



**REPUBLIC OF
THE MARSHALL ISLANDS**
MARITIME ADMINISTRATOR

Marine Guideline

No. 7-44-1

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**TO: ALL SHIPOWNERS, OPERATORS, MASTERS AND OFFICERS OF
MERCHANT SHIPS, AND RECOGNIZED ORGANIZATIONS**

SUBJECT: Food Handling, Storage, and Preparation

- References:**
- (a) **Maritime Labour Convention, 2006**, Title 3.2
 - (b) **US Department of Health and Human Services**, Centers for Disease Control and Prevention, *Vessel Sanitation Program [Vessel Sanitation Program 2018 Operations Manual](#)*
 - (c) **World Health Organization**, *[International Health Regulations, Guide to Ship Sanitation](#)*, Third Edition, April 2011
 - (d) **US Department of Agriculture**, Food Safety and Inspection Service, *Safe Food Handling, [Basics for Handling Food Safely](#)*

PURPOSE:

This Guideline provides general guidance on food handling, storage, and preparation to ensure the health of all persons on board a vessel and addresses the Maritime Labour Convention, 2006 (MLC, 2006) requirements that foods meet minimum standards for quality and be prepared and served in hygienic conditions. This Guideline compliments [MN-7-044-1, Accommodations, Recreational Facilities, Food, Catering and Water](#). It amends version Dec/09 to include the updated Vessel Sanitation Program Manual and the latest information on basic food safety from the United States Department of Agriculture.

Good food hygiene and the prevention of food-borne illness requires more than a well-maintained and clean galley; it requires food to be protected from the risk of harmful contamination by bacteria, chemicals and other foreign bodies from the point of delivery to point of consumption. This concept is embodied in these general guidelines.

APPLICABILITY:

This Guideline applies to all shipowners and operators of Marshall Islands-flagged vessels. It does not apply to passenger vessels that comply with the stricter vessel sanitation requirements of the [World Health Organization](#) or [United States Centers for Disease Control and Prevention](#).

REQUIREMENTS:

1.0 Food Handlers

- 1.1 Seafarers who are required to handle foods (meaning those in the steward's department) should be free of any communicable disease that can be transmitted by food.
 - 1.1.1 If diagnosed with, suspected of, or exposed to any communicable disease, seafarers must not be handling food until they are symptom free for at least 48 hours. Until then they must not work in any food or related areas, or operations (working with exposed food, equipment, utensils, table linens, single-service or single-use articles, or warewashing).
 - 1.1.2 Communicable diseases that can be transmitted by food include, but are not limited to:
 - .1 typhoid (*Salmonella typhi* bacteria);
 - .2 shigellosis (*Shigella* spp. bacteria);
 - .3 cholera (*Vibrio* spp. bacteria);
 - .4 intestinal disease (*Escherichia coli* O157:H7 bacteria); and
 - .5 liver disease (hepatitis A virus).
- 1.2 Until symptom-free for at least 48 hours, all persons should be restricted from working with exposed food, clean equipment, utensils, table lines, and unwrapped single-service or single-use articles, or warewashing, if they have the following symptoms:
 - 1.2.1 boils, open sores, infected wounds, diarrhea, jaundice, fever, vomiting, sore throat with fever or discharges from the ear, eye, nose, or mouth. These conditions should be reported to either the vessel's Master or medical staff, as appropriate. No person should be penalized for reporting illness.
 - 1.2.2 any cuts, spots or sores should be completely covered by waterproof dressings.
 - 1.2.3 persistent sneezing, coughing, or runny nose that causes discharges from the eyes, nose, or mouth.
- 1.3 Food employees must keep their hands, including fingernails, and exposed portions of their arms clean.
 - 1.3.1 Hands and exposed portions of the arms must be cleaned with soap and water (for a minimum of 20 seconds) or with disinfectant immediately before engaging in food preparation. This includes working with exposed food, clean equipment and utensils, and unwrapped single-service or single-use articles.

1.3.2 Hand and exposed arm washing must also be done:

- .1 after touching bare human body parts other than clean hands and clean, exposed portion of arms;
- .2 after using the toilet;
- .3 after coughing, sneezing, using a handkerchief or disposable tissue, using tobacco, eating, or drinking;
- .4 after handling soiled equipment or utensils;
- .5 during food preparation, as often as necessary to remove soil and contamination, and to prevent cross-contamination when changing tasks;
- .6 when switching between working with raw food and working with ready-to-eat food; and
- .7 after engaging in other activities that could contaminate the hands.

1.4 All persons handling food should wear hair restraints (nets, beard restraints, hats, etc.) to prevent hair from contacting food, equipment, and other items in the food service areas.

1.5 All persons handling food should be clean and tidy, wearing suitable protective clothing and footwear. Jewelry wearing should be limited.

2.0 Food Preparation

2.1 Thawing or Defrosting

2.1.1 **Never** defrost raw meat, poultry, or seafood at room temperature. These should only be defrosted in a refrigerator. They should be placed on a drip pan:

- .1 so that they are not resting in the thawed liquid,
- .2 stored in a covered container, and
- .3 separate from and below other foods in the refrigerator that may be exposed to the contamination risk.

2.1.2 For faster thawing, place food in a leak-proof plastic bag. Submerge it in cold tap water. Change the water every 30 minutes. Alternatively, microwave thawing may be used.

2.1.3 Meat, poultry, and seafood should be thoroughly defrosted before cooking; and cooked immediately after thawing.

2.1.4 Never refreeze thawed food.

2.2 Contamination

- 2.2.1 Always segregate raw and cooked foods. Keep raw meat, poultry, seafood, and their juices away from other foods during preparation and storage. When marinating raw meat, poultry, or seafood, do so in a covered dish in the refrigerator.
- 2.2.2 Use separate color-coded cutting boards (to help keep them for separate, specific uses). Keep separate utensils for raw animal foods (meat, poultry, seafood, eggs, and foods containing them), produce, or other foods.
- 2.2.3 After cutting raw animal foods, wash the cutting board(s), utensils and countertops with hot, soapy water or disinfectant. For example, use one tablespoon of liquid chlorine bleach for about four liters of water (about one US gallon).
- 2.2.4 Keep fruits and vegetables separate from ready-to-eat food until they are washed. Raw fruits and vegetables should be thoroughly washed in water to remove soil and other contaminants before being cut, combined with other ingredients, cooked, served, or offered for human consumption.
- 2.2.5 Protect condiments from contamination by keeping in dispensers designed to provide protection or by using individual packets.
- 2.2.6 Be aware of the dangers (hives, anaphylactic shock, death) associated with food allergies and how cross-contamination of foods may trigger them.
- 2.2.7 Always use clean dishes when serving to prevent the serving utensil from contacting a soiled dish and subsequently contaminating other dishes.
- 2.2.7 Food handlers should avoid direct contact between hands and food by using suitable utensils (meaning deli tissues, spatulas, tongs, and single-use gloves, etc.).
- 2.2.8 Food handlers should be prohibited from using a utensil more than once to taste food that is to be served.
- 2.2.9 Seawater should never be used in or near food or food preparation areas.
- 2.2.10 Any food suspected of being contaminated by flies, cockroaches, rodents, or other pests should be destroyed.

2.3 Temperature Control

- 2.3.1 The danger zone for food contamination is between 4° - 62.8° C (40° - 145 ° F). Perishable foods should not be left in this temperature range for longer than necessary. In no case should foods be left:
 - .1 at these temperatures longer than two hours; or
 - .2 where the temperature is above 32° C (90° F) for longer than one hour.

Food should be placed in a suitable, covered container when in these temperature ranges, unless being prepared or served.

2.3.2 In general:

- .1 Maintain hot food above 62.8° C (145° F);
- .2 Keep cold food below 4.4° C (40° F);
- .3 Keep frozen foods below -12° C (10° F); and
- .4 Reheat leftovers only one time to a core temperature of 75° C (167° F).

2.3.3 Cook raw animal foods (eggs, fish, meat, poultry, and foods containing them) thoroughly to the following minimum internal temperatures to destroy bacteria:

- .1 beef, veal and lamb steaks, roasts and chops: 62.8° C (145° F);
- .2 ground beef, veal, lamb and all cuts of pork: 71.1° C (160° F);
- .3 ground chicken or turkey: 74° C (165° F);
- .4 poultry – 77° C (170° F) for breasts; 82° C (180° F) for whole poultry and thighs;
- .5 seafood (including shellfish): 63° C (145° F); for ground or flaked fish to 68° C (155° F); and 74° C (165° F) for stuffed fish; and
- .6 eggs: until egg yolk solidifies (about 70° C (158° F)); or to 71° C (160° F), if used in a recipe with other food items.

Use a probe thermometer to determine temperature and check juices to make certain they run clear.

2.3.4 To destroy parasites in raw or partially cooked fish, other than shellfish, freeze throughout to a temperature of -20° C (-4° F), or below, for 168 hours (seven days) in a freezer; or -35° C (-31° F), or below, for 15 hours in a blast freezer. Certain fish in the tuna family may be excluded from this freezing procedure as can fish-related foods (meaning gravlax, sevicehe, fish carpaccio or sashimi) prepared in food processing plants that are certified parasite free.

2.4 Leftovers and Reheating

- 2.4.1 Cooling food too slowly before refrigerating is a main factor in food poisoning. Small amounts of food may cool relatively quickly, but the process should be speeded up when this is not the case.
- 2.4.2 Once cold, leftovers should be date-marked, suitably stored in the refrigerator, and used within two days.

2.4.3 If not used cold, which is preferable, food should be rapidly and thoroughly reheated one time only, as described in section 2.3.2, above.

3.0 Food Supplies and Storage

- 3.1 Always load ships with the safest food available by selecting food suppliers that can demonstrate adequate controls over their foodstuffs and suitable transport to the vessel. Food should be clean, wholesome, free from spoilage and adulteration, and otherwise safe for human consumption.
- 3.2 Food should not be stored on the floor, including the kitchen, cooling and freezing room floors. Storage of food at least 15 cm (six inches) above deck is recommended.
- 3.3 Maintain the refrigerator temperature at 4.4° C (40° F) or below, and a freezer temperature at -17.7° C (0° F) or below.
- 3.4 Always stack cooked food and ready to eat food above the raw foods. This is to avoid any liquids from raw foods draining into those below.
- 3.5 Raw meat, poultry, and seafood should be kept in a covered container with a drip pan when refrigerated to avoid cross-contamination caused by liquid draining.
- 3.6 Cut and sliced fruits should be stored in sealed containers and placed in the refrigerator, unless used for immediate consumption. Cut, raw vegetables (meaning celery or carrot sticks, cut potatoes and tofu) may be immersed in ice or water from potable water sources, but should be stored in the refrigerator until consumption.
- 3.7 Inspect fresh provisions daily. Ripe fruits and vegetables should be used as soon as possible. Milk, cheese, and other perishables should be date-checked. Discolored, molded or spoiled products, and those of questionable quality, including ones with foul odors, should be disposed of immediately.
- 3.8 Store canned products in a cool, clean, and dry place (where possible around 10° C (50° F)). Inspect canned products monthly. If they are past the expiration date, dispose of them. Also dispose of any dented, leaking, bulging or rusted cans.
- 3.9 Unused portions of canned goods should never be stored in their original cans. They should be placed in a suitable, closed container and stored in the freezer or refrigerator, as appropriate.

4.0 Cleaning

- 4.1 [MI-108](#) § 7.41.17 (d) requires documented inspections of all spaces and equipment used for food preparation, handling, storage, and service. To ensure that all parts of the food handling establishment are appropriately hygienic, a written cleaning and disinfection program is recommended. Daily, weekly, and monthly inspections as well as daily temperature readings of cold storage units should be included in this program.

- 4.2 To protect food safety and provide for the proper cleaning of food, utensils and equipment, the food handling area should have an adequate supply of hot and cold potable water at all times.
- 4.3 Disinfection may be necessary after cleaning. Chemicals used for disinfection should be stored in clearly identified containers away from the food handling areas, unless otherwise specified by the manufacturer. [MN-7-042-1](#), *Medical Care On Board Ship and Ashore*, prescribes the required minimum amounts of these chemicals.

5.0 Refuse Disposal

- 5.1 Provision should be made for the sanitary storage and disposal of refuse to avoid disease-causing organisms and pests in food handling operations. See MN-7-042-1, §6.0 for additional guidance on pest control.
- 5.2 Garbage disposal should be performed where permitted in accordance with MARPOL Annex V, *Regulations for the Prevention of Pollution by Garbage from Ships*, as amended.