

INTRODUCTION

Food handler refers to a person who, due to their work activity, has direct contact with food during its preparation, manufacturing, processing, handling, packaging, storage, transportation, distribution, and sale.

The role of a food handler is essential to provide safe food in our food companies. Therefore, their training must be continuously reviewed, both to reinforce important concepts and to stay updated on emerging food hazards. It is recommended to renew the certificate every four years, and always as indicated by the General Hygiene Plans of the food company where we work.

1. CAUSES THAT CAN TRIGGER BACTERIAL FOOD POISONING

The most common causes of foodborne illnesses are:

- Improper hygiene, mainly due to cross-contamination.
- Incorrect temperature during storage.

2. MAIN FOODBORNE ILLNESSES

99% of foodborne illnesses are caused by:

- **Intoxication** from toxins produced by bacteria, such as *Staphylococcus aureus*, which can inhabit the nose, mouth, and nasolabial folds of carriers.
- **Infection** from salmonellosis.
- **Toxininfection** from *Escherichia coli*.

High-risk foods are those that, due to their composition and/or storage conditions, favor bacterial growth. These include:

- Meats: especially poultry, rabbit, and minced meat of any type.
- Dairy products.
- Eggs.
- Fish and seafood.
- Cooked potatoes, legumes, and cereals.

Main symptoms: Diarrhea and abdominal pain.

3. SOURCES OF BACTERIAL CONTAMINATION

Main causes of contamination:

- Contact with raw foods (known as cross-contamination).
- Contact with saliva when talking, coughing, or sneezing.
- Contact with contaminated surfaces that have not been properly cleaned and disinfected.
- Contact with animals of any kind. For this reason, animals are prohibited from entering food preparation areas.

Factors required for bacterial growth:

- **Food.**
- **Temperature.** Avoid temperatures between 5°C and 65°C (Danger Zone).
- **Time.** Prepared foods should not remain in the danger zone for more than 2 hours.
- **Moisture.** (*A_w*).
- **Acidity.** Acidified foods inhibit or slow bacterial growth. For example: vinegar-marinated anchovies (acetic acid), chicken with lemon (citric acid).

4. RECOMMENDATIONS TO PREVENT FOOD POISONING

The following guidelines are proposed:

- Wash and disinfect vegetables before consuming them raw, following the instructions of the food-grade bleach used.
- Correct thawing, always at refrigeration temperature.
- Be strict about storage practices. Follow the hygiene practices described in the manual and comply with the storage instructions on the label.
- Foods without their own packaging should be stored in airtight containers (e.g., Tupperware).
- Separate raw foods from prepared (ready-to-eat) foods.
- All products made with raw eggs should reach 75°C at the core. Examples: tortillas, poached eggs, cakes, etc.
- Waste containers must have lids with non-manual operation and be impermeable.
- Hot foods intended for serving should be kept at a temperature above 65°C. Examples: catering companies, buffet-style restaurants, etc.
- Clean and disinfect surfaces that come into contact with food properly.
- The shelf life of sauces (e.g., mayonnaise) made with pasteurized egg products and stored in refrigerators at temperatures not exceeding 4°C should not exceed 24 hours.

5. GOOD HANDLING PRACTICES

5.1. Reception

- ✓ Ensure suppliers have a valid sanitary authorization. Keep a copy of their sanitary registration in your establishment.
- ✓ Transfer food quickly to avoid temperature changes during transportation.
- ✓ Verify that the products delivered are in good packaging and have appropriate sensory and freshness characteristics.
- ✓ Packaged products should be correctly labeled with complete information on the type of product, ingredients, origin identification, expiration date, lot, and storage temperature.
- ✓ Ensure food is properly protected and stacked during transportation. Vehicles transporting products should be used exclusively for food transportation and kept in clean condition.

5.2. Storage

Once we verify that the products received are adequate, they should be stored as follows:

1. **Refrigeration** (0°C - 5°C).
2. **Freezing** (< -18°C).
3. **Hot holding** (> 65°C).
4. **Room temperature** (e.g., non-perishable foods).

Foods should not be stored directly on the floor. Ensure a minimum separation of 10 cm using tools like plastic pallets, shelves, etc.

Cleaning products must be stored separately from food.

5.3. Packaging

- ✓ Packaging is a method to preserve food, protecting it from potential external microorganisms.
- ✓ We must shield food from light (if opaque), dust, dirt, impacts, insects, bacteria, viruses, etc.
- ✓ Cleanliness must be meticulously maintained during the packaging process.

5.4. Labeling

Food labeling is the main means of communication between food producers and final consumers, providing essential information about the product. All products must be labeled.

An important piece of information is the **batch number**, which must appear on the purchase invoice to ensure traceability. The batch number can sometimes correspond to the expiration date.

5.5. Cooking

The minimum cooking temperature inside food must be 75°C.

To ensure safe frying, follow these guidelines:

- a) Do not mix two types of oils or new oils with old ones.
- b) Do not exceed the maximum frying temperature of 180°C.
- c) If oil is reused, it must be filtered to remove carbonized residues from previous frying that may develop toxic compounds.

6. CLEANING AND HYGIENE

Two types of cleaning products are used:

- **Detergents:** Chemical substances that remove grease, dirt, and food residues.
- **Disinfectants:** Used to reduce the number of harmful bacteria to a safe level.

6.1. Cleaning of Facilities

- ✓ Clean adequately and at the right time, always before coming into contact with food.
- ✓ Never clean near food being handled or to be handled, to avoid the chemical cleaning agents coming into contact with the food.
- ✓ Always remove residues with hot water and detergent (cleaning products must be appropriate for the specific area to be cleaned).

6.2. Cleaning of Preparation Tools and Removable Equipment

Follow these steps:

1. Dry clean all visible debris, or use hot water if necessary. (E.g., food scraps, packaging, etc.).
2. Apply detergent or degreasers and scrub until all visible dirt is removed. (E.g., grease, food remains not removed in the previous step, etc.).
3. Rinse.
4. Apply disinfectant to reduce germs to a safe level (e.g., food-grade bleach).
5. Rinse again.
6. Dry using disposable single-use paper towels.

Note: Read the cleaning product labels and follow their instructions.

6.3. Personal Hygiene of Food Handlers

Hands: Wash hands with hot water and antibacterial soap as often as necessary, always before starting work.

Nose, mouth, and throat: Saliva and mucous membranes are common sources of microorganism transmission. Avoid talking, coughing, or sneezing over food.

Hair: Hair is a contamination source and, even if clean, must be tied back or covered with a hairnet for both men and women.

Work clothing: Must be light-colored, clean, and used exclusively for work. Clothing should cover most of the body.

Health of the handler: If ill, notify your supervisor immediately so they can determine if the illness could affect the food.

7. MANDATORY HYGIENIC-SANITARY DOCUMENTATION: SELF-CONTROL SYSTEM

A self-control system consists of two types of documents:

- **General Hygiene Plans (GHP)** or Prerequisites.
- **HACCP** (Hazard Analysis and Critical Control Points).

7.1. GENERAL DE HYGIENE PLANS

GHPs establish specific hygiene programs for a food establishment to properly implement an HACCP system. They form the foundation and prerequisite for developing and implementing an HACCP. They typically include plans for:

1. Water supply.
2. Cleaning and disinfection.
3. Pest control.
4. Maintenance of facilities, equipment, and machinery.
5. Cold chain.
6. Traceability.
7. Training.
8. Waste management.
9. Good handling practices.
10. Allergen management plan.

7.2 Hazard Analysis and Critical Control Points (HACCP)

The HACCP system identifies, evaluates, and prevents food contamination risks throughout the supply chain, establishing preventive and corrective measures to reduce them to acceptable levels.

HACCP Principles (as described in the Codex Alimentarius):

1. Identify hazards.
2. Establish critical control points (CCPs).
3. Define the critical limits considered acceptable.
4. Set up a monitoring system to ensure critical limits are met.
5. Develop corrective actions for situations where critical limits are not met.
6. Create a verification system to ensure that all steps outlined in the document are followed.
7. Maintain a record system to log all activities for thorough monitoring and as evidence that controls have been conducted.

8. EUROPEAN ALLERGEN REGULATION AND CONSUMER INFORMATION

Between 2014 and 2015, European Regulation 1169/2011 and Royal Decree 126/2015 came into effect, addressing food information that must be provided to consumers.

According to this regulation, all food sector companies must implement a series of measures aimed at eliminating or minimizing any food risk to consumer health through the information provided along the food chain.

These measures are classified into three main areas:

- a) **Labeling:** It must comply with the provisions of the regulation regarding consumer information, with special emphasis on the **14 types of allergenic ingredients specified**, which may be part of the product's composition.
- b) **Allergen Management:** Working processes must be established to record and control the presence of allergens during the production and preparation of food products.

As a major innovation, it is established that all companies serving unpackaged or bulk foods must provide mandatory information on products containing allergens. Therefore, restaurants, cafes, bars, collective dining facilities, food delivery companies, catering services, and all types of food businesses, including those engaged in online food sales, must also comply with this regulation.

THE 14 ALLERGENS AND SUBSTANCES THAT CAUSE FOOD INTOLERANCES

Regulation (EU) 1169/2011 mandates the obligatory disclosure of any food containing any of the 14 allergens listed below:

1. **Cereals containing gluten** (wheat, rye, barley, oats, etc.)
2. **Tree nuts** (almonds, walnuts, hazelnuts, cashews, pistachios, etc.)
3. **Peanuts** and peanut-based products.
4. **Lupin** and lupin-based products.
5. **Sesame seeds** and sesame seed-based products.
6. **Soy** and soy-based products.
7. **Mustard** and mustard-derived products.
8. **Celery** and celery-derived products.
9. **Eggs** and egg-based products.
10. **Milk** and its derivatives.
11. **Fish** and fish-based products.
12. **Mollusks** and mollusk-based products.
13. **Crustaceans** and crustacean-based products.
14. **Sulfur dioxide and sulfites**, used as antioxidants and preservatives, for example, in dried fruits, wine, processed potatoes, etc.

Consumers must also be informed when there is a possibility of trace amounts of these allergens contaminating food during handling.

FOOD RISK PREVENTION AND ALLERGENS

Preventing food risks related to the consumption of allergen-containing foods requires:

- ✓ Proper management of food supply and storage.
- ✓ Adjusting work processes to prevent cross-contamination.
- ✓ Adequately informing consumers.



Below is a table that can assist in evaluating allergens or substances causing food intolerances, as outlined in the regulation:

INFORMACIÓN SOBRE ALÉRGENOS O SUSTANCIAS QUE PRODUCEN INTOLERANCIA ALIMENTARIA														
+ = Sí contiene - = No contiene ? = Puede contener Trazas	GLUTEN	CRUSTÁCEOS	HUEVO	PESCADO	CACAHUETES	SOJA	LÁCTEOS	FRUTOS CON CÁSCARA	APIO	MOSTAZA	SÉSAMO	DIÓXIDO DE AZUFRE O SULFITOS	MOLUSCOS	ALTRAMUCES
PLATO														

*See the table in full size in the Course Manual.

9. BASIC REGULATIONS

COMMUNITY LEGISLATION OF DIRECT APPLICATION (EUROPEAN UNION)

REGLAMENTO N°178/2002, de 28 de enero del 2002, por el que se establecen los PRINCIPIOS GENERALES DE LA LEGISLACIÓN ALIMENTARIA.

REGLAMENTO 852/2004, de 29 de abril de 2004, del Parlamento Europeo y del Consejo, relativo a la higiene de los productos alimenticios.

REGLAMENTO 853/2004, de 29 de abril de 2004, del Parlamento Europeo y del Consejo, por el que se establecen normas específicas de higiene de los alimentos de origen animal.

REGLAMENTO 2073/2005, de 15 de noviembre de 2005, relativo a los CRITERIOS MICROBIOLÓGICOS APLICABLES A LOS PRODUCTOS ALIMENTICIOS.

REGLAMENTO (UE) No 1169/2011 DEL PARLAMENTO EUROPEO Y DEL CONSEJO de 25 de octubre de 2011 sobre la información alimentaria facilitada al consumidor y por el que se modifican los Reglamentos (CE) no 1924/2006 y (CE) no 1925/2006 del Parlamento Europeo y del Consejo, y por el que se derogan la Directiva 87/250/CEE de la Comisión, la Directiva 90/496/CEE del Consejo, la Directiva 1999/10/CE de la Comisión, la Directiva 2000/13/CE del Parlamento Europeo y del Consejo, las Directivas 2002/67/CE, y 2008/5/CE de la Comisión, y el Reglamento (CE) no 608/2004 de la Comisión.

Reglamento (UE) 2021/382 de la Comisión de 3 de marzo de 2021 por el que se modifican los anexos del Reglamento (CE) n° 852/2004 del Parlamento Europeo y del Consejo, relativo a la higiene de los productos alimenticios, en lo que respecta a la gestión de los alérgenos alimentarios, la redistribución de alimentos y la cultura de seguridad alimentaria.

NATIONAL PROVISIONS: GOVERNMENT OF SPAIN

REAL DECRETO 126/2015, de 27 de febrero, por el que se aprueba la norma general relativa a la **información alimentaria** de los **alimentos** que se presenten **sin envasar para la venta al consumidor final y a las colectividades**, de los envasados en los lugares de venta a petición del comprador, y de los envasados por los titulares del comercio al por menor

REAL DECRETO 895/2013, de 15 de noviembre, por el que se modifica el Real Decreto 1431/2003, de 21 de noviembre, por el que se establecen determinadas medidas de comercialización en el sector de los **aceites de oliva** y del aceite de orujo de oliva.

REAL DECRETO 650/2011, de 9 de mayo, por el que se aprueba la reglamentación técnico-sanitaria en materia de **bebidas refrescantes**.

REAL DECRETO 1420/2006, de 1 de diciembre de 2006, sobre prevención de la parasitosis por **anisakis** en productos de la pesca suministrados por establecimientos que sirven comida a los consumidores finales o a colectividades.

REAL DECRETO 3484/2000, de 29 de diciembre de 2000, por el que se establecen las normas de higiene para la elaboración, distribución y comercio de **comidas preparadas**. (B.O.E. 12.01.2001)

Modificado por Real Decreto 135/2010, de 12 de febrero, por el que se derogan disposiciones relativas a los criterios microbiológicos de los productos alimenticios tras diversos reales decretos u órdenes.

REAL DECRETO 140/2003 por el que se establecen los criterios sanitarios de la calidad del **agua** de consumo humano.

DECRETO 8/95, DE 24 de enero, por el que se prueba el Reglamento de **Desinfección, Desinsectación y Desratización Sanitarias** (BOJA n° 26 de 16 de febrero de 1995).

REAL DECRETO 109/2010, de 5 de febrero (BOE 19/02/2010), por el que se modifican una serie de disposiciones y en particular la disposición derogatoria única, deroga expresamente el Real Decreto 202/2000, de 11 de febrero, por el que se establecen las normas relativas a los **manipuladores de alimentos**.

REAL DECRETO 1334/99 por el que se aprueba la Norma general de **etiquetado, presentación y publicidad** de los productos alimenticios (BOE n° 202 de 24 de agosto de 1999). Modificaciones: (BOE n° 280 de 23 de noviembre de 1999); R.D. 238/00 (BOE n° 43 de 19 de febrero de 2000); R.D. 1334/02 (BOE n° 305 de 21 de diciembre de 2002)