at fish canning enterprises and vessels ".

### 3.8. Auxiliary materials and ice

3.8.1. All auxiliary materials must be provided with documents attesting their quality and subjected to laboratory control upon acceptance and periodical laboratory control in accordance with the requirements ND.

3.8.2. When using imported alimentary additives the enterprise must have certificates and specifications from the suppliers and a hygienic certificate or permission of the State Commission for Sanitary and Epidemiological Supervision of Russia.

The incoming alimentary additives must be stored in the producer's packaging. Re-filling into other storage vessels is prohibited.

3.8.3. The rooms for the storage of auxiliary materials must be clean and dry, well ventilated, without foreign smells and not infested by any storage pests.

3.8.4. All products at the storage facility must be arranged so that the distance between the lower layers of sacks or boxes and floor to exceed 10 cm. It is prohibited to arrange products for storage in the proximity of water supply and heating pipes.

3.8.5. Spicery is stored and transported in original packaging.

3.8.6. It is strictly prohibited to store spicery in rooms with other odoriferous substances.

3.8.7. All auxiliary materials supplied in bulk must be passed through magnetic traps.

3.8.8. Vegetal oil supplied to the enterprise must be checked by the laboratory against the presence of Staphylococcus Aureus, stored in non-transparent and sealed container with a drainage faucet at the same level with the bottom.

3.8.9. The butter and melange must be stored on shelves in the refrigeration chambers in accordance with the requirements of ND.

3.8.10. Bottles with acetic acid must be installed into wattled baskets or wooden boxes with soft cushions in a cool and dry place (separately).

3.8.11. For the storage of salt one must use special closed storage facilities with a relative air humidity not exceeding 75%.

The salt storage facilities must protect the salt against the atmospheric precipitation, groundwater and mechanical impurities (dust, sand, etc.) and exclude any possibility of salt loss.

3.8.12. For the storage of salt at workplaces one must use special hoppers, boxes and other containers, without admitting the pollution of salt.

3.8.13. For the ice production one must use clean potable water. The quality of potable water must comply with the requirements of GOST 2874.

For the production of chlorinated ice one must use chlorinated lime with the mass fraction of chlorine of at least 25%.

3.8.14. For the production of ice it is allowed to use the disinfected sea water and the soft water from the water objects, compliant with the GOST 2874 in regard of the Coli index.

3.8.15. The isolation materials used for the reception of ice must be kept clean. Isolation materials must be stored in the vicinity of sites assigned for ice storage facilities, at the same time all the necessary measures must be taken in order to protect the materials from atmospheric precipitation.

3.8.16. The artificial or natural ice used for the cooling of fish and salt solution (brine), must comply by the Coli index with the requirements set out for potable water.

3.8.17. The ice must be stored in accordance with the requirements of ND.

3.8.18. The ice transportation conditions must assure the preservation of its quality pursuant to ND.

In case of transportation on open vehicles the ice must be covered with clean burlap.

3.8.19. When working in the salt and ice storage facilities the workers must use special footwear and tools.

### 3.9. Fishery

3.9.1. The sites for fisheries must be agreed with the local center of state sanitary and epidemiological supervision.

3.9.2. The entire coastal territory of the fishery site must be fenced and leveled.

3.9.3. For the drying of preliminarily cleared nets racks must be installed in compliance with the sanitary-hygienic requirements.

3.9.4. For the location of storage facilities, shelters and other production structures and utility rooms an elevated and non-floodable sector of coast with a compacted ground must be selected.

3.9.5. The territory of the fishery must be kept clean. Cleaning operations must be performed daily.

3.9.6. Fisheries must be supplied with water compliant with the requirements of GOST 2874.

3.9.7. For the collection of fecal sewerage (from canteens, laundries, toilets) a connection to the sewerage system must be provided, all solid wastes must be deposited into containers with tight covers located at a distance of at least 50 m from dwelling and public buildings and dragnet landfalls.

3.9.8. The contents of solid waste containers must be spilled with 10% solution of chlorinated lime or solutions of lysol or cresol on daily basis. The wastes and debris should be evacuated periodically to the city landfill by special transportation vehicles.

### 3.10. Fish reception and fish dressing rooms

3.10.1. The fish reception section (wharf) of the fish processing enterprise must be connected to the sewerage system. The floors of fish reception sites must be asphalted and sloped towards the sewerage traps. The use of reception sites as berth for utility purposes and sanitary treatment of vessels is prohibited.

3.10.2. the sanitary wharves and fish reception site must be connected to cold and hot water and steam supply systems for the treatment of site and holds of the fishing and transportation vessels.

3.10.3. The fish reception sites, especially during the fishing season must be cleaned and disinfected with the 2% solution of chlorinated lime and flushed with clean water on daily basis.

3.10.4. The space under the reception site must be kept clean and periodically disinfected. It is prohibited to discard wastes and garbage under the site.

3.10.5. when unloading the fish one must exercise due care in order to prevent it from pollution and mechanical deterioration.

3.10.6. All loading and unloading works must be conducted with the maximum use of mechanization (cranes, movable hoists, fish pumps, car loaders, etc).

3.10.7. The fish reception section must be closed, provided with thermal insulation and a ceiling canopy. Netting of sub-attic spaces is prohibited. The section walls must be covered with tiles and have no slots, floors must have solid water-resistant surfaces with slopes towards traps and grooves.

3.10.8. The section floors must be periodically cleaned from production wastes, flushed with hose water and disinfected. The walls and ceilings must be regularly cleaned from dust, cobweb and other impurities.

3.10.9. Before dressing the fish is placed into a special hopper or onto a pallet. The distance between the floor and the pallet should be at least 30 cm. It is prohibited to put the fish on the floor.

3.10.10. Depending on the intensity of soiling the fish dressing tables must be regularly washed. Fish dressing machines must be cleaned at least once per shift.

3.10.11. All hoses used for fish washing must be stored coiled and fixed to the wall, while the end of the hose must never touch the floor.

3.10.12. It is recommended to use special devices for the washing of big fish, including kapron brushes with showers, mops and other tools.

3.10.13. At the end of dressing the fish is thoroughly washed in clean water under flow (at a maximum temperature of 15-18 °C) in order to remove the sludge, blood, remainders of entrails and stored in cooled hoppers or covered with ice pursuant to the technological instructions and immediately sent for further technological processing.

3.10.14. Alimentary wastes of each type must be collected separately into clean inventory boxes.

Duration of waste collection into the same tare must not exceed 1,5 hours.

The collected wastes should be immediately sent for further processing or freezing.

3.10.15. In case the immediate processing is impossible, the tare with wastes, independently on the fill level must be placed into a cool chamber with air temperature of 0 ... 5 °C. Duration of waste storage should not exceed 4 hours.

3.10.16. The fish wastes intended to be used as animal fodder, must be stored in specially marked tare with tight covers and removed from the processing rooms at least once per shift.

Before sending the wastes for animal consumption they must be presented to the organs of state veterinary supervision.

### 3.11. Cold processing of fish

3.11.1. For the production of cooled fish one must use crushed ice (artificial or natural). Before crushing the ice must be washed.

3.11.2. Before directing to cooling and freezing the fish must be washed with clean water (with temperature not exceeding 15 °C). For fish quenching during the washing it is allowed to use the disinfected sea water.

3.11.3. The time of loading and unloading of fish from refrigeration facilities and the temperature values of frozen fish must be registered in a special register.

3.11.4. The technological operations in freezing chambers must be conducted with due observation of measures preventing the increase of temperature in the chambers and with the forced air recirculation fans switched off.

3.11.5. It is admitted to apply on fish the special protective covers recommended for use in the food industry in order to inhibit the processes of fat oxidation of frozen fish and drying during the cold storage.

3.11.6. The water in the glazing tubs must be changed depending on the degree of pollution, but at least once a day, the tubs themselves must be cleaned simultaneously.

3.11.7. The sanitary treatment of glazing machines and tubs must be performed in accordance with the "Instruction for the sanitary processing of technological equipment at fish-processing enterprises and vessels".

3.11.8. The water used for fish glazing (potable water and disinfected sea water) must comply with the requirements of GOST 2874.

3.11.9. For the preparation of disinfected sea water one must fill the glazin machine's tub with outboard sea water from the technological pipeline. Simultaneously the antiseptic substance - catamine AB or catapol in a mass concentration of 0,5 g/dm<sup>3</sup> is added under thorough mixing for 10 minutes. Depending on the consumption of disinfected sea water the tub must be refilled from time to time with the antiseptic solution with the concentration 0,5 g/dm<sup>3</sup> in order to maintain the level necessary for glazing the fish blocks.

3.11.10. The storage chambers prepared for the acceptance of products before loading must be cooled to the present storage temperature.



3.11.11. The storage chambers (holds) for fish and fish products must be provided with humidity and temperature controlling devices.

3.11.12. The air temperature control in the storage chamber must be performed on daily basis (at least twice a day) with the use of automatic plotters or verified thermometers installed in the central easily accessible places of chamber at the height of 1,5-1,8 m from the ground.

3.11.13. The control upon the relative humidity of air in the storage chambers must be effected at least once a week with the help of respective stationary or mobile devices (hygrometers, psychrometers, hygrographs).

3.11.14. The results of conducted measurements of temperature and relative air humidity in the storage chambers must be recorded into a special register.

3.11.15. The location of recording devices must provide for the easy control of readings. The sensors of such devices must be located in the most distant point from the source of cold, i.e, where the temperature is the highest. Temperature registration logs must be kept till the very sale of products and be available for presentation to the inspecting authorities.

3.11.16. Refrigerators with storage capacities exceeding 5 thousand tons must be provided with close loading-unloading platforms.

3.11.17. The products recognized as inedible must be kept in a separate room for subsequent use in technical purposes or for subsequent destruction.

3.11.18. The products arriving in dirty state, with evident signs of deterioration, affected by mould, having foreign smells and displaying other deviations from the standard requirements must be accepted only for temporary storage.

3.11.19. The matters related to the use of such products are solved by the technologist and commodity expert, in especially difficult cases involving problems of product safety, with involvement of regional centers of state sanitary and epidemiological supervision, Trading inspection, Commodity Expertise Office. Based on the obtained conclusion the products are released from the storage facility (as agreed by the supplier) for processing to the respective enterprises or directed for further sale.

3.11.20. In order to provide for the access of air to the fishery products and in order to ease the combating of rodents in the refrigerator rooms the products must be placed at a distance of minimum 50 cm from walls and at a height of at least 20 cm from floor.

3.11.21. Simultaneous storage of different types of products in the same chamber that could mutually affect their quality and state of tare, is strictly prohibited.

3.11.22. In specific cases, in the lack of free containers it is admitted to arrange for temporary storage of products of different types in the same chamber under the same thermal storage regime given that such combined storage will not affect their quality.

3.11.23. Cleaning of floors in the chambers, in the corridors and rooms shall be done depending on the degree of their soiling, but at least once a shift.

3.11.24. The current repair, whitening and disinfection must be performed depending on the actual needs, but at least once a year.

3.11.25. Removal of ice blankets from the radiators must be effected depending on the intensity of ice deposits, however, at least once a month. Ice blankets from the air cooler must be removed once a day.

3.11.26. The refrigerator's management is obliged to track the product storage terms and their timely realization.

3.11.27. The responsibility for the sanitary and technical state of refrigerator is vested with the refrigerator's administration.

### 3.12. Production of salted products

3.12.1. The raw materials used for the production of salted products must comply with the requirements of prevailing ND.

3.12.2. The salting vessels, tools and equipment must be prepared in accordance with the "Instruction for the sanitary treatment of technological equipment of fish-processing enterprises and vessels".

3.12.3. After each unloading the vats, tubs and tools must be thoroughly washed in order to remove all residuals of brine, fat, fat salt and checked for water resistance.

3.12.4. All the tools of salting section (trolleys, boxes, carriers) must be marked, washed daily and disinfected at least once a week.

3.12.5. The walls of fixed salting vats, defrosting and soaking vats recessed into the ground must be at least by 50 cm higher than the floor level.

3.12.6. The vat bottoms must have slopes towards the drainage orifice and provide for the complete drainage of used brine and wash waters.

3.12.7. The workers employed at fish salting in vats and unloading of vats must wear special footwear, romper suits, clean gloves and use exclusively the inventory of the salting section that is adequately marked and stored in the specially provided place.

3.12.8. The brine remaining in the vats after the unloading of fish, not having bad smells with acidity not exceeding 2-3 points, after clearance (filtration), based on a conclusion of laboratory may be used repeatedly.

3.12.9. The tightening weights for vats must be made of materials resistant to the action of brines, easily washable and easily disinfected, be provided with handles and have maximum weights of 20 kg. It is prohibited to use sacks with salt and other devices not compliant with the sanitary requirements instead of tightening weights in salting vats.

3.12.10. The defrosting, salting and soaking vessels must be connected to the hot and cold water supply through via mixers.

3.12.11. The drainage pipes of these vessels must be equipped with closing valves.

3.12.12. For fish salting one may use the containers made of corrosion-resistant metals or polymer materials.

3.12.13. Clearance, replenishment and cooling of brine in case of fish salting in circulating brines and pulsing brines must be performed in accordance with the technological instructions.

3.12.14. The drainage shelves for defrosted, washed and salted fish must be installed at a height of at least 40 cm from floor.

### 3.13. Production of preserves

3.13.1. The preserve section may be designed in a separate building or in a room isolated from other sections that produce alimentary fish products.

3.13.2. Production of preserves, besides the basic production sections (raw materials, dressing, pre-packing, packing, preparation of sauces and fillers), depending on the technological process, must have the following auxiliary sections: washing and disinfection of empty pots; washing of tools and internal tare; preparation and processing of vegetables and fruits; a refrigerated room for the short-term storage of raw materials; a room for the storage of auxiliary materials; a cooled chamber for the storage of finished products at the temperature 0 to minus 8 °C; a room for tare storage; a centralized brinery (the process of brine production and supply must be mechanized).

3.13.3. The sanitary-microbiological control upon the production of preserves is performed in accordance with the "Instruction on the sanitary-microbiological control of foodstuffs made of fish and sea invertebrates".

3.13.4. The raw materials used for the production of preserves must comply with the requirements of ND.

3.13.5. The process of production of preserves in sauces and fillers must be mechanized to the maximum extent possible.

3.13.6. The reserve of defrosted raw materials must not exceed the hourly demand of the dressing section. Holding of defrosted materials in water is prohibited.

3.13.7. The empty return tare and the tare with fish must be stored on shelves at a height of at least 40 cm from floor. The tare bottoms must have orifices for the drainage of water. The tare with fish for drainage is installed only in one row by height.

3.13.8. The spicy salted filler is mixed with acetic acid in enameled stainless steel containers.

3.13.9. After rolling the preserves must not be kept in the production room for over two hours and lot by lot they must be sent to the refrigerator for aging at the temperature of 0 to minus 8 °C.

3.13.10. The preserve production section must have a sanitary post.

### 3.14. Production of canned foodstuffs

3.14.1. Production of canned foodstuffs is permitted to the enterprises provided with facilities for monthly microbiological control.

3.14.2. The basic production of canned foodstuffs is located in the common room with compulsory demarcation of sauce section, autoclaving section and two separate sections for tare washing and inventory, as well as the following sections: raw materials, frying, blanching and prepackaging.

3.14.3. The location of production rooms must provide for the uninterrupted sequence of technological processes and exclude the possibility of intersection of flows of raw materials with the flows of semi-finished products and ready products.

3.14.4. The raw materials used in the production of canned foodstuffs must comply with the requirements of ND.

3.14.5. The sanitary-technological control must be performed according to the "Instruction on the order of sanitary-technical control of canned foodstuffs at production enterprises, wholesale facilities, in retail commerce and enterprises of public catering".

3.14.6. The sterilization of canned foodstuffs must be performed using the regimes approved by the Fisheries' Committee of RF. The methodology of elaboration of regimes is set out in WD 10.03.02-88.

3.14.7. Autoclaves must be equipped with control and recording devices. Operation of autoclaves without thermographers or with defective thermographers is prohibited.

3.14.8. The thermograms must be kept in the thermographic laboratory as strict liability documents for a period exceeding the guaranteed period of storage of the respective cans by 6 months. The thermograms must be clearly marked with ink and display the name of canned foodstuffs, the number of autoclave, the shift number, the date, the sterilization regime and the operator's surname. Thermograms are recorded in a special register.

3.14.9. All measurement and control devices installed on the autoclaves must be verified according to the GOST "State supervision and authority control upon measuring devices. General provisions".

3.14.10. In case of exportation of products periodical verifications of efficiency of sterilization process must be effected by the method of random sampling, and namely:

- incubation tests - at 37 °C for seven days or at 35 °C for ten days;
- examination of the external appearance of cans and microbiological analysis of their contents in the enterprise's laboratory.

3.14.11. At preliminarily established intervals on daily basis samples must be collected in order to verify the quality of canning. For this purpose the enterprise must dispose of necessary equipment for the research of connection seam sections of cans.

3.14.12. For exported products the quality of canning seam must be verified with an interval of 30 minutes - on two cans sampled from each canning machine.

3.14.13. Cans are checked for damages.

3.14.14. All cans that have passed the thermal processing at practically identical conditions must have serial identification marks.

3.14.15. Every day at the end of work all oil and other fillers must be drained from the systems, all the systems and filling machines must be washed with hot water and detergent and thereupon disinfected and rinsed with hot water.

3.14.16. Storage of canned foodstuffs at the production enterprise must be arranged in dry storage rooms with adequate storage conditions (temperature, air humidity) in compliance with the ND. Bloaters and other defective cans must be stored in a separate room.

### 3.15. Culinary production

3.15.1. The culinary section must be located in a room isolated from the other sections producing alimentary fishery products.

3.15.2. The culinary production must have the following rooms (sections): Raw materials (storage, unpacking, defrosting and dressing); storage and processing of vegetables; sieving of flour and preparation of dough; smoking of frankfurters and sausages; frying and baking of fish; cooling of fish; preparation of jellied dishes; preparation of forcemeat dishes; preparation of sauces and lanspig; storage of auxiliary materials; product packaging; expedition with refrigeration chamber; washing rooms for internal tare and inventory, for return tare washing for finished products.

3.15.3. The raw materials used in the culinary production must comply with the requirements of ND.

3.15.4. Eggs must be processed in a separate room in specially marked containers. Eggs must be screened through an ovoscope, washed with a warm 0,5% solution of calcinated soda, disinfected with a 0,5% solution of chloramine or 2% solution of chlorinated lime, rinsed in cold running water for 5 minutes. After treatment they are put into trays or other clean containers. It is prohibited to bring and store untreated eggs in cassettes into the production rooms.

3.15.5. The vegetables and the greenery after preliminary washing are sorted, cleaned and again washed with water. The cleaned vegetables may be stored in close containers only in integer form for no more than 2-3 hours.

3.15.6. the temperature of frying, boiling and baking processes must be recorded compulsorily in the special register. The inner temperature of finite products must not be lower than 80 °C.

3.15.7. At the end of frying the products are cooled down to 20 °C and packed immediately.

3.15.8. In the production of products that contain flour the flour must be compulsorily passed through magnetic sieves in order to retain any magnetic particles and foreign matters.

3.15.9. The temperature of boiling and smoking of sausages is recorded in a special register. After boiling the temperature inside the sausage must be not lower than 80 °C, while after smoking - 45-50 °C.

3.15.10. Sanitary treatment of sausage filling equipment involves removal of all removable parts. The cylinder must be washed and degreased. The hardly disassembled dosing device is washed for 2-3 times by passage of detergents and then disinfecting solutions from the syringe cylinder. After disinfection the dosing device must be rinsed with water.

3.15.11. Storage and realization of finished culinary products and semi-finished products is effected in accordance with the SanPiN "Conditions and terms of storage of easily degradable products " or ND for the new types of products.

3.15.12. The finished culinary products placed into tare (boxes, trays, etc.) without covers and without seals may not be realized.

### 3.16. Production of fish forcemeat

3.16.1. Fish forcemeat is made of fish at temperature between 0 and 5 °C.

3.16.2. The raw materials used for the production of fish forcemeat must comply with the requirements of ND.

3.16.3. The fish forcemeat is immediately pre-packed and frozen or sent to the culinary production.

All technological operations related to the preparation of fish forcemeat must follow each other with minimum standstill.

3.16.4. The forcemeat with additives must be mixed for about 4-7 minutes, depending on its type. The forcemeat temperature in this process must not exceed 10 °C.

3.16.5. The mix of forcemeat stabilization substances must be prepared in advance and stored in containers with tight covers in cool and dark places.

3.16.6. The sanitary treatment of technological equipment in the production of fish forcemeat is performed in accordance with the Instruction for the

sanitary treatment of technological equipment at fish-processing enterprises and vessels.

### 3.17. Boiled products of crustaceans and mollusks

3.17.1. Production of boiled products of crustaceans and mollusks is allowed at the enterprises provided with facilities for the microbiological control of products on shift-by-shift basis.

3.17.2. The crustaceans and mollusks after boiling must be subjected to rapid cooling. For boiling may be used the potable water compliant with the provisions of GOST 2874, or the sea water compliant with the said standard in respect of Coli index.

For exported products the potable and clean sea water must comply with the requirements set out in the Attachment 7.2.

3.17.3. Peeling and skinning must be performed with due observation of all applicable sanitary and hygienic conditions.

3.17.4. After peeling or skinning the boiled products must be frozen immediately or stored in the cooled state.

### 3.18. Production of smoked products

3.18.1. The smoking production, besides the rooms intended for the basic technological processes (defrosting, dressing, salting and leveling, soaking and smoking of fish) must include the following separate rooms:

- room for the preparation of salt brine; cooled room for the daily stock of materials; room for the packaging of finished products; refrigerator for the temporary storage of finished products; room for the sanitary treatment of returnable tare; room for the drying and storage of tare; tare storage facility with a repair workshop;

- room for the storage of fuel and woodchips, disinfecting materials, detergents and smoking liquid;

- room for the storage of packaging and auxiliary materials.

3.18.2. The smoking chambers must be equipped with forced ventilation with mechanical drive, tight doors and hatches.

3.18.3. Ramrods (rods), racks (poles) must be provided in the double quantity and subjected to sanitary treatment once a shift. They must be thoroughly cleaned, washed in 1-2% hot solution of calcinated soda and scalded. The smoking chambers and cages must be subjected to complete sanitary treatment once a week.

3.18.4. For the temperature and humidity control in the smoking chambers must be installed remote measurement and recording devices (thermometers, hygrometers, psychrometers), their readings being introduced into special registers. The temperature inside the hot smoked fish must not be lower than 80 °C.

3.18.5. The raw materials used for the production of smoked products must comply with the requirements of ND.

3.18.6. The finished products must be quickly chilled to the temperature not exceeding 20 °C, packed and sent to the cooling chamber. Till the realization the hot smoked fish is stored at temperatures between 2 and minus 2°C, and the cold smoked fish - at the temperature between 0 and minus 5 °C.

3.18.7. The storage term of hot smoked fish before freezing must not exceed 12 hours from the moment of unloading from the smoking chamber. The fish must be frozen to a temperature not exceeding minus 18 °C immediately after cooling.

3.18.8. The boxes for smoked fish must have orifices in the sides.

3.18.9. Production of smoked balyk products in small packages (pieces, slices) implies that the entire inventory must have its own marking.

3.18.10. Slices are arranged with special spatulas or forks.

3.18.11. The dressing boards and tables used for peeling and weighting of slices must be washed with a hot 0,5% solution of calcinated soda, disinfected, rinsed and then dried.

3.18.12. The inputs of raw materials and the outputs of finished products must be directed via separate entrances and lifts.

3.18.13. Storage, realization and transportation of hot-smoked products must be effected in accordance with the conditions and terms of storage and realization of easily degradable products.

### 3.19. Production of dried fish products

3.19.1. In the section of drying in natural conditions besides the general production rooms the following separate rooms must be provided:

- packaging;
- finished product storage chambers with preset temperature regimes depending on the assortment;
- section for the processing of tare and inventory.

3.19.2. The walls and ceilings of close rooms provided for drying of fish in artificial conditions must be smooth and easily subjected to sanitary treatment.

3.19.3. The chambers designed for the drying of fish in artificial conditions must be provided with remote measurement and control devices.

3.19.4. The raw materials used in the production of dried fishery must comply with the requirements of ND.

3.19.5. Drying of fish in natural conditions is performed on open hangs or under shelter. The natural fish drying section must be fenced and located at a distance of at least 50 m from garbage collectors and toilets.

3.19.6. The site under the hangs during the fish drying in natural conditions must be provided with a solid pavement with a slope for the drainage of storm water and always maintained in cleanliness. The use of these site for other purposes, washing and processing of fish under the hangs is prohibited.

3.19.7. When hanging the fish the lower lines must be located at a distance of at least 0,8 m from the ground level.

3.19.8. The cages, the ramrods, the bars and racks after each unloading must pass complete sanitary treatment, fully cleaned, washed with a hot 1-2% solution of calcinated soda and scalded. The ramrods, strings and nets must be made of materials approved by State Committee for Sanitary and Epidemiological Supervision of Russia.

3.19.9. The finished dry fish is arranged on the tables at a distance from floor of at least 50 cm.

Dried fish in piles must be covered with burlap. It is prohibited to leave the piles overnight.

3.19.10. The storage of dried products must be arranged in a cooled room at the temperature and relative air humidity compliant with the requirements set out in the ND.

3.19.11. In the sections of fish drying in natural and artificial conditions prophylactic activities must be performed in order to prevent the appearance of cheese fly, bacon beetle and rodents.

3.19.12. During the production of dried fishery products it is necessary to monitor the air purity in the drying chambers and thoroughly treat the nets and the trays.

### 3.20. Hard roe production

3.20.1. The roe production section must be designed in a separate room providing the uninterrupted sequence of technological operations. Production of canned roe and roe in casks must be separated.

3.20.2. The production, auxiliary and utility rooms at the roe production section must be separated.

3.20.3. The fish dressing and roe removal tables must be impermeable, easily cleanable and washable (stainless steel, marble, etc.). The tools (gratings, vessels, separation conveyors, tubs, etc.) must be made of materials compliant with the provisions of these Sanitary Rules (p.3.7).

3.20.4. The roe removal section must be equipped with sinks connected to hot and cold water supply systems through mixers and provided with devices for the dosing of antiseptic fluid for the treatment of hands and tools.

3.20.5. Roe production involves the use of transparent inspection tables with artificial lighting for the removal of nebelinia and foreign inclusions.

3.20.6. The raw materials used in the roe production must comply with the requirements of ND.

3.20.7. The roe must be collected into clean containers and delivered to the section in cooled state (0 °C).

3.20.8. For the preparation of roe it is allowed to use only boiled brines and burnt salt. Oil must be checked for the absence of Staphylococcus Aureus.

3.20.9. The roe may be tasted when salting only with corneous forks or plastic spatulas that must be disinfected after each tasting.

3.20.10. It is prohibited to put the roe into the previously used casks.

3.20.11. The tare (cans) before the insertion of roe must be thoroughly washed and treated with open steam or burnt in the hot air dryer. The linen sacks and towels must be thoroughly washed and boiled. The washed paraffined casks must be covered with parchment paper.

3.20.12. The time from beginning of arrangement of roe to the beginning of pasteurization must not exceed 2 hours.

3.20.13. The pre-packed and tinned roe must be immediately sent to the refrigeration chamber for storage.

3.20.14. The roe must be stored depending on the assortment at the temperature provided by the ND.

3.20.15. The linen filters for the preparation of jelly formation film for protein roe after each use must be washed and before each subsequent use - boiled.

3.20.16. The sanitary processing and disinfection of rooms, equipment and tools in the roe production (including the protein roe) must be performed on daily basis upon the end of work, sanitary days must be organized at least once per 4 days.

3.20.17. For the disinfection of air the production rooms must be provided with bactericidal lamps (1,5-2,2 W per 1 m<sup>3</sup> of air).

### 3.21. Production of medical fish oils, vitamins, hydrolyses, etc.

3.21.1. Production of fish oils, vitamins, hydrolyses, besides the basic production rooms, requires assignment of rooms for the storage of tare, raw materials, semi-finished products and finished products without natural lighting, providing the necessary storage regimes in accordance with the technological instruction.

3.21.2. The production rooms must be equipped with hoses connected to a hot water source for the washing of equipment.

3.21.3. The air temperature in the storage rooms must comply with the requirements of technological instructions.

3.21.4. Washing of equipment must be performed after each extraction cycle.

3.21.5. The equipment used for the sedimentation, melting and filtration of oils after each production cycle must be cleaned, washed and disinfected. The wash waters must be evacuated via a grease trap.

3.21.6. The process of preparation of medical oils and vitamins must be leak-proof to the maximum extent and provided with an efficient forced ventilation, the equipment must have removable covers. The process of washing (assembled), cisterns and equipment must be mechanized and automated to the maximum possible extent.

## 4. Requirements to fishing and fish processing vessels for the exportation of fishery products

### 4.1. Requirements to the construction and equipment of fishing boats

4.1.1. The fishing vessels must have holds and containers for the storage of raw fish, frozen or cooled fishery products with the observation of predetermined storage conditions (ND). The holds must be isolated from the machine compartment and crew rooms by impermeable splits in order to prevent the pollution of fishery products stored onboard.

4.1.2. the internal surfaces of holds and containers must be impermeable, made of smooth materials or smoothly painted, be easily washable and easily disinfectible. The paintwork must not pollute the fish products with substances harmful for the human health.

4.1.3. The holds must be designed so that the melt water never comes into contact with the fishery products.

4.1.4. The containers for the storage of fishery products must assure their preservation in the conditions compliant to the provisions of these Sanitary Rules (p.p.3.7.1 and 3.7.4).

4.1.5. The working decks, the equipment, the tanks and containers must be cleaned once a shift; disinfection must be performed once a week. The holds for the storage of frozen products must be cleaned and washed after complete unloading. For this purpose it is allowed to use potable water or clean sea water. In certain cases disinfection, disinsection and disinfestation are performed.

4.1.6. Detergents and disinfecting substances, insecticides and other toxic substances must be stored in closed rooms or containers. Their use should completely exclude the risk of pollution of fishery products.

4.1.7. Freezing of fishery products onboard is performed in compliance with the existing technological instructions. In case of freezing in cooled solution it is inadmissible for the latter to be a source of pollution. The solution must be changed depending on the degree of pollution.

4.1.8. When chilling fishery products in clean sea water one must observe the following requirements:

- the tanks must be provided with the necessary devices for the filling and discharge of sea water and have devices for the maintenance of identical temperature in all tanks;

- the tanks must be equipped with temperature recording devices connected to the sensors located in the compartments with highest temperature inside the tanks;

- the operation of tanks system must provide for such a cooling speed that would assure the cooling of fish and sea water down to 3 °C within 6 hours after loading and 0 °C - within 16 hours;

- after each unloading the tanks, the recirculation systems and vessels must be completely dried and thoroughly cleaned with fresh potable water or clean sea water. The tanks may be filled with preliminarily disinfected clean sea or fresh water ;

- when recording the temperature readings one must record the date and the tank number.

The register must always be available for presentation to the competent authority.

#### 4.2. Requirements to raw fish and fishery products onboard fishing vessels

4.2.1. The compartments of vessels or tanks designed for the storage of raw fish and fishery products must not contain any foreign objects or any other products. The construction of these compartments and tanks must exclude the contact with the fishery products and provide for the ease of cleaning and disinfection.

4.2.2 The compartments of vessels or tanks designed for the storage of raw fish and fishery products must clean and exclude the possibility of penetration of fuel and bilge water therein.

4.2.3. From the moment of arrival of raw fish onboard it must be protected against pollution, against the impact of sun or any other sources of heat. Washing is performed with desalinated or clean sea water compliant with the requirements set out in the Attachment 7.2.

4.2.4. Processing and storage of raw fish and fishery products must exclude the mechanical damages. Transportation of big fish or fish that could inflict bodily injuries to the operator may be performed with the use of sharp tools granted that the fishery products will not be deteriorated.

4.2.5. The raw fish, except for the fish kept live, must be chilled as soon as possible. The raw fish should not remain for over 8 hours onboard of fishing vessels where chilling is impossible.

4.2.6. The ice used for the chilling of products must be made of potable or fresh sea water. Before use it must be stored in the conditions preventing its pollution.



4.2.7. Upon unloading of fishery products from the tanks the equipment and the compartments of vessels coming into direct contact with fishery products must be washed with potable or clean sea water and then disinfected.

4.2.8. Decapitation and (or) evisceration of fish onboard must be performed in compliance with the ND, technological instructions and sanitary requirements. The products must be immediately and thoroughly washed with potable or clean sea water. Liver and roe intended for consumption must be chilled or frozen.

4.2.9. The equipment used for the evisceration, decapitation and removal of fins, as well as the containers and the equipment coming in direct contact with fishery products must be manufactures from impermeable materials not subjected to decay processes or be fully covered with such materials, be smooth, easily washable and disinfectible. Before using they must be completely clean and subjected to monthly sanitary treatment.

#### 4.3. Requirements to the construction and equipment of fish processing vessels

##### 4.3.1. General Requirements

4.2.8. Decapitation and (or) evisceration of fish onboard must be performed with observation of ND, technological instructions and sanitary requirements. The products must be immediately and thoroughly washed with potable water or clean sea water.

The livers and roe intended for human consumption must be frozen or cooled.

4.2.9. The equipment used for evisceration, decapitation and removal of fins, as well as the containers and equipment coming into direct contract with fishery products must be made of impermeable materials, not subject to decay processes, or be covered with such materials, their surfaces must be smooth, easily washable and disinfectible. Before using they must be absolutely clean and subjected to sanitary treatment after every shift.

#### 4.3. Requirements to the design and equipment of fish processing vessels

##### 4.3.1. General Requirements

4.3.1.1. The acceptance hopper of the cooler hold designed for the uptake of fishery products onboard must be designed so that each subsequent catch to be put in a separate place. The acceptance hoppers and cooling holds, as well as all of their moving parts must be easily accessible for cleaning. They must be designed and executed so that to protect the products from sun, atmospheric precipitation and any sources of pollution.

4.3.1.2. The delivery of fishery products from the acceptance section to the production section must comply with the sanitary requirements.

4.3.1.3. The production sections for the preparation and processing of fishery products must comply with the sanitary requirements and exclude the possibility of secondary pollution of products during the production cycle.

4.3.1.4. The sections for the storage of finished products must be sufficiently large and executed in such a way as to be easily cleanable. If the vessel is provided with a waste processing system, there must be provided a separate hold for the storage of wastes.

4.3.1.5. The storage rooms for packaging materials must be separated from the sections of preparation and processing of products.

4.3.1.6. It is necessary to install special equipment for the pumping out of wastes or fishery products unsuitable for alimentary purposes, or to provide impermeable vessels for the collection of such products. Onboard must be provided special sections for the storage and processing of wastes.

4.3.1.7. Special equipment must be installed for the assurance of potable water supply in compliance with the requirements set out in the Attachment 7.2, or sea water supply under pressure. The sea water intake must be located at such a place that would prevent the intake of effluent waters and water from engine cooling outlet.

##### 4.3.2. Requirements to the preparation, processing and freezing sections

4.3.2.1. The sections of preparation, processing and freezing of (blast freezing) of fishery products must be provided with:

- anti-slip floor, easily cleanable and disinfected; large grooves not blocked with fish wastes and providing for the quick discharge of water;
- easily cleanable splitters and trails, especially in places of installation of pipes, chains or electrical wiring;
- hydraulic gears installed or protected in such a way as to prevent the pollution of fishery products with oil;
- natural or forced ventilation and if necessary, a good air drawing system;
- lighting of workplaces in accordance with the norms;
- devices for the cleaning and disinfection of tools, equipment and armature;
- devices for the washing and disinfection of hands, single-use towels (manual operation of faucets is prohibited).

#### 4.3.3. Requirements to equipment and tools

The equipment and tools, such as dressing tables, containers, Evisceration, filleting machines, etc. must be corrosion-resistant, maintained in a good technical state, be accessible for washing and disinfection and made of materials permitted by the State Committee for Sanitary and Epidemiological Supervision of Russia. The use of wood is prohibited.

#### 4.3.4. Requirements to the freezing of fishery products

4.3.4.1. On the vessels where freezing of fishery products is performed must be installed:

- refrigerator installations for the quick temperature reduction, assuring the deep freezing;
- refrigerators for the maintenance of needed temperature in the storage holds for fishery products. The storage holds must be equipped with an easily accessible system for the registration of temperature.

#### 4.4. Requirements to the processing and storage of fishery products at fish processing vessels

4.4.1. For the observation of hygienic requirements in the processing of fishery products onboard are responsible: the captain's mate for production, the technologist, the fish master, the chief of laboratory. They are authorized to verify the observation of requirements set out in these Sanitary Rules, are obliged to present to the inspectors the programs for checking the observation of basic regulations onboard, the register of remarks and the temperature records.

4.4.2. The general hygienic requirements to the sections and equipment are set out in the p.3.7 of these Sanitary Rules.

4.4.3. The general hygienic requirements to the personnel are set out in p.5.8 of these Sanitary Rules.

4.4.4. Production of fishery products onboard must be performed in accordance with the requirements of ND and sanitary requirements for the processing of sea fishery products on vessels, as well as the requirements set out in the p.3 and 5 of these Sanitary Rules.

4.4.5. The fish products must be packed in compliance with the ND and requirements set out in the p.5.1 of these Sanitary Rules.

4.4.6. Storage of fishery products onboard must be organized in compliance with the ND for the specific products and in compliance with the requirements set out in p.5.3 of these Sanitary Rules.

### 5. General part

#### 5.1. Sanitary-epidemiological supervision and control of production

##### 5.1.1. General observation

5.1.1.1. The competent authorities must organize and effect control upon the observation of these Sanitary Rules.

5.1.1.2. The control must encompass:

- the fishing and fish processing vessels in ports;
- the conditions of unloading and first sale;
- the fish processing enterprises;
- the wholesale markets and auctions;
- the marking, the conditions of storage and transportation.

#### 5.1.2. Special control

5.1.2.1. Organoleptic control.

5.1.2.1.1. The organoleptic control of fishery products is performed in compliance with the requirements of ND.

5.1.2.1.2. Should the organoleptic control establish that the fishery products are unsuitable for consumption, all measures must be taken for the confiscation and destruction of such products.

5.1.2.1.3. In case of appearance of doubts related to the freshness of fishery products, the organoleptic control may be supplemented with chemical or microbiological control.

5.1.2.2. Chemical control.

5.1.2.2.1. The chemical control of fishery products is performed in accordance with the requirements of ND.

5.1.2.2.2. In case of exportation of fishery products the chemical control must include the determination of total nitrogen of volatile alkali (TNVA), nitrogen, trimethylamine and histamine.

5.1.2.2.3. Pursuant to the Commission Directive 95/149/EC the fishery products are unsuitable for human consumption if the following maximum admissible concentrations of (TNVA) are exceeded:

- for the fish of category A

Sebastes spp. (ocean perch),  
Helicolenus dastyllopterus (red beam),

Sebastichibus capensis (burbot) - 25 mg of nitrogen per 100 g of investigated sample;

- for the fish of category B

The Pleuronectidus\* Family (8) (right-side flatfish) - 30 mg of nitrogen per 100 g of investigated sample;

- for the fish of category C

Salmosalar (Atlantic salmon),  
Merlucciidae Family (mulsettes),

Gadidae Family (cod) - 35 mg of nitrogen per 100 g of investigated sample.

5.1.2.2.4. Pursuant to the requirements of the Directive 91/493/EEC, the content of histamine is regulated only for the Scombridae, Tuna, Salmonids and Clupeidae. When determining the histamine levels, 9 samples must be collected from each lot and comply with the following requirements:

- the average level must not exceed 100 mg/kg;
- two samples may exceed 100 mg/kg, but be lower than 200 mg/kg;
- none of the samples must exceed 200 mg/kg.

Should the fish of these families be treated in maturing brine, the histamine levels in the final product may be higher, but not exceeding 400 mg/kg.

5.1.2.2.5. The content of toxic substances penetrating into the products from the water environment must comply with the Medical-biological requirements and sanitary quality rules for the production materials and foodstuffs.

5.1.2.3. Microbiological control.

The microbiological control of fishery products is performed in compliance with the requirements of ND.

5.1.2.4. Parasite control.

5.1.2.4.1. The fishery products before being sent for alimentary consumption or further processing must pass the parasite control in order to identify any visually detectable parasites.

5.1.2.4.2. Fish or any parts of it, evidently infested with parasites, must not be sent for sale for alimentary consumption.

5.1.2.4.3. Requirements to fishery products in case of existence of parasites are set out in the p.5.2 of these Sanitary Rules.

5.1.2.5. Quality certificate and Sanitary certificate.

5.1.2.5.1. The enterprise must guarantee the compliance of products with the quality requirements of ND, Medical-biological requirements and sanitary norms of quality for the production raw materials and foodstuffs and provide the necessary documents for each lot.

5.1.2.5.2. For sale within the country each lot of products must be accompanied with a Quality Certificate (Attachment 7.4) signed by the company director.

5.1.2.5.3. The products intended for exportation must be accompanied by Sanitary certificate (Attachment 7.5) signed by the official inspector of the competent authority.

## 5.2. Requirements to fishery products in case of existence of parasites

5.2.1. The fishery products before being sent to the consumers or for further processing must be subjected to visual control in order to detect the parasites dangerous for man and determine their vital capacity.

5.2.2. The expertise is performed:

- at coastal fish processing enterprises - by the production laboratory, by the ichtiopathological centers or centers of state sanitary and epidemiological supervision;

- at fish processing vessels - by the chief of production laboratory or captain's mate, or by the shift's senior fish master.

5.2.3. When processing the fish with foreign inclusions (shrimps, larvae, parasites) they must be removed to the maximum extent possible. In cases the fish can not be cleaned from foreign inclusions it must be sent to the competent authorities for their conclusion.

5.2.4. When processing the fish infested with parasites or infected with infectious diseases, the following rules must be observed:

- the fish or its parts or wastes may not be dumped into the water objects;

- the meat and the entrails of fish infested with parasites must not be fed to the home animals;

- the fresh fish with skin affected by trichidines, kostia, Cholodonellae, Inthiophtririus, etc. must be washed with hot water or 5% solution of table salt before being washed in fresh water;

- after the processing of infested fish the section must be cleaned and disinfected, including the equipment and tools; hands must be washed with soap and disinfected with 0,2% solution of chlorinated lime or another suitable disinfectant;

- during the thermal processing one must assure that the fish meat is well boiled or fried in accordance with the adopted instructions;

- during the technological processing one must observe the "Methodology of inspection of sea fish and fishery products for parasites (raw sea fish, cooled and frozen fish)", the "Instructions for the sanitary - parasitological evaluation of sea fish and fishery products", "Sanitary Rules on the sanitary -helminthological expertise of fish and conditions of disinfestation from larvae of diphyllbothriasis and opisthorchid flukes".

5.2.5. In case of detection of infestation of at least one sort of fish with the larvae of diphyllbothriasis and opisthorchid flukes, independently on the degree of invasion, all the fish originating from that water object and able to be an intermediate master for the said parasites is considered "conventionally acceptable".

5.2.6. The realization of fresh and cooled non-disinfested "conventionally acceptable" fish via the enterprises of public catering and commercial enterprises is prohibited. In case of impossibility of processing of "conventionally acceptable" fish at place of catch it may be transported to the nearest treatment points.

5.2.7. When determining the suitability of fish for alimentary consumption and fodder production usually are taken into account only the parasites that infest the muscle tissues; in other cases must be taken into

consideration the parasites of body surface, liver, roe or milt, if these are sent for alimentary consumption or for the production of fodder.

5.2.8. The parasites of gills and other organs, especially digestive system and bodily cavity may not be a reason for the rejection of fish or reduction of its grade.

5.2.9. Should the inspected samples contain at least one larvae of helminthes in live state, the lot is prohibited from sale through the commercial network. The fish must be decontaminated.

5.2.10. The fish affected by Myxosporidiae (rarefaction of muscle tissues) after catching must be frozen as soon as possible in order to minimize the changes of consistence.

Defrosting must be very quick (to a temperature of at most minus 2 °C), while the subsequent thermal processing (frying) must be done at higher temperatures (160-165 °C).

5.2.11. The use of "conventionally acceptable" fish for alimentary purposes is admitted depending on its type and dimensions after processing guaranteeing the decontamination of product, in accordance with "Sanitary Rules for the sanitary-helminthological expertise of fish and rules of decontamination from larves of diphyllbothriasis and opisthorchid flukes" and "Rules of veterinary-sanitary expertise of fresh-water fish and crawfish".

5.2.12. In case of impossibility to provide a freezing regime guaranteeing the decontamination of fish, it must be used for alimentary purposes only after salting, thermal processing, or in the canned form.

5.2.13. At fish processing enterprises one should provide for the measures for the prevention of infestation of workers with larvae of tapeworms and opisthorchiasis. The persons employed at the fish processing must observe the measures of personal prophylaxis. It is prohibited to taste the raw forcemeat and other semi-finite products and roe, the wastes of fish dressing must be timely decontaminated.

5.2.14. The matter on the possibility of using the fish infested with helminthes for alimentary purposes is decided by the chief of production laboratory or by the captain's mate responsible for the production of the accepting vessel or the fish master, while on land - the chief of production laboratory or one of the senior officers of the technological service, or the sanitary service.

5.2.15. In the case of export of fishery products one must observe the rules of visual examination for the detection of parasites pursuant to the Commission Directive 93/140/EEC:

- observed parasites are the parasites or groups of parasites having the dimensions, color and texture allowing their visual distinguishing from the tissues of fish;

- under visual control one must understand the non-destructive control of fish or fishery products without using optical or magnifying systems at adequate lighting for the human vision, in cases of need it is allowed to use additional lighting;

- the visual control must be performed on a representative number of samples;

- the persons assigned for the visual control at the coastal fish processing enterprises or attested on vessels must determine the scale and the frequency of visual control depending on the nature of fishery products, their geographic origin and destination of use.

### 5.3. Packaging

5.3.1. Packaging must be done in the conditions preventing the pollution of fishery products.

5.3.2. The packaging materials and tare must:

- exclude the deterioration of organoleptic properties of fishery products;

- be made of materials permitted for contact with foodstuffs by the State Committee for Sanitary and Epidemiological Supervision of Russia;

- be enough resistant.

5.3.3. The tare for the packaging of foodstuffs must comply with the requirements of ND, pass the sanitary treatment (mechanical cleaning, washing

with hot water and detergents, disinfection, rinsing and drying). The use of soiled tare and tare affected by moulds is prohibited.

Tare should not be used repeatedly with exception for the easily cleanable and disinfected tare.

5.3.4. The tare used for the storage of ice-cooled products must assure the good drainage of melt water.

5.3.5. The unused packaging materials must be used on the territory beyond the production sections and be adequately protected against dust and pollution.

#### 5.4. Marking

5.4.1. Marking is applied to the transportation and consumer's tare. The structural elements of marking are set out in the GOSTs 7630; 11771. The structural elements of marking are applied depending on the packed products and agreement with the client.

The marking is made in Russian language and /or in the state language of the home country of producing enterprise, or in the language of the country at whose order the products were produced.

5.4.2. In the case of exportation of fishery products the packaging and the accompanying documents must state:

- the sending country ;
- the registered and approved number of fish processing enterprise or vessel.

#### 5.5. Storage and transportation

5.5.1. Storage and delivery terms of fishery products must be determined in accordance with the conditions approved for the particular type of products and be set out in the accompanying document.

Frozen products must be kept at a temperature not exceeding minus 18 °C. During the shipment the maximum short-term increase oscillations may not exceed 3 °C.

5.5.2. The transportation vehicles for the finished products must have sanitary passport.

5.5.3. It is prohibited to store and transport fishery products together with other types of products that may result in the reduction of their quality.

5.5.4. When ice is used for the cooling of products, an adequate drainage of melt water in order to prevent it from falling onto the products. The internal surfaces of transportation vehicles must be made of materials not causing negative impacts on the fish products, be smooth, easily cleanable and disinfected.

5.5.5. The transportation vehicles of fishery products may not be used for the shipments of other products. In exceptional cases they may be used for such purposes with subsequent cleaning and disinfection.

5.5.6. The vehicles used for the transportation of live fish produced in fisheries, must be equipped with isothermal cisterns, containers or other devices assuring the quality of live fish.

5.5.7. The cisterns, containers and other vessels must be thoroughly washed, disinfected with 3% solution of chlorinated lime or other disinfectant, again flushed and filled with water.

5.5.8. The water for the transportation of live fish by automobile transport must be clean, transparent and free of harmful substances.

It is admitted to transport live fish in the water taken from water supply systems containing chlorine with a condition of thorough aeration for 30-50 minutes.

5.5.9. The driver and the forwarder must have medical certificates, clean medical gowns and a sanitary passport for the automobile.

#### 5.6. Requirements to unloading and wholesale of fishery products

5.6.1. The unloading equipment must be made of easily cleanable and disinfected materials and maintained clean.

5.6.2. When unloading one should avoid the pollution of fishery products, in particular, special attention must be paid to:

- quick performance of unloading operations;
- immediate placement of fishery products into a protective medium providing the necessary temperature conditions of storage, if necessary - on ice;
- inadmissibility of using equipment that could affect the quality of products.

5.6.3. The rooms of auctions or wholesale markets used for the exposure of fish products must:

- be roofed, their ceilings and walls must be easily cleanable and disinfectible;
- have an impermeable, easily washable and disinfectible floor provided with a water drainage system;
- be provided with sinks and toilets. Sinks must be provided with tools for hand washing, disinfection and single-use towels;
- have adequate lighting;
- be used exclusively for the demonstration or storage of fishery products; the access of transportation vehicles with exhaust fumes that may affect the quality of products is prohibited;
- regularly, at least after each sale, the vessels must be cleaned and washed from both sides with potable water or clean sea water; in cases of need they must be disinfected;
- be provided with visible signs prohibiting smoking, spitting, eating and presence of animals;
- be lockable, if the competent authorities consider it necessary;
- be provided with equipment assuring reliable water supply compliant with the requirements set out in the p.3.4 of these Sanitary Rules;
- be provided with special impermeable and corrosion-proof receivers for fishery products unsuitable for consumption;
- have an adequately equipped room for the conduction of inspections of fishery products.

5.6.4. After unloading or first sale the fishery products must be immediately delivered to the point of destination in compliance with the requirements set out in the p.5.5 of these Sanitary Rules.

5.6.5. In case the provisions of p.5.6.4 are not observed, the sales places must have cold rooms of sufficient sizes for the storage of fishery products in accordance with the requirements of ND.

## 5.7. Environment protection

5.7.1. In the industrial processing of fish and production of fishery products the environment protection activities must be implemented in compliance with the Law of RFSSR "On the protection of surrounding environment".

5.7.2. Designs of enterprises must take into account the maximum admissible loads onto the environment and provide reliable and efficient measures for the prevention and remedying of pollution of surrounding environment with dangerous wastes, their decontamination and liquidation, implementation of resource-saving, low-waste and waste-free technologies.

5.7.3. The construction and reconstruction of enterprises, facilities and other objects must be effected based on the approved projects having the positive conclusion of the state environmental expertise, in strict conformance with the existing nature protection, construction and sanitary norms and rules.

5.7.4. In the construction and reconstruction of enterprises located within localities the dimensions of their sanitary protection zones must be determined by coordination with the local centers of state sanitary and epidemiological supervision.

5.7.5. The free sites and the territory of enterprise along the fencing must be planted with bushes and trees.

It is prohibited to plant trees and bushes giving downy seeds.

5.7.6. The production, utility and storm water effluents from fish processing enterprises must be discharged into the sewerage system and processed at the city or local wastewater processing facilities. In the case of discharge

to the city (town) wastewater treatment facilities the conditions of acceptance of effluents are determined in compliance with the "Rules of acceptance of production effluents into the sewerage systems of localities". IN case of existence of local treatment facilities the conditions of discharge of treated effluents are determined pursuant to the SanPiN "Protection of surface waters against pollution in the places of water use by the population ". The designs of local wastewater treatment facilities and the points of discharge must be coordinated with the centers of state sanitary and epidemiological supervision. The discharge of production and utility effluents without the necessary treatment, as well as without the provision of sink holes is prohibited. The conditions of discharge must be coordinated with the centers of state sanitary and epidemiological supervision in each particular case.

5.7.7. After the handing-over of fish the vessel is driven to a specially equipped sanitary wharf (its place being coordinated with the local center of state sanitary and epidemiological supervision) for the pumping out of wash waters to the wastewater treatment facility and performance of sanitary treatment of vessel.

5.7.8. The ventilation systems must not be sources of pollution for the air environment both with smokes and harmful gases.

5.7.9. Removal of smoke from the rooms of smoke generators and smoking chambers must be provided by drawing ventilation with mechanical drive, while in the contiguous rooms a positive pressure difference must be attained for the prevention of smoke penetration.

All exhausts released into the atmosphere by the technological equipment must be processed. The temperature of airduct surfaces must not exceed 45 °C.

## 5.8. Labor protection

5.8.1. Labor protection must be one of the basic components of the production process at the enterprise, in the sections, in the rooms, as well as at each working place.

5.8.2. When designing and reconstructing the fish processing enterprises and vessels one must take into account the sanitary-hygienic norms and rules applicable to the labor organization.

5.8.3. The microclimate in enterprises must comply with the requirements of "Sanitary norms of microclimate of production rooms ".

5.8.4. The noise levels at the working places of production rooms and within the territory must comply with the "Sanitary norms of admissible noise levels at working places and never exceed 80 dB".

5.8.5. The illumination of working surfaces at workplaces must comply with the requirements of SNIIP "Natural and artificial illumination" and constitute between 200 and 400 lx, depending on the destination of rooms.

5.8.6. The floors of production rooms located above unheated or artificially cooled rooms must be thermally isolated so that the difference between the temperatures of room and floor doesn't exceed 2,5 °C, also a ventilated air layer must be provided.

5.8.7. The workplaces must be provided with footgrills, if the technological process provides permanent watering of floors. The zones of connection of floors to the external walls must be thermally isolated.

5.8.8. Natural ventilation should not cause drafts and quick cooling of air at the workplaces.

5.8.9. The rooms with considerable temperature emissions designed for southern regions must be provided with air conditioning systems.

5.8.10. The concentration of harmful substances in the working area must not exceed the maximum admissible concentration for the specific substances.

5.8.11. Catamine and catapol must be stored in roofed storage facilities in stainless steel cascs with a capacity of 100-200 dm<sup>3</sup>, according to the ND.

5.8.12. The persons working with undiluted solutions of catamine AB, catapol (with concentration 500 g/dm<sup>3</sup>) must be provided with aprons made of rubberized fabric, with rubber gloves and goggles. In case of contact with skin or eyes - immediately flush with water.

5.8.13. The persons subjected to the influence of harmful and unfavorable production factors must undergo the compulsory medical examination upon



employment and periodical medical controls in accordance with the "Instruction for the conduction of compulsory medical examination at employment and periodical medical controls of workers and medical control of drivers of individual transport vehicles".

5.8.14. The categories of persons subject to periodical examination are determined by the centers of state sanitary and epidemiological supervision in coordination with the management and the syndicates of enterprise (by enterprises, professions and unfavorable factors) not later than by the 1 December of each preceding year.

The centers of state sanitary and epidemiological supervision also perform control upon the coverage and timely conduction of preliminary and periodical medical examination of target groups.

5.8.15. For the conduction of preliminary medical examination the company management must indicate in the appointment document the name, surname and the father's name of worker, the date of birth and profession, the harmful factors and unfavorable labor conditions in accordance with the attachments 1, 2 of the order of the Ministry of Health of USSR No. 555 dated 29.09.89 "On the perfection of the system of medical control of workers and drivers of private transport vehicles".

### 5.9. Medical controls and examinations

5.9.1. All persons initially employed must pass the medical examination in accordance with the "Instruction for the conduction of compulsory initial examination upon employment and periodical medical examination of workers and drivers of individual transport vehicles".

5.9.2. The frequency of prophylactic examination is regulated by the above order and decisions of local authorities adopted based on the existing epidemiological situation in the given territory.

5.9.3. Each worker must have a personal medical carnet where regularly the results of examination are inscribed, as well as the data on the hygienic training of workers.

5.9.4. The conduction of prophylactic medical examination must be reflected in the enterprise's internal regulations. The time and place of prophylactic medical examination is specified in the respective orders of the management that must also appoint a person responsible for the timely and complete examination of all workers (for each structural subdivision).

5.9.5. At the enterprises having over 30 employees the medical examinations may be conducted at the enterprise's premises. The permission for examination is issued by the regional center of state sanitary and epidemiological supervision responsible for the enterprise.

5.9.6. The company management must not admit ill persons and carriers of bacteriological infections, as well as persons that did not pass in time the prophylactic medical examination and did not pass the exams on the sanitary-hygienic training.

5.9.7. The section chiefs or the responsible persons assigned by an order for the section, shall fill in the special schedules of medical examination. The personal medical carnets are kept at the section chief or at the responsible person.

### 5.10. Rules of personal and professional hygiene

5.10.1. All employees of fish processing enterprises must comply with the rules of personal and professional hygiene.

5.10.2. Each employee of the enterprise is responsible for the sanitary state of his working place, for the observation of technological and sanitary requirements in the section.

5.10.3. All employees must wear clean protective clothes or sanitary clothes, and headgear. The persons that by virtue of their service duties enter in contact with the open fishery products must wear headgear completely covering the hair.

5.10.4. The sanitary cloths must be made of light materials and have distinctive marking for each section. The footwear must be designed for multiple disinfection.

The set of sanitary clothing for the workers of dressing sections includes a cap (kerchief), a cotton gown, rubber shoes, rubberized apron, cotton and rubber gloves; for the workers of pre-packing, arranging and packaging sections - a cap (kerchiefs), a cotton gown or a jacket, cotton trousers, leather slippers, four-layered gauze bandages, individual towel.

5.10.5. The sanitary clothing must be worn only during the work, it is prohibited to put upper clothing on it.

5.10.6. Sanitary clothing may not be fixed with pins and needles, it is prohibited to bring personal toiletry objects and any other foreign objects into the section.

5.10.7. The workers engaged in the processing and preparation of fishery products must wash their hands before starting and before each resumption of work. Wounds on hands must be closed with water-impermeable bandages. Workers with pustulous wounds are not admitted to work.

5.10.8. The arrangers of canning, culinary and roe sections, as well as the sections of small pre-packing before starting the work, after visiting the toilets (however, at least twice per shift) must wash their hands with subsequent disinfection. They must not use nail enamel and in cases of pustulous affections of hands or absence of water-impermeable bandages they must be temporarily suspended from work.

5.10.9. The employees must be provided with sanitary-prophylactic preparations for the treatment of hand skin.

The workers of dressing and pre-packing sections at least twice a day must disinfect their hands with 0,1% solution of chloramine or other antiseptics, for the prophylaxis of pustulous affections the hands must be treated with a solution of potassium manganese (1 g per 10 l water), silicone creme, "Гигиена" soap, Novikov's soap and other substances specially provided for this purpose.

5.10.10. The employees of pre-packing section must be provided with individual towels and napkins for the wiping of balances and tables.

The used napkins must be changed depending on the degree of soiling, but at least twice per shift. The laundering of napkins and their disinfection (in the 0,1-0,5% chloramine solution) must be centralized and performed in a special room.

5.10.11. Before visiting public and administrative rooms, as well as after visiting toilets the sanitary clothing must be taken off. Before entering the production rooms the footwear must be adequately treated (disinfection carpet, vessel with disinfectant).

5.10.12. The disinfection and disinfestation materials must be used exclusively by the employees familiarized with the rules of their use. The use of these materials must not create any risk of product contamination.

5.10.13. In order to identify the persons with pustulous affections of skin all the employees of enterprise must pass the daily control of hands. Its results must be recorded in a special register (Attachment 7.6). Should the company's staffing scheme lack a medical specialist, this procedure must be effected by the sanitary post (a specially assigned and trained employee of the enterprise, or the section chief).

5.10.14. The permanent control upon the observation of personal and professional hygiene is performed by the technologist, section chief and sanitary post.

5.10.15. The sanitary posts are designed for the supervision of sanitary regime of production.

Twice a shift the sanitary post must verify the disinfection of hands by the workers of pre-packing sections, the measures for the prevention of affections of hands, as well as verify the correct wearing of special clothing.

The sanitary post verifies and keeps accounts of preparation of disinfecting solutions. The relevant data are recorded in the register.

5.10.16. Smoking, spitting, eating and drinking in the rooms intended for the storage of fishery products is prohibited.

5.10.17. Eating is allowed only in the buffets, canteens or specially provided rooms.

5.10.18. At the end of shift the workplaces must be handed-over clean and in order to the section chief and the sanitary clothing to the persons responsible for its reception, storage and issue.

5.10.19. The electricians, mechanics, adjusters and other workers doing adjustment and repair works in the production sections and storage rooms must comply with the rules of personal hygiene and undertake all the necessary measures for the prevention of foreign objects into the finished products, raw materials and semi-finished products.

#### 5.11. Utility rooms

5.11.1. The utility rooms for the employees of production sections must be designed in the form of sanitary passages and be provided with footwear cleaning and disinfection tools at the entrance.

5.11.2. The specialized sections for roe production must have utility rooms separated from the rest of the enterprise.

5.11.3. The sanitary and utility rooms for the workers of production sections must have: wardrobes for the outer clothing, for home and working clothing, for sanitary clothing and footwear, compartments for clean sanitary clothing, rooms for the reception of soiled sanitary clothing, showers, manicure rooms, toilet, sinks for hand washing, drying boxes, room for on-duty personnel, foot baths, respirator rooms.

5.11.4. The wardrobes for the working and sanitary clothing must be isolated from the wardrobes for outer and home clothing.

5.11.5. The rooms where showers and wardrobes are installed, must be contiguous and provided with open and closed cabins.

5.11.6. If there are over 100 women employed in each shift, there must be provided a room for personal hygiene. For a smaller number of women - a special cabin with hygienic shower.

5.11.7. The walls in the showers and in the wardrobes for sanitary clothing, laundry for clean clothing, in the sanitary rooms, as well in the women's personal hygiene room must be tiled with glazed tiles for a height of 2 m, and above - to the supporting structures painted with emulsion or any other water resistant permitted paints; In other rooms the walls may be painted or whitewashed.

The ceilings in the shower rooms must be painted with oil-paint, in the other rooms they must be whitewashed and the floor covered with ceramic tiles.

5.11.8. The utility rooms every day must be thoroughly cleaned. They must undergo a humid cleaning and at least once a week disinfected.

5.11.9. The sanitary rooms and the equipment of women's personal hygiene room, depending on need, but at least once per shift must be cleaned, washed with water and detergents, then disinfected.

5.11.10. After each cleaning of toilets the handles of water faucets, handles of doors and other surfaces coming in contact with the people's hands must be wiped with special cloth damped in disinfection solution.

The wc pans depending on the degree of soiling must be cleaned from salts with 10% oxalic acid solution or sodium bisulphite and then flushed.

5.11.11. For the cleaning of sanitary rooms one must use special inventory with distinctive color marking stored separately from the inventory used for the cleaning of other rooms.

5.11.12. The toilets are disinfected with a solution of chlorine-containing substance of at least 500 mg/l of active chlorine, at least twice a shift. After each cleaning the entire cleaning inventory must be submerged for 2 hours into a solution of chlorine-containing substance of at least 500 mg/l of active chlorine.

5.11.13. The toilets must be connected to the sewerage system, be thermally isolated, provided with sluices, equipped with hangs for sanitary cloths, sinks for hand washing with elbow-operated mixers, connection to hot and cold water. The WC pans must be pedal-actuated, toilet doors must be self-closing.

5.11.14. Toilet doors must be provided with posters: "No entry in sanitary clothing". Toilets must be provided with toilet paper, soap, disinfecting solutions for the treatment of hands, electrical towels.

5.11.15. At the entrance to toilet there must be a carpet impregnated 2-3 times a shift with disinfecting solution.

#### 5.12. Measures for the prevention of appearance of rodents and insects

5.12.1. Rodents and insects are not admitted at fish processing enterprises and vessels.

In order to prevent the appearance of pests at the enterprise there must be regularly performed the sanitary treatment with substances permitted by the State Committee for Sanitary and Epidemiological Supervision of Russia.

5.12.2. The hatches and ventilation orifices must be closed with metallic nets with cell size not exceeding 0,5 cm.

5.12.3. Slots in the places of connections of walls and ceilings with pipes, electrical cables, etc. must be accurately filled with cement, bitumen, closed with metallic net or metallic sheets.

5.12.4. The orifices that may serve for the penetration of rodents are closed with sharp metallic shavings with cement.

5.12.5. It is prohibited to clutter up the auxiliary rooms, attics, basement rooms and holds.

5.12.6. In case of detection of rodents traps must be installed immediately. Chemicals may be used for the annihilation of rodents only by the disinfestators in coordination with the local centers of state sanitary and epidemiological supervision.

5.12.7. In order to prevent the ingress of flies into the production rooms during the summer time the windows must be closed with nets. It is prohibited to use insecticides during the work. It is allowed to use sticky surfaces and traps that may not be installed above the production lines.

5.12.8. In order to prevent the appearance of cockroaches in the auxiliary rooms all the slots in splitters and walls must be adequately filled. Accumulation of foodstuff residuals is prohibited.

#### 5.13. Obligations and responsibility for the observation of these Sanitary Rules

5.13.1. Upon employment of personnel the management must observe the provisions of these Sanitary Rules.

5.13.2. The management must provide:

- the necessary conditions for the production of products with a guaranteed quality grade;

- the necessary medical examinations within the terms specified by the state sanitary and epidemiological supervision;

- all sections must be provided with first aid chests and protective and prophylactic remedies for skin care;

- hygienic training and passing of exams once per 2 years and upon initial employment;

- three sets of sanitary clothing, footwear and gloves for each employee;

- repair and replacement of clothing depending on the wear and tear, centralized laundering (individual washing of sanitary clothing at home is strictly prohibited);

- the persons employed at the arrangement, pre-packing and inspection of products (culinary, roe, preserve production) must be provided with four-layered gauze masks, rubber gloves, aprons - all being subjected to sanitary treatment after each shift;

- a sufficient number of cleaning tools, washing preparations and disinfectants, soap, towels, napkins;

- employment of manicurists for the canning section;

- conclusion of contract with the local centers of state sanitary and epidemiological supervision for the performance of disinfestation and disinfection activities;

- all personnel must be provided with personal medical carnets, all the sections must be provided with sanitary registers, registers of daily examination of employees for pustulous affections and other sanitary documentation according to the established order (all numbered, bound and sealed).

5.13.3. The management must inform all employees contacting with the foodstuffs during their work about these Sanitary Rules and require their strict observation.

5.13.4. The management must bring to liability the persons infringing upon the technological and sanitary-hygienic regimes of production and undertake measures for the immediate liquidation of any violations.

5.13.5. The responsibility for the sanitary-technical state of enterprise and observation of these Sanitary Rules is vested with the director of enterprise.

5.13.6. The responsibility for the sanitary state of sections, rooms, compartments, auxiliary rooms and equipment is vested with the chiefs of sections, production chiefs, shift masters, brigade masters, chiefs of storage facilities or the persons specially appointed by the enterprise's director.

5.13.7. Each and every employee is responsible for the observation of personal and professional hygienic requirements, for the maintenance of work places and inventory in the adequate sanitary state.

## 6. Production and sale of live bivalve mollusks

### 6.1. Requirements to the regions of cultivation of live bivalve mollusks

6.1.1. The water areas where the facilities for the production of mollusks are located must be coordinated with the center of state sanitary and epidemiological supervision and in case of exportation of products - with the competent authorities of EC countries.

6.1.2. The Recommended microbiological norms for sea water in the regions of production of live bivalve mollusks are set out in Table 1.

Table 1

Recommended microbiological norms for sea water in the regions of cultivation of live bivalve mollusks

indicator	Admissible count of cells un 1 dm <sup>3</sup> , no more	Periodicity of control
Coliforms	25000	2 times a month by the enterpr. bacteriologist
Fecal Coliforms	1000	
Salmonellae	Not allowed	"-"
pathogenic halophilous vibriions	the same	Analysis performed by state sanitary and epidemiological supervision centers in cases of epidemiological threat

6.1.3. In the provided areas the live bivalve mollusks, before being sent for industrial processing must be held for a certain period in clean sea water. If the products are intended for export the clean sea water must comply with the requirements set out in the Attachment 7.2.

6.1.4. The microbiological properties of live bivalve mollusks during the nurture period must comply with the requirements set out in the Table 2.

Table 2

Microbiological norms for live bivalve mollusks during the nurture period

Indicator	Norm
No. of mesophilous aerobic, conditionally anaerobic microorganisms, COE per 1 g	1x 10 <sup>(5)</sup>
E. Coli group bacteria per 0.001 g	Not admitted
Most probable count of E. Coli bacteria in 1 g, no more than	100
Spores of mesophilous anaerobic microorganisms per 0.1 g	Not admitted
Salmonellae in 25 g	Not admitted
Pathogenic halophilous vibrions in 25 g	Not admitted

6.1.5. Live bivalve mollusks intended for industrial processing during the collection period must comply with the requirements set out in the Table 3.

Table 3

Microbiological norms for live bivalve mollusks intended for industrial processing

Indicator	Norm	
	For canning production	For culinary production
No. of mesophilous aerobic, conditionally anaerobic microorganisms, COE per 1 g	1x 10 <sup>(5)</sup>	5 x 10 <sup>(4)</sup>
E. Coli group bacteria per 0.1 g	Not admitted	Not admitted
Most probable count of E. Coli bacteria in 1 g, no more than	-	50
Spores of mesophilous anaerobic microorganisms per 0.1 g	Not admitted	Not admitted
Salmonellae in 25 g	Not admitted	Not admitted
Pathogenic halophilous vibrions in 25 g in case of epidemiologically unfavorable situation	Not admitted	Not admitted

6.1.6. The live bivalve mollusks intended for export must comply with the microbiological requirements set out in the Council Directive 91/492/EEC:

- for mollusks during the nurture period the total microbial count of fecal coliforms must not exceed 6000, or 4600 E. coli per 100 g of meat;
- the mollusks intended for direct consumption must contain less than 300 fecal coliforms or less than 230 E. coli per 100 g of meat and in the inter-mantia liquid, Salmonellae must be absent in 25 g of mollusks.

## 6.2. Requirements to the production, primary processing and transportation of live bivalve mollusks to the processing enterprise

6.2.1. The method of production and the primary processing of mollusks (lifting of collectors with mollusks, separation of mollusks from collectors, washing, removal of biofouling and other dirt) must not inflict any mechanical damages to the live bivalve mollusks.

6.2.2. The methods of processing, transportation and unloading of mollusks must exclude the additional pollution, reduction of quality and reduction of vitality.

6.2.3. The transportation vehicles used for the delivery of mollusks must comply with the requirements of these Sanitary Rules and be provided with devices for the drainage of water.

6.2.4. During the storage and transportation the mollusks must not be subjected to the impact of extra high and low temperatures.

6.2.5. Mollusks must be transported in special vessels or containers with running or regularly changed sea water with temperature not exceeding 25 °C.

6.2.6. Mollusks may be transported also without water in special containers in bulk. The thickness of layer of mollusks must not exceed neither 2/3 of container height nor 1 m. The air temperature in such cases must be within 0 to 12 °C.

In case of increase of air temperature above the specified levels the mollusks must be cooled with ice-and-salt mixture or sea water cooled down to 2 °C, or other methods.

6.2.7. Each lot of mollusks must be delivered to the processing enterprise with a document containing the following information:

- name of collection vessel;
- date of collection;
- area of collection;
- types and quantity of mollusks;
- duration of transportation;
- signature of responsible person.

### 6.3. Requirements to processing enterprises and sections

6.3.1. The enterprises and sections must not be located in the proximity of sources of unwanted smells, smoke, dust and other kinds of pollution.

The territory must not be flooded with effluent waters in cases of tide or drainage from surrounding areas.

6.3.2. The sections and the territory must be maintained in good order; pollution of mollusks with any kind of wastes, dirty water, vapors, as well as presence of rodents and other animals is strictly prohibited.

6.3.3. The rooms where the mollusks are processed or stored, must have:

- an easily cleanable floors with slopes for water drainage;
- a sufficient working space allowing the performance of all operations under natural lighting;
- a separately equipped room for the washing of tools and tare;
- a sufficient number of checkrooms, sinks, toilets.

6.3.4. The sections must be provided with potable water compliant with the requirements of GOST 2874 or have adequate water storage vessels and a system for clean sea water supply. The pipes and faucets of the potable water supply must be clearly distinguishable from the pipes and faucets with non-potable water.

6.3.5. In case of exportation of products the potable and clean sea water must comply with the requirements set out in the Attachment 7.2.

6.3.6. All items of equipment and devices directly contacting with the mollusks must be made of stainless material.

6.3.7. The general hygienic requirements to the territory, equipment, working places and personnel are set out in p.p.3 and 5 of these Sanitary Rules.

### 6.4. Requirements to the clearance centers

6.4.1. Requirements to the basins and containers for the storage of live bivalve mollusks

6.4.1.1. The equipment and containers for the holding of mollusks must not be sources of pollution.

The floors and walls of clearance basins must have smooth and impermeable surfaces, be easily washable and cleanable, made of corrosion-resistant and non-toxic materials.

It is prohibited to use copper and copper alloys in the aggregates and parts contacting with sea water in the systems of pipework and in the basins themselves.

6.4.1.2. The design of basins must:

- assure an uniform flow of water through the containers with mollusks;
- prevent the appearance of stagnation zones and the possibility of secondary pollution of mollusks.

6.4.1.3. The necessary level of water recirculation in the basins is attained when their length to width ratio is within the interval of 1:10 to 1:4.

In case the trays have a significant length they must be installed with a slope of up to 2% for the adequate drainage of water.

6.4.1.4. The containers for mollusks must be made of corrosion-resistant materials.

#### 6.4.2. Requirements to the quality of water used for the clearance of live bivalve mollusks

6.4.2.1. The intake of sea water used for the clearance of mollusks must not be polluted with industrial or utility effluents.

6.4.2.2. In order to maintain the treatment efficiency it must contain no more than  $1 \times 1000$  cl/dm<sup>3</sup> of E. Coli and no more than  $1 \times 10000$  cl/cm<sup>3</sup> of mesophilous aerobic and conditionally anaerobic microorganisms.

6.4.2.3. The sea water after disinfection must comply with the bacteriological requirements of GOST 2874.

6.4.2.4. The clearance of mollusks is done in clean sea water with the salinity of 15-19 pro mil for 24-48 hours. The salinity below 10 and above 20 pro mil negatively affects the general physiological state of mollusks and impairs the efficiency of clearing process in general.

6.4.2.5. The water temperature must be within the limits of 10-20 °C. When the water temperature exceeds 20 °C or in case of significant temperature difference between the nurture area and clearance basins the mollusks may expel masses of sexual products.

6.4.2.6. The content of dissolved oxygen in the sea water used for the clearance of mollusks must be at least 5 mg/dm<sup>3</sup>.

#### 6.4.3. Processing of sea water intended for the clearance of live bivalve mollusks

6.4.3.1. The disinfection of sea water is conducted by irradiation with long-wave ultraviolet rays with a wavelength of 200-295 nm that have the maximum bactericidal action. Should the turbidity of sea water exceed 85 parts per million and the color exceed 20 (90-150 parts per million) it shall be subjected to preliminary filtration or sedimentation for the reduction of these indicators to the admissible level.

6.4.3.2. For irradiation are used the standard sea water disinfection installations, their number and capacity depend on the volumes of water to be processed for the clearance of mollusks.

6.4.3.3. The control of intensity of ultraviolet radiation emitted by the bactericidal lamps is performed on monthly basis with the help of the simple bactericidal watt-meter. The bulbs operating with an intensity of less than 60% of initial level must be replaced.

#### 6.5. Requirements to the holding regime of live bivalve mollusks

6.5.1. For holding may not be accepted the mollusks with scarp valves, with denudation of mantle and with cracks. Before being placed into the basin the mollusks must be washed with the hose and installed to a gridded "false bottom" raised to 15-20 cm from the basin bottom, or in special containers.

The thickness of the layer of mollusks on the "false bottom" or on the shelves in the containers must not exceed 15 cm. When placing the mollusks into multiple-layer containers the water space between the layers of mollusks must be at least 15 cm. The upper layer must be placed at a depth of at least 30 cm.

6.5.2. Before starting the process of clearance of mollusks the system must be well flushed.

The distance between the intake of sea water and discharge of effluent water must be sufficient in order to avoid pollution.

6.5.3. After 12 hours of clearance the mollusks and the bottom of basin must be washed with a strong flux of water, in order to remove the sludge and the elimination of mollusks.

6.5.4. At the end of clearance the shells of mollusks must be thoroughly washed from hose with clean sea water. The flush water may not be used repeatedly.



## 6.6. Control upon the process of clearance of live bivalve mollusks

6.6.1. The enterprise's laboratory must effect the following microbiological analyses:

- analyses of sea water supplied to the clearance basins;
- analyses of live bivalve mollusks before and after holding in water.

6.6.2. The following data must be recorded in a special register:

- date and quantity of mollusks received for clearance;
- time of filling and freeing-up of clearance system;
- clearance regime;
- results of microbiological analyses of sea water and mollusks.

## 6.7. Packaging

6.7.1. The live bivalve mollusks must be packed in satisfactory hygienic conditions.

6.7.2. The packaging material or tare:

- must not transmit foreign smells and must not affect the organoleptic characteristics of live mollusks;
- must be approved by State Committee for Sanitary and Epidemiological Supervision of Russia for contact with foodstuffs;
- must be resistant and provide protection of products against the impact of external factors.

6.7.3. Oysters must be packed with the concave side downwards.

## 6.8. Marking of lots of live bivalve mollusks

6.8.1. Marking must be effected in accordance with the requirements of ND - on labels, stickers, tags made of paper, veneer or other materials.

6.8.2. Each tare unit must have a tag containing the following information:

- producing country;
- producing enterprise;
- type of mollusk (traditional or Latin name);
- production date: day, month, year, time (hour) of end of technological process;
- terms and conditions of storage.

6.8.3. The information provided must be easily readable and unwashable, the conventional signs and abbreviations must be easy to decode.

## 6.9. Storage and transportation of live bivalve mollusks

6.9.1. The rooms for the storage of mollusks must maintain the temperature that doesn't affect negatively their quality and vitality.

Packaging must not touch the floor of the storage facility and must be kept on clean shelves.

6.9.2. The vehicles used for the transportation of mollusks in lots must comply with the following requirements:

- the internal walls that may contact with the live mollusks must be made of stainless materials, be smooth and easily cleanable;
- the mollusks may not be transported together with other products that may pollute them.

6.9.3. The ice used for the transportation of live mollusks in lots must be made of potable or clean sea water.

## 6.10. Requirements to live bivalve mollusks

6.10.1. The live bivalve mollusks must preserve the signs of vitality, the surfaces of their shells must be clean and comply with the requirements of ND.

6.10.2. The microbiological characteristics of mollusks must comply with the requirements set out in p.6.1 of these Sanitary Rules.




7.2. Attachment  
(Compulsory)

Requirements to potable and sea water, as per Council Directive  
80/778/EEC

Compartment 1

From the Council Directive 80/778/EEC regarding the microbiological properties of water intended for human use. The complete procedure for controlling the sea and potable water quality must be thoroughly fixed in the HACCP system documents - Hazard Analysis Critical Control Points. The documentation forms are approved by the management.

Microbiological parameters

Table 1

parameter	Sample volume, ml	Maximum admissible concentration (MAC)	
		membrane filter method	Limit dilution method (LDM)
Total Coli. count	100	0	<1
No. of fecal Coliforms	100	0	<1
Fecal streptococci	100	0	<1
Sulphite reducing Clostridia	20	-	=<1

Table 2

Parameters	Incubation temperature	Sample volume, ml	Basic level	MAC (maximum admissible concentration)
Total bacterial count in water for human consumption	37°C	1	10	-
	22°C	1	100	-
Total bacterial count in water for close vessels	37°C	1	5	20
	22°C	1	20	100

Notes.

1. The determination of the number of general and fecal coliforms is done by the method of limit dilutions and the result is expressed in the values of most probable count (MPC) or determined by the method of membrane filtration. As a dense nutritive medium the Endo agar may be used. For the determination of general coliforms the incubation temperature is 37 °C, for fecal coliforms - 44 °C.

2. Determination of fecal streptococci is performed based on the Liski method in a medium with sodium azide. The result is expressed as MPC. It is possible to use the method of membrane filtration with subsequent cultivation of filters on a suitable dense medium.

3. The sulfite reducing Clostridia are determined by counting the spores after heating the samples up to 80 °C:

a) when inoculated into a medium with glucose, sulfite and iron - by counting of colonies having a black halo;

b) with membrane filtration after the inoculation of filter on a medium with glucose, sulfite and iron. For incubation the filter is covered with a layer of agar;

c) with determination of MPC in test-tubes on a differential medium.

4. The total bacterial count (TBC) is determined by inoculation of sample into a nutritive agar with subsequent incubation at 22 °C for 72 hours and 37 °C for 48 hours.

In the sea water the total bacterial count is not determined. For coliform organisms two consequent samples should not yield positive results.

In case of detection of E. coli, fecal Streptococci or sulfite reducing Clostridia the water from the respective source may not be used without preliminary disinfection.

#### Compartment 2

From the Recommendations to the Directive 80/778/EEC related to the water quality control at fish processing enterprises.

Periodicity of microbiological control:

1) for the water intended for potable water supply without intermediate storage the analyses shall be conducted at least once a year and the samples must be collected from representative sample collection points on the enterprises' territory;

2) for the water provided for human water supply with intermediate storage - at least once a month.

#### Water distribution plan for the enterprise

The management of enterprise must assure the adequate state of the water supply sources (trunk mains, major pipelines and intermediary storage tanks, surface water sources, boreholes) and maintain the suitability of water used by the enterprise for production purposes.

The official inspector must have access to the water supply network plan containing a scheme of location of pipelines and sewers of the enterprise; all sewers must be marked on the plan by serial numbers.

#### Chlorination system

The duration of contact of chlorine with water should provide for reaction with the organic compounds.

The chlorination time is 20-30 minutes.

The fishery products intended for export to EC must not be treated with hyper-chlorinated water.

The content of chlorine must be regularly checked (at least once a day).

#### 7.3. Attachment (Compulsory)

##### Washing and disinfection of cans and preserve tins

Type of tare	Soaking and mechanical treatment	Washing	Flushing	Degreasing	Drying
Metallic cans		Hot running water 65-85°C		With hot steam	Dripping (cans in overturned position or hot air)

					flow (60°C)
Glass pots, clean, new		In hot water (65-85°C) by double rinsing or in hot running water (65-80°C)		The same	The same
Used glass pots	3% caustic soda solution, 2% sodium silicate, 1.5% trisodium phosphate, at least 10 min*	3 % basic solution with temperature 65-85°C	Double washing in hot water at 65-85°C and pressure of 2 kg/cm <sup>2</sup>	Live steam	Dripping (cans in overturned position or hot air flow (60°C)
Polymer cans and caps except PVC cans **, new, clean			In running water with temperature 60-85°C		Drying in air flow with temperature 60-85°C
New tare with violation of storage regime and deteriorated packaging	1% caustic soda solution at 60-65°C for least 10 min*	Hot running water 60-65°C for two minutes	In running water with temperature 60-85°C	In 0.004 % solution (1 g per 25 l of water of potassium permanganate for 5 min ***	Rinsing in running water for 2 minutes. Drying in air flow with temperature 60-85°C
Polymer cans and caps, used **	2% solution of calcinated soda at the temperature of 60-65 °C for at least 10 minutes with subsequent mechanical cleaning with brushes		In running water with temperature 60-85°C for two minutes	In 0.004 % solution (1 g per 25 l of water of potassium permanganate for 5 min *** Solution must be changed when becomes brown	Rinsing in running water for 2 minutes. Drying in air flow with temperature 60-85°C
* may be substituted with other detergents					
** For polymer cans of PVC (new, soiled and used ) the temperature regime at all stages of sanitary treatment is 40-45°C					
*** may be substituted with other detergents. If detergents with disinfecting properties are used, the tare may not be decontaminated.					

7.4 Attachment  
(compulsory)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory	QUALITY CERTIFICATE No. ___ dated "___" _____  For fish and non-fishery products - cooled and frozen to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.1 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Lot no.	Product name	Product Date (day , month, year )	Type of transport tare	No. of places in transport tare	Type of consum mer tare and no. of physi cal packa ges	Net weig ht of lot, kg.	Consist ence	Tempera ture of fish in block at unloadi ng, °C	Grade (lette rs)	Complian ce with the requirem ents of normativ e document s

The products comply with the prevailing safety norms and rules.  
 Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_\_\_. Valid till  
 "\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
 (name of organ or certification center, address,  
 registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_  
 Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal  
 (surname and signature)

Director \_\_\_\_\_  
 (surname and signature)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated "___" _____  For frozen fish forcemeat to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.2 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_

Type of transport \_\_\_\_\_

\_\_\_\_\_

Producer \_\_\_\_\_

Forwarder \_\_\_\_\_

Beneficiary \_\_\_\_\_

Lot no.	Product name	Product Date (day, month, year)	Type of transport tare	No. of places in transport tare	Type of consumer tare and no. of physical packages	Elasticity.	Mass fraction of water, %	Temperature of block at unloading, °C	Compliance with the requirements of normative documents

The products comply with the prevailing safety norms and rules.

Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_\_\_. Valid till  
"\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
(name of organ or certification center, address,  
registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal

(surname and signature)

Director \_\_\_\_\_  
(surname and signature)





Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated "___" _____  For canned fish products and preserves to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.4 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_  
Type of transport \_\_\_\_\_  
\_\_\_\_\_

Producer \_\_\_\_\_  
Forwarder \_\_\_\_\_  
Beneficiary \_\_\_\_\_

L o t n o e	Pro duc t n a m e	Sh if t a n d p r o d u c t d a t e	Type of tran spor t a n d con s u m e r t a r e	No. of plac es of cons u m e r t a r e	Tota l no. of phys ical cans , pcs.	Net wei ght of can , g	Tota l acid ity, %	Mass fraction, %			Grad e (let ters )	Compli ance with the requir ements of normat ive docume nts
								table salt( sodiu m chlor ide)	Dry mat ter s	Preserv atives (specif y type)		

The products comply with the prevailing safety norms and rules.

\* - for the products to which the indicator applies

\*\* - specified based on the results of periodical analyses.

Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_\_\_. Valid till  
"\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
(name of organ or certification center, address,  
registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal  
(surname and signature)

Director \_\_\_\_\_  
(surname and signature)



Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal

(surname and signature)

Director \_\_\_\_\_

(surname and signature)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated " __ " _____  For fodder flour made from fish and sea mammals, crustaceans and mollusks to the bill of lading No. _____ dated " __ " _____	Attachment no. 7.4.6 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_

Type of transport \_\_\_\_\_

Producer \_\_\_\_\_

Forwarder \_\_\_\_\_

Beneficiary \_\_\_\_\_

Lot no .	Product name	Date of manufactu ring (month, year)	Type of transp ort tare	Numbe r of place s, pc.	Net weigh t, kg	Externa l appeara nce	Mass fraction, %			
							Wat er	Fa t	Raw protei n (total nitrog en x 6.25)	Table salt (sodiu m chlori de)

Lot no .	Mass fraction, %				Mass of magneti c ingress , mg/kg (specif y type)	Toxic and pathogeni c microflor a **	Compliance with the requirement s of normative document
	Phosphorus * per 100 g of fat	Calcium *	Antioxidant s	Sand			

The fish flour is related to the 4<sup>th</sup> class of self-igniting substances, according to the classification.

\* - indicator determined at consumer's request.

\*\* - the toxicity and pathogenic microflora of flour are determined pursuant to p.2.3 GOST 2116-82.

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal

(surname and signature)

Director \_\_\_\_\_

(surname and signature)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	<b>QUALITY CERTIFICATE</b> No. ___ dated "___" _____  For cooled and frozen fodder products made of hydrocoles (fish, crustaceans, etc.) and forcemeat fodder products produced with addition of various preservatives to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.7 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_  
Type of transport \_\_\_\_\_  
\_\_\_\_\_

Producer \_\_\_\_\_  
Forwarder \_\_\_\_\_  
Beneficiary \_\_\_\_\_

Lot no.	Name of product	Date of fabrication (month, year)	Type of transport	No. of places	Net weight, kg	Mass fraction, %			
						Of table salt (sodium chloride) **	Water *	Nitrogen	Volatile alkali

Lot no.	Mass fraction, %		Medium pH*	Pathogenic microflora	Compliance with the requirements of normative document
	Free sulfuric acid	Preservative (NMJK), etc.			

\* - for products requiring determination of indicator

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal

\_\_\_\_\_  
(surname and signature)

Director

\_\_\_\_\_  
(surname and signature)









Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated "___" _____  For alimentary fish glue (technical) to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.11 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_  
Type of transport \_\_\_\_\_  
\_\_\_\_\_

Producer \_\_\_\_\_  
Forwarder \_\_\_\_\_  
Beneficiary \_\_\_\_\_

Lot no.	Product name	Prod. Date (day, month, year)	Type of transport tare	No. of places, pcs.	Type of consumer tare and no. of physical packages, pcs.

Lot no.	Net weight, kg	External appearance	Color	Smell and ad-taste	Consistence	Compliance with the requirements of normative documents

Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_\_\_. Valid till "\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
(name of organ or certification center, address, registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal  
(surname and signature)

Director \_\_\_\_\_  
(surname and signature)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated "___" _____  For pearl paste to the bill of lading No. _____ dated "___" _____ _____	Attachment no. 7.4.12 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_  
Type of transport \_\_\_\_\_  
\_\_\_\_\_

Producer \_\_\_\_\_  
Forwarder \_\_\_\_\_  
Beneficiary \_\_\_\_\_

Lot no.	Product name	Prod. Date (day, month, year)	Type of transport tare	No. of places, pcs.	Type of consumer tare and no. of physical packages, pcs.

Lot no.	Net weight, kg	External appearance	Color	Mass fraction, %			Compliance of quality indicators with the provisions of normative document
				Raw guanite	Dense residual*	Ash	

\* - indicator determined at consumer's request.

Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_\_\_. Valid till "\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
(name of organ or certification center, address, registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal  
(surname and signature)

Director \_\_\_\_\_  
(surname and signature)

Production Enterprise _____ (joint stock company, concern, etc.) Laboratory (name of producer)	QUALITY CERTIFICATE No. ___ dated "___" _____  For sea animal fur skins, undressed, to the bill of lading No. _____ dated "___" _____	Attachment no. 7.4.13 to SanPiN 2.3.4.050-96 approved by State Commission for Sanitary and Epidemiological Supervision RF dated 11 March 1996 g. No. 6 (Compulsory)

Point and date of dispatch \_\_\_\_\_

Point of Destination \_\_\_\_\_

Type of transport \_\_\_\_\_

\_\_\_\_\_

Producer \_\_\_\_\_

Forwarder \_\_\_\_\_

Beneficiary \_\_\_\_\_

Lot no.	Product name	Prod. Date (month, year)	Type of transport tare	No. of places, pcs.	Gross weight of lot, kg

Lot no.	No. of skins, pcs	Defect	Characteristics of hair	Defect group	Grade (write)	Compliance of quality indicators with the provisions of normative document

Certificate of conformance No. \_\_\_ dated "\_\_\_" \_\_\_ \_\_\_\_\_. Valid till "\_\_\_" \_\_\_\_\_.

Issued \_\_\_\_\_  
(name of organ or certification center, address, registration No. \_\_\_)

Conditions and term of transportation \_\_\_\_\_

Conditions and best before period \_\_\_\_\_

Chief of laboratory \_\_\_\_\_ Seal

(surname and signature)

Director \_\_\_\_\_

(surname and signature)

7.5. Attachment  
(Compulsory)

From the Decision of Commission 93/185/EEC to the Council Directive 91/493/EEC

Sample of Sanitary Certificate for fishery products for export to the countries of European Union

Sender country .....  
Authorized representative \* .....  
Inspecting organ\* .....  
No. Of sanitary certificate .....  
1. Specific properties of fishery products  
Description:  
- type (scientific name),  
- stage\*\* or type of processing.

Type of packaging  
No. Of packages  
Net weight  
Storage and transportation temperature

2. Origin of fishery products

Address or no. Of enterprise preparing or producing the products with export permits issued by the competent organs  
.....

3. Destination of fishery products  
The fishery products are dispatched

From .....  
(point of departure)

To .....  
(country or place of destination)

by type of transport .....

Name and address of sender .....

Name of beneficiary, address and place of consignment .....

4. Sanitary attestation

The undersigned official inspector confirms that:

1) the fishery products set out above are processed, prepared, identified, stored and transported in the conditions corresponding to the requirements of the Council Directive 91/493/EEC dated 22 July 1991 stating the sanitary conditions for the production and sale of fishery products on market;

2) besides, for the bivalve mollusks, frozen or processed, the latter were collected in the conditions complying with the Council Directive 91/492/EEC dated 15 July 1991 that establishes sanitary conditions for the production and distribution of live bivalve mollusks in market.

Made.....  
(place) (date)

.....  
Signature of official inspector

.....  
Name (capital letters), capacity and quality characteristics of cargo

-----  
\* Name and address.

\*\* Live, for direct consumption, at various stages of processing.

7.6. Attachment  
(Compulsory)

Register of examination of hands and open parts of body for pustulous affections and other disorders of integrity of the external epithelium

Name and surname	Month												Measures undertaken*	
	1	2	3	4	5	6	7	8	9	10	11	12		
Total examined:														
Including the suspended:														
*list the measures taken in respect of the persons suspended from work, with indication of date, name and surname, causes for suspension alternative job assigned .														
Conventional marks in the journal: H - healthy, s - suspended, (strike) - not examined.														

#### 7.7. Attachment (Recommended)

##### Terminology used in the Council Directives of the European Union

1. Fishery products - all sea or freshwater animals or parts thereof, including the roe, except for water mammals, frogs and water animals in the competence of other legal acts of Community.

2. Products of aquaculture - all fishery products born and grown in controlled conditions straight to sending to the market in the form of foodstuffs. The sea or freshwater fish and crustaceans collected in the mediums of their natural habitats at young stages and kept to the development of needed size for human consumption, are also considered products of aquaculture. The fish and crustaceans of commodity size caught in the natural habitat and kept live for subsequent sale are not considered products of aquaculture if they are simply kept live without any attempts to increase their dimensions or weight.

3. Cooling - process of reducing the temperature of fishery products to a level close to that of ice melting.

4. Fresh products - any fresh products, integer or processed, including the products packed under vacuum or in a modified air environment that were not subjected to any processing with the scope of preservation, except cooling.

5. Finished products - any fishery products subjected to operations modifying their anatomic integrity, such as evisceration, decapitation, slicing, filleting, shredding, etc.

6. Processed products - any fishery products subjected to chemical or physical processing, such as heating, smoking, salting, drying or pickling, etc. cooled or frozen products together with other foodstuffs or without, or combination of these processes.

7. Canning - process that provides the packaging of products into sealed tare and subjected to heat processing in such an extent that any microorganisms able to reproduce are destroyed or inactivated, independently on the temperature of subsequent storage of canned products.

8. Frozen products - any fishery products subjected to freezing that in the middle of body has attained the temperature of -18 °C or lower after the stabilization of temperature.

9. Packaging - process of protecting the fishery products with wrapping materials, tare or any other suitable means.

#### 10. Portion

10.1. For fishery products - quantity of fishery products obtained under practically equal circumstances.

10.2. For bivalve mollusks - the quantity of live bivalve mollusks collected in the production region, intended for sending to an approved distribution center, clearance center, rearrangement facility or processing enterprise.

11. Lot

11.1. For fishery products - the quantity of fishery products, intended for one or several consumers in the state of destination, delivered by only one mode of transport.

11.2. For bivalve mollusks - some number of live bivalve mollusks processed in the distribution or clearance center and intended for one or more consumers.

12. Mode of transport - the compartments of automobiles, railway wagons and airplanes, holds of vessels and containers for on-land, sea and air transportation.

13. Competent organ - central managing authority of the member country having the competence for the conduction of veterinary examinations, or any other duly empowered authority.

14. Enterprise - any territory where the fishery products are produced, processed, cooled, frozen, packed or stored. Auctions and wholesale markets are not considered as enterprises, as the products there are only exposed and sold in large lots.

15. Assignment to market - maintenance or exhibition for sale, the sale itself, delivery or any form of assignment to market in the Community, except for the retail sale or direct transfer to retail sale or to the customers at local markets of small volumes of products by the fishers subject to sanitary examination as determined by the national rules of control in the retail commerce.

16. Import - means the import of fishery products or of live bivalve mollusks to the European Community from third countries.

17. Bivalve mollusks - filtering lamellibranchiate mollusks.

18. Sea biotoxins - poisonous substances accumulated by the bivalve mollusks consuming toxin-containing plankton.

19. Clean sea water

19.1. For the scopes of fishery products - sea or salted water, free of any microbiological pollution, harmful substances and(or) poisonous plankton in the quantities able to affect the sanitary-hygienic quality of fishery products, used in the conditions set out in the Directive 91/493/EEC.

19.2. For bivalve mollusks - sea or brackish water that must be used in compliance with the provisions of the Directive 91/492/EEC, free of any microbiological pollution, toxic and unwanted substances found in the natural conditions, or in the result of discharges of substances listed in the Attachment to the Directive 79/923/EEC in the quantities able to negatively affect the physical state of bivalve mollusks or their gastronomic properties.

20. Holding - for live bivalve mollusks means their storage in basins or any other facilities containing clean sea water, or in the natural conditions for the removal of sand, clay or sludge.

21. Collector - any physical or corporate entity collecting live bivalve mollusks in the industrial area by any method with the scope of their processing and sale.

22. Production area - any area of sea, river estuary or lade containing natural agglomerations of bivalve mollusks from where the live mollusks are collected.

23. Rearrangement area - any area of sea, river estuary or lade, approved by the competent authorities, clearly marked with buoys, landmarks or any other fixed tokens used exclusively for the natural clearance of live bivalve mollusks.

24. Distribution center - any coastal or sea facility having the approval for the reception, storage in fresh condition, washing, clearance, sorting and packing of live bivalve mollusks suitable for human consumption.

25. Clearance center - an approved facility with basins supplied with clean or treated sea water where the live bivalve mollusks are placed for a period necessary for the removal of microbiological pollution following which they become suitable for consumption.

26. Rearrangement - displacement of live bivalve mollusks into specially approved areas of sea, lades or river estuaries under the supervision of competent authorities for a period necessary for the elimination of pollution.

Rearrangement doesn't include the special operation for the transportation of bivalve mollusks to the areas more suitable for further growth and fattening.

27. Delivery vehicles - cargo compartments in automobiles, railway wagons and airplanes, holds of vessels and containers for on-land, sea or air transportation.

28. Packaging - operation providing the placement of live bivalve mollusks into the packaging materials suitable for such purposes.

29. Sending to the market - maintenance or exhibition for sale, sale, shipment or any other form of supply of live bivalve mollusks to the market with the scope of human consumption in the fresh form, or with the scope of further processing in the Community, except for the direct shipments to the local markets for retail sale when the mollusks must undergo the sanitary control, as determined by the national rules of control in retail sale.

30. Fecal coliforms - elective aerobe, Gram-negative, non-spore-forming, cytochromeoxydase-negative bacillus able to ferment lactose with formation of gas in the presence of biliary salts or any other surfactant compounds with similar characteristics inhibiting growth, at 44 °C for at least 24 hours.

31. E. coli - means fecal coliforms that also produce indole from tryptophane at 44°C during 24 hours.

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\*(1) These Rules do not apply to the enterprises and sections producing products for children and products of special destination.

\*(2) Here and further on throughout the text the exported products shall mean the fishery products shipped to the EC countries

\*(3) For realization within the country - State Committee for Sanitary and Epidemiological Supervision of Russia and its centers, the Fishery Committee of Russia and any other duly authorized official bodies.

\*(4) GOST, OST, TU, Technological instructions and other normative documents .

\*(5) For the maximum number of personnel employed in one shift.

\*(6) CH-245-71.

\*(7) Washing of floors during the work shift requires 3 l/m<sup>2</sup>.

\*(8) Except for Hippoglossus spp. - white halibut