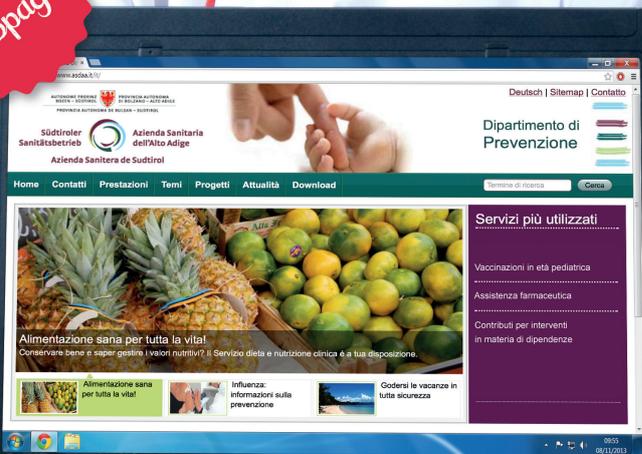


FOOD SAFETY
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The new EU Hygiene Package

The new European Union Hygiene Package took effect on 1 January 2006. Food hygiene law is thus now freed from the countless, specific and detailed regulations of individual countries, particularly in the area of food production (meat, fish, milk, eggs, etc.).

It applies to all production, processing and sales operations involving foodstuffs and thus covers all enterprises (both fixed installations such as bakeries, establishments serving food, butcher's shops, and mobile facilities such as sales vans, market stalls).

Regulations:

- Order (EC) no. 852/2004 of the EP and the Council of 29.4.2004 on *food hygiene*
- Order (EC) no. 853/2004 of the EP and the Council of 29.4.2004 with specific *hygiene rules for food of animal origin*
- Order (EC) no. 854/2004 of the EP and the Council with specific rules for the *organisation of official controls on products of animal origin intended for human consumption*

The former hygiene guidelines are thus superseded and EU member states are invited to adopt the provisions contained in the Hygiene Package and implement them in their respective national laws.

What do the current regulations contain?

- The EU regulations have immediate effect
- All enterprises in the foodstuffs chain now have a general basic hygiene regulation with regard to primary production, as well as supplementary special regulations for food of animal origin
- For the area of food of animal origin:
 - enterprise qualification, controls, identity marking and third-country rules according to uniform principles
 - a modernised, flexible system of veterinary controls
 - no more differentiation between relating to craft-based and industrial enterprises
- New implementation orders with microbiological criteria and temperatures
- All food enterprises are obliged to register with the competent authorities
- General requirement for equivalence as regards all food from third countries
- Emphasis on voluntary guidelines for good hygiene practices
- Documentation obligation (of HACCP measures)

Here you can find useful information about how these European Union provisions now apply to individual aspects of foodstuffs.

- | | |
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Food safety – Self-monitoring – HACCP

The European Union food safety regulations are based on a fundamental principle: that no food that is unfit for human consumption or harmful to the health may enter circulation.

The main actors bringing into circulation food that will not cause harm to consumers are the enterprises responsible for its production, distribution and sale to consumers.

These enterprises must ensure that all food meets the requirements of food safety at every stage of production, right up until delivery to the consumer.

Experience shows that simply controlling the end product is not sufficient to guarantee food safety: first, because the food has usually already been consumed by the time a laboratory analysis is complete and, second, because it is not possible to subject all products to investigation. Laboratory analysis is also usually costlier than the preventive measures that can be introduced on the business premises during working.

With this in mind, the EU regulations stipulate self-monitoring measures for enterprises dealing with food (with the exception of primary production) that are to be carried out by the enterprise itself (at intermediate stages vital for the safety of the foodstuffs, on intermediate products and in the surroundings of the working area) in accordance with the internationally recognised HACCP concept. The aim is:

- to prevent any possible existing hazards from the outset,
- to eliminate existing hazards by means of suitable measures, or
- to reduce these to a degree that is acceptable to the consumer

The responsible person must thus establish a suitable HACCP concept for the enterprise in order to eliminate or control all possible food safety concerns. The concept must therefore necessarily be adapted to the current situation of the relevant enterprise.

7 essential points for an in-house HACCP system

Risk analysis

Analysis of the entire foodstuff production process for possible risks of a **biological** (bacteria, mould, etc.), **chemical** (excessive concentrations of preservatives, detergent residues, etc.) or **physical** (glass fragments, fingernails, etc.) nature that might have a harmful effect on the health of consumers.

CCP (Critical Control Points)

A **Critical Control Point** is a point at which it is vital and possible to **prevent** or **stop a risk** to food safety or to **reduce it to an acceptable degree**. Depending on the product to be manufactured, control is possible during production, e.g. by measuring temperature, time, pH value, etc. (e.g. in the production of salami, the potential risks of germs in raw meat are removed by means of the maturing period and via preservatives. Possible controls during the production process are adherence to the specified quantities of preservatives (weighing) or observance of the specified maturing date (clock/calendar dates).



Limit values

Each CCP within the production process has a limit value that must be specified and then observed so that the finished foodstuff or product is harmless to the consumer (e.g. with pasteurisation as a CCP, the temperature and time of heating must be specified, observed and subsequently checked as a matter of routine, since insufficient heating temperature or time are both hazardous for consumers, as surviving germs may pose a threat to their health).

Monitoring

Regular observations and measurements of specified values are required to establish whether the risk at the respective CCP is under control (e.g. measuring the temperature).

Corrective measures

These are the measures required where the monitoring of a CCP indicates that it is no longer under control (e.g. insufficient heating time requires a repeat of the appropriate item processing).

Verification

In addition to monitoring, these are procedures, analyses and other evaluations to determine whether the HACCP plan is being observed, or whether errors have crept in, or whether the plan is to be altered (e.g. regular testing of thermometers, sampling as part of the self-monitoring process (e.g. of surfaces following cleaning and disinfection), modifying the plan in the event of new product lines, devices, working methods, etc.).

Documentation

This refers to the enterprise-specific logs that, in the framework of the HACCP, contain all of the procedures and records useful for the CCPs and the monitoring of corrective measures.



Microbiological criteria

What is microbiology?

Microbiology is the branch of science concerned with tiny, invisible life forms (“microorganisms”). These are present practically everywhere in nature, for instance in human beings, in the air, in water and on foods. Some can cause diseases of varying degrees of seriousness when humans come into direct contact with them.

Which microorganisms occur most frequently?

Most microorganisms belong to one of the following groups:

Yeasts and moulds: these microorganisms do not normally cause illness, but cause food to go off as well as producing unpleasant smells and tastes. They are sometimes however intentionally added to certain foods (e.g. cheeses).

Bacteria: these are the most frequent causes of the illnesses that are transmitted via food. Some of them use foods as sources of energy, but to survive and reproduce they need a suitable environment that differs according to type. The environment means the temperature, water quantity, available oxygen, acidity and the availability of nutrients.

Viruses: these do not need food to grow and reproduce, but can be transmitted between humans via food. Viruses are killed by heating.

How is disease transmitted from microorganisms to humans via food?

By infection: for some microorganisms (viruses or bacteria) it is sufficient for the agent to be present in the food. It then gains access to the human body via the foodstuffs and can cause diseases. One single microorganism is however insufficient for an illness to develop: a minimum quantity that differs from type to type is required.

By poisoning: If certain microorganisms survive for long enough in food under favourable conditions, they will form toxic substances that can cause illness when the food is consumed. While most bacteria and viruses are destroyed by simple heating, toxic substances may still be present even after intense heating.

Which symptoms are indicative of food-transmitted illnesses?

The symptoms of these illnesses are generally noticeable relatively quickly following consumption of the infected foods, usually within 3 to 36 hours. Only in rare cases will food-transmitted diseases develop up to three days after consumption. The most frequent symptoms are vomiting, diarrhoea, nausea, stomach pains and high temperature.

How can these diseases be prevented?

As stated above, microorganisms need a suitable environment in order to survive and to form any toxic substances. Below follows a description of the environmental conditions that are unfavourable for microorganisms and thus play a crucial role in the preservation of food.



Low temperatures

Cooling means keeping food at a temperature of between 0 and 4 degrees Celsius. At this temperature bacteria can neither develop nor reproduce on or in food. The bacteria are not killed off in such conditions, however: it is only their growth that is slowed or prevented. Thus, if a foodstuff is contaminated by a small number of microorganisms, it will not represent a health risk for consumers, particularly as at low temperatures the microorganisms will neither achieve the necessary quantities to cause illness nor form any dangerous toxic substances.

As a result, both raw materials and rapidly perishable or already prepared foods will remain fit for consumption for 3 to 4 days if kept suitably refrigerated.

Freezing means keeping foods at temperatures of below 18 degrees Celsius. Microorganisms cannot survive in these conditions and food can thus be stored for up to several months. Freezing is only possible with high-quality foods which must be immediately cooled to very low temperatures as soon as possible following processing. Freezing is best carried out with smaller numbers of items using reliable freezer plants. To avoid damage to frozen foods and to ensure they retain their taste characteristics, they must be defrosted in a refrigerator before use and then consumed as soon as possible. Such foodstuffs should in no cases be refrozen..

High temperatures

Warmth. The most favourable temperature for the survival and reproduction of microorganisms that are harmful to health lies between 30 and 40 degrees Celsius. Therefore ready-prepared or cooked meals that are to be consumed hot (for instance in a self-service restaurant) should always be kept at a temperature of at least 60 to 65 degrees. Suitable methods are water baths, hotplates, heating lamps and others.

Microorganisms will usually be killed by simple heating. The toxic substances formed by microorganisms are not however destroyed by normal heating. Fresh, cooked foods that are consumed while still hot usually pose no microbiological health risks. Cooking foods “properly” means ensuring that they are heated throughout (i.e. inside and outside) to a **temperature of at least 75 degrees**. A probe thermometer must to be used to check the temperature. Particular attention must also be paid to the preparation of meals where the individual pieces are of a substantial size (for instance meat or poultry products) or where meals are prepared with hygienically sensitive raw materials (e.g. raw eggs, seafood, shellfish, etc.). Precooked foods that have been stored in the refrigerator and are subsequently to be eaten hot must also be heated to 70 to 75 degrees for some minutes prior to consumption.

Certain liquid foodstuffs that offer very favourable environments for the growth and reproduction of microorganisms – for instance milk, peeled eggs, or fruit juices – should be pasteurised to ensure their safe storage.

Pasteurisation means heating foodstuffs for some minutes to 65 to 80 degrees (more at low temperatures, less at higher temperatures).

The advantages of pasteurisation are that the taste of the food thus treated is not much altered and its storage life is extended from several days (e.g. milk) up to several months (e.g. beer).

Following treatment the food must immediately be hermetically sealed in a clean container to prevent further contact with bacteria.



Personal hygiene

Ensure the **personal hygiene** of persons working with foodstuffs so as to prevent any germs carrying disease or dirt from being transmitted to the food.

Wear **clean work clothing** (overalls, headgear, and if necessary also masks, gloves, etc.).

Do not use “**general-purpose cloths**” in food production as these can transmit germs to surfaces, raw materials and finished foodstuffs.

Before beginning work remove all **wristwatches and jewellery** so as to permit the effective cleaning and disinfection of hands and lower arms.

Do not **smoke, eat or drink** while working so as to prevent any germs from being transmitted to working surfaces or foodstuffs.

Thoroughly wash and disinfect hands before beginning work; before changing work station; before working with sensitive products and after visiting the WC; after each break; after coughing or blowing your nose; after handling raw food; after work involving storerooms, means of transportation or repairs, cleaning or refuse disposal so as to prevent any germs carrying disease or dirt from being transmitted to raw materials or food.

In the event of illness (diarrhoea, vomiting, high temperature, etc.) the employee concerned must inform in good time the relevant supervisor who will decide the appropriate measures.

Move away from foodstuffs when coughing or sneezing so as to prevent any germs carrying diseases from being transmitted to food and thus causing illness to consumers.

Cover any skin cuts with a waterproof plaster so as to prevent any germs from contaminating the food.

Enterprises working with foodstuffs must ensure the **regular training or instruction of employees** as regards food hygiene.



Cleaning & disinfection

Cleaning

Residues of food, fat, earth and generally unwanted substances that can nourish pests and unwanted bacteria should be removed via effective cleaning.

The thorough cleaning of equipment and machinery also removes product residues that could otherwise cause damage or technical problems.

Thorough, careful cleaning is a precondition for effective subsequent disinfection.

Cleaning should in general be performed following each production cycle and also in the event of any product change.

The production equipment, devices, tools, containers, floors and (depending on the contamination potential) walls are also to be cleaned.

To ensure that cleaning and disinfection is carried out effectively in food-related enterprises, it is important to ensure the appropriate design and materials of the areas and installations for any new installation or restoration of working areas.

The cleaning agents used must be appropriate for the type of dirt and the surfaces to be cleaned.

The water used for cleaning must be of drinking water quality and the cleaning equipment (cloths, brushes, etc.) must also be regularly serviced and changed.

Disinfection

Effective disinfection removes from surfaces those germs that are still present after cleaning. These may also include bacteria that cause illnesses. Disinfected working areas thus ensure that there is no transmission of germs to food or to personnel.

All working areas, surfaces, implements and machinery that come into contact with food must be regularly disinfected.

Disinfection must be carried out after the areas have been thoroughly cleaned.

Only suitable disinfectants must be used in food enterprises. Attention must be paid to the compatibility of such agents with the materials constituting the implements, machinery, surfaces, installations and floors).

The agents must also be compatible with the health and may not cause any harm or irritation to humans.

To ensure that disinfection is actually effective, the recommendations for use must be observed (dosage, application, application time, temperature of drinking water used as a solvent).

Following cleaning and disinfection of working areas, care must be taken to ensure that no unauthorised persons enter the premises before the next work shift.

Activities that are not related to production are equally prohibited on the premises.

To ensure that cleaning agents and disinfectants are not used incorrectly and thus introduced into the production process, they must be kept together with the cleaning equipment, brushes, etc. in their own area (cleaning cupboard) with appropriate labelling (e.g. "Cleaning Equipment and Disinfectants").



Maintenance of the structure

Maintenance here means the regular, appropriate maintenance of the premises, installations and equipment of the enterprise in order to ensure:

- optimum functionality of the enterprise and its equipment;
- safe continuation of production;
- no risk to customer health on account of harmful foodstuffs.

As an example, two important areas of an enterprise involved in the production of food are described below.

Production areas

Hygiene is a basic condition in production areas in order to prevent damage to or contamination of the food being manufactured. To ensure manufacturing quality, from the raw material to the finished product, negative factors (e.g. faults in the premises, installations and equipment) must therefore be avoided.

Production areas must be used only for the production and handling of foodstuffs. Staff and office areas must be spatially separate from these areas. Articles (tools, personal items, etc.) that are not necessary for production must also be kept out of the production area.

Windows that can be opened must be fitted with grilles to prevent insects from entering. Doors to working areas where meat is processed must not lead directly into the open air.

The flooring of production areas must be smooth and skid-proof, as well as easy to clean and disinfect. To prevent water from forming puddles, the floor must be slightly inclined towards the floor drain. The gullies in working areas must be easy to clean.

The surfaces of the ceilings in production areas must also be easy to clean. There must be regular and effective ventilation to prevent dampness from causing damage. The ceilings must be renovated if any damage is caused by damp.

The surfaces of the walls in production areas must be smooth as well as easy to clean and disinfect. Transitions between the walls and the floor, windows and doors must for the same reason be rounded rather than sharp-edged.

Staff toilets

The staff toilets must have smooth, easy to clean floors and walls, appropriate sanitary facilities, non-manually operated taps (e.g. operated by foot pedal or photoelectric cell), liquid soap and a hygienic hand-drying facility (e.g. paper towels or an electric hand-dryer). The hand-washing basins must supply both hot and cold water. There must be no direct entry to the toilets from the production area, even if separated by a door. There must also be effective natural or mechanical ventilation.



Staff changing facilities

The changing facilities are for:

- changing clothes before beginning and after ending work;
- keeping personal or work clothing.

They are **NOT** intended for the keeping of food, beverages or any other items that are not relevant to the enterprise or its functions.

Personal clothing, soiled work clothing and clean work clothing must be kept separate from each other. It is important to remove soiled clothing from the changing facilities after work and to send it for cleaning, as well as to ensure that clean clothing is kept available at all times.

The changing facilities form part of the enterprise and are thus also to be included in the cleaning and disinfection plan.

Water supply in food businesses

EU Regulation no. 852 of 29 April 2004 stipulates that food businesses must have an adequate supply of drinking water.



Pest control

Pests such as insects and rodents can represent a serious problem for a food manufacturing or processing enterprise. They can contaminate stored food and cause damage to premises. In particular, they can transmit diseases via contaminated food and via dust particles that are contaminated by their excrement/eggs/hairs/carcasses.

The use of pesticides is not a solution to the problem. It is important to establish and regularly follow a pest control procedure.

Types of pests

There are various types of pests that represent a risk to human health:

- rats
- mice
- insects (cockroaches, flies, ants, flour moths)
- birds (pigeons, sparrows)

Pets can also be a problem in regard to food production.

DOGS OR CATS SHOULD NOT HAVE ACCESS TO FOOD PRODUCTION SITES NOR SHOULD BE FED THERE

Inspection of structures

Regularly inspect the structure in order to check for the presence of pests. Prepare a check list on which you can note the date, time, and the inside and outside temperatures. Note the places where you discover signs of pests or the locations where access may be possible (crumbling walls, holes, damaged windows and doors, etc.) and pay attention to accumulations of waste and refuse. Make a map of the structure and note any suspect locations. Carry a flashlight in order to examine possible hiding places.

Collect the results of your inspections and discuss possible solutions to the problem with staff.

If a pest control specialist is required, cordon off the area to be treated (all fittings, instruments, containers, etc. that could come into contact with food). Following the intervention, wash and disinfect everything thoroughly before working with foodstuffs again.

Recognising the presence of pests

All employees must pay attention to and report the following indications inside and outside the structure:

- live animals
- animal carcasses
- traces of excrement
- nibbled packaging materials
- unpleasant smells
- dirt strips or discoloration of walls
- insect eggs or larvae



- spiderwebs
- piles of dirt
- holes or cracks in installations

Deliveries of foodstuffs

Regularly examine all products that are delivered, particularly raw foodstuffs.

Premises

Doors, windows and other openings

- Seal all gaps and crumbling locations.
- Seal gaps in doors with metal plates.
- Close all openings in cables, pipes or ventilation systems.
- Install a fine mesh on all windows and ventilation openings.

Floors and walls

- Repair damaged floors and cover surfaces with waterproof material.
- Keep drains free of food residues and other waste.
- Install lighting away from entrance doors as light attracts insects.
- Seal all cracks, holes and openings in walls, doors, pipes, pipe systems, etc.).
- Keep the surroundings of the structure free of waste.

Waste materials

- Waste attracts pests and encourages the growth of bacteria.
- Keep refuse in closed sacks in plastic containers with sealable covers.
- Always use plastic bags to keep the inside of the container cleaner.
- Wash containers daily with hot water and soap.
- Keep the surfaces around the containers as clean as possible.
- Place insecticides and traps in waste disposal areas and only use authorised products!
- Dispose of waste regularly.
- Store recyclable waste in sealed containers away from the food manufacturing plant.

Storage

- Store all foodstuffs and products appropriately and off the ground.
- Keep foodstuffs covered.
- Keep storage areas and surfaces clean.
- Do not keep food for personal use in the production areas.



General

- If using pesticides, follow the instructions carefully.
- Only use authorised products.
- Destroy every nesting possibility for pests.
- Keep working and eating areas free of waste and food remains.
- The motors of compressors, refrigerators, etc. operate at an ideal breeding temperature for cockroaches.
- Do not store products beyond their expiry date (*first in first out* principle).

Use of pest control agents

If pests are already present they can be controlled by mechanical or chemical means. Prevention is always the best method, however.

Mechanical control methods:

- electrical fly and mosquito killers
- rats and mouse traps
- adhesive strips
- bird nets
- pheromone traps

Chemical control methods:

- rat poison
- insecticides

Only store pesticides in their original packaging. **NEVER** keep such products in food containers. Store such products away from premises where food is present. Lock the cabinets in which such products are kept. Dispose of old products or remains according to the legal requirements. Keep a copy of the product description and the appropriate safety regulations on the premises.



What are the most frequently encountered types of pest?

Pest

Characteristics

Prevention

Mouse



- Leaves small pieces of excrement, nesting material, nibbled items.
 - Mice leave excrement wherever they are present, especially where they eat.
 - Mice have poor vision and often run along walls and have established routes.
 - Mice eat little but can contaminate large quantities of food if they nibble their way into stored products.
 - Mice need only a small (coin-sized) hole or gap to enter a building.
- Set traps in the territory of mice, which will often have a diameter of only a few metres.
 - Do not put poisonous bait indoors. Mice can access places that are difficult to reach: their carcasses could remain there undiscovered.

Rat



- Rats can get everywhere: they are well organised and can penetrate any building.
- A rat's territory may have a diameter of some 30 metres. Traps and bait are usually set and checked daily.
 - Rats very quickly learn to avoid bait. Leave interventions to the experts.

Ant



- Ants build nests outdoors and underground but sometimes also use cavities in walls.
 - Their nests can be of various sizes and may contain many thousands of insects.
 - The first step is to find the nest.
- The use of liquid poisons where ants are visible may temporarily solve the problem, but it is better to deal with the nest.
 - Bait is effective along food gathering paths.
 - Seal pipes and electrical conductors.

Cockroach



- Cockroaches give off a penetrating, oily smell and leave trails on surfaces: their excrement looks like black peppercorns.
 - Their eggs are capsule-formed, brownish-red or black and have a leather-like, smooth surface.
- Use sticky traps to check whether cockroaches are present.
 - Seal off all potential places where cockroaches might reproduce.
 - Bait and insecticides should only be employed by experts.
 - Check humidity levels: cockroach eggs are less viable under 50% humidity.

House fly



- Flies live off a mixture of food, excrement and refuse and lay their eggs there.
 - When eating flies moisten the food to make it liquid and then suck it up.
 - Various pathogens can in this way be transmitted to and from the food.
 - Flies prefer warmth and are inactive at temperatures of below 15°C.
- Reduce to a minimum those places where flies can lay eggs or that will attract flies (waste, open toilets, food remains, etc.).
 - Prevent flies from landing on food, kitchen implements and installations (use coverings, nets, keep food covered).
 - Kill any flies present by means of fly traps.



Return, recall and traceability of foodstuffs

Return or recall

If a food enterprise sees that any of the food it is trading is unsafe, it must take it back. This will usually occur between two commercial partners, before the food has reached the consumer.

If however the product reaches the consumer, a recall must be arranged by the producer.

In both cases the competent authority must be informed of the measures taken.

To ensure that the return and recall refer directly to the product concerned, one further principle of the Hygiene Package assumes great importance: the **traceability** of the products.

Traceability

The enterprise must introduce systems to ensure the tracing of products and must know from whom the commodities have been obtained and to whom the finished food product has been dispatched.

This information must be provided to the competent authority on request. In order to facilitate their traceability, products must be made recognisable or be identified (batch number, production date, etc.). This can be achieved by means of proper product labelling.



Transporting foodstuffs

Depending on the transport method, as well as the quantity, time and distance, refrigerated vehicles and/or containers that are approved for the transport of foodstuffs must be used.

Cleaning and maintenance

If used for the transport of foodstuffs, the vehicles and any vessels used (containers, vats, etc.), must be regularly cleaned and maintained in good working order to prevent the food from being exposed to contamination.

Conversion

If necessary, the spaces used for the transport of foodstuffs must be converted or changed or modified to permit their proper cleaning and/or disinfection.

Foodstuffs only

The transportation spaces of vehicles used for transporting food may not simultaneously contain any other goods (non-food items) if there is any risk of contamination for the food.

Mixed products

If other goods (non-food items) are being transported in addition to food, or if the load contains foodstuffs requiring different forms of handling, for instance certain foods that require refrigeration (e.g. fresh meat, milk products) and others that do not (beverages, dry goods), the different goods and food types must be kept separate to ensure that the respective items are transported under the correct conditions (hygiene and temperatures).

Temperature

Transport containers used to transport refrigerated foodstuffs must if necessary be able to maintain the food at a suitable temperature that can be constantly controlled, e.g. fresh meat must be kept at a maximum temperature of +7 °C.

Separation of meat

Packed meat must be kept separate from non-packed meat if transported together in order that the material used for packaging does not come into contact with the non-packed meat.

Storage

The foodstuffs being transported must be stored and placed inside the transporter in a way that minimises the risk of the food being damaged or contaminated.



Labelling

Containers or vats used to transport food in liquid, granular or powdered form may only be used for the transport of foodstuffs and must be clearly labelled: “esclusivamente per prodotti alimentari” (solely for use with food products).

Hot food

Meals delivered to third parties following their preparation must always be kept at the required temperature. They must be transported in containers that are easy to clean, protected against contamination and able to maintain the necessary temperature.

According to the law, cooked foods that are to be consumed hot must be kept at a temperature of at least 65 °C. Such meals may as an alternative be immediately refrigerated following preparation.

The meals must subsequently be transported in a refrigerated state for heating at the place of consumption.



Frying foods

What does frying actually mean?

Frying means cooking food in a hot fat. This is a particularly popular form of cooking. Food fried in cooking fat acquires a tasty crust.

Can fried foods be harmful?

The cooking fat is normally heated in a pan or a deep-fat fryer to a very high temperature. Each time the fat is heated up it increasingly decays, i.e. it is spoiled. It becomes viscous and foamy, it smokes and has a strong taste. The colour has little to do with the degree of decay. Food prepared with spoiled fat is harmful to the health.

What does the law have to say?

There is a Ministerial Circular in Italy dating from the year 1991 that sets a limit on so-called “polar compounds”. If this threshold is exceeded the fat must be regarded as spoiled. Preparing food with spoiled fat is a criminal offence.

What actually are polar compounds?

Reactions occur during the cooking process between the fat, the food and the air. The fat decomposes and the resulting materials are collectively termed “polar compounds”. These are substances that are in particular formed at high temperatures when the same fat is frequently used. The polar compound content is thus a sure way to determine the extent to which the fat is spoiled. In Italy the limit is 25 g polar compounds per 100 g of fat, i.e. 25%.

Can the fat decay be measured?

Only the colour, viscosity or the smoking and foaming of the fat can be seen with the naked eye. There are however safer methods of determining the degree of decay of the fat. These are not just laboratory tests: they also include so-called quick tests. These can be carried out by the food enterprise itself. There are also several systems/devices in the trade.

Frying and HACCP

Spoiled frying fat contains carcinogenic substances and is thus a danger to health. This danger can be prevented by means of correct frying and by checking the fat. Quick tests (preferably via electronic devices) allow the spoiling of the fat to be measured. The measurements and corrective measures (= changing the fat) must also be documented. This is thus a CCP (Critical Control Point).

N.B.!

Even if frying fat that has already been used is still pale in colour it may already be spoiled!



Tips for correct frying

The right fat must be first used, i.e. the fat must be able to withstand high temperatures. The cooking temperature should never exceed 180°C. Deep-fat fryers normally have a temperature regulator. It is nevertheless advisable to routinely test the temperature of the fat with a thermometer.

The same fat should not be used too often. The fat is further spoiled each time it is used for cooking.

The basic rule for healthier frying is “golden brown, not dark brown”. The surface of the food should thus not be charred.

The deep-fat fryer should be covered when not in use, as light also contributes to the spoiling of the fat.



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