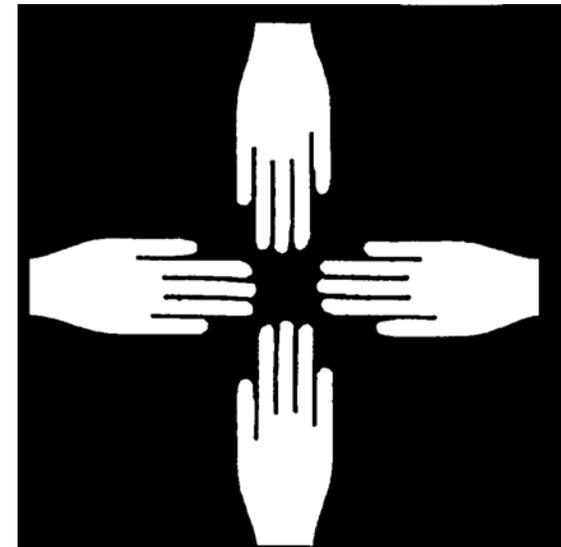




COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH

**THE HEALTH OF THE PUBLIC
IS IN YOUR HANDS**



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A Guide for Food Service Workers

FOREWORD

San Diego County is proud of its safe, clean food establishments, where people can enjoy eating without fear of getting sick from the food they eat. You as a food handler, can share in this pride, by keeping our food establishments clean and our food safe.

Thank you for taking this opportunity to learn all you can about how to prepare and serve food that is safe and will not cause sickness. As you will learn in this booklet, people can get sick if the food they eat has not been prepared carefully.

This booklet contains information about how you can keep food safe both at work and also at home. Please read the booklet carefully. When you follow the rules on the following pages, you can keep yourself and other people healthy.

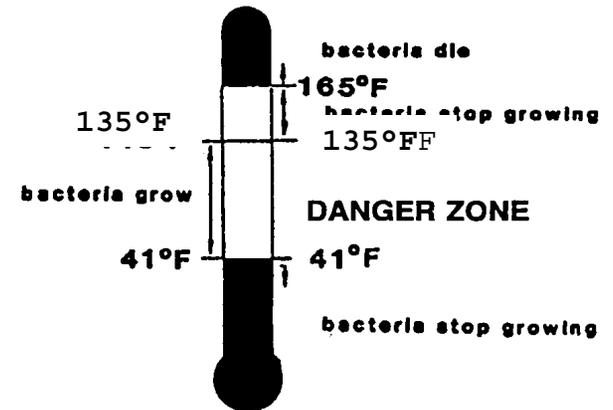
Your job, the success of your employer, and the health of the public really is in the hands of you, the food handler.

Elizabeth Quaranta, Chief of the Food and Housing Division
Dept. of Environmental Health

Remember:

The public depends on you as a food handler to protect the food they eat. The two most important things you can do are wash your hands and control food temperatures. Wash your hands before you prepare, serve, or store food. Keep cold food at or below 41°F. Keep hot food at or above 135°F.

Please take your job seriously, we all depend on you.



3. Destroy their hiding places.

Repair any loose wallboard or paneling.

- Do not use paper on shelves.
- Clean the kitchen and storage areas regularly, particularly dark, warm places where cockroaches love to hide.

4. Keep them from multiplying. Flies are attracted to uncovered trash cans. That is where they breed and multiply. A fly can carry as many as six million germs on it. Flies vomit on food to make it soft and then suck it up. Keep trash cans clean and covered.

If spraying is used to control pests, the spraying should be done by professional. Chemicals used to kill pests can make people sick. Spraying chemicals near dishes and food is dangerous. Chemicals must be stored in their original container in a cabinet away from food and the food preparation area.

How often should trash be thrown away?

Food wastes and all other garbage, should be thrown away at least once a day. Tie it up in a strong, plastic bag. Put it in an outside container with a lid that closes. The trash container must be kept clean, not leak, and be tightly covered to keep out pests. Garbage should be picked up often, at least once per week.



INTRODUCTION

We all need food to stay alive and healthy. However, food can also make us sick if it is not prepared and served properly. You, as a food handler, play an important role in making sure people do not get sick from the food and drink you prepare and serve them.

To prevent people from getting sick from the food they eat, the County of San Diego requires all food handlers, who work in food establishments such as restaurants, bakeries, and grocery stores, to receive training in food sanitation and safety.

Who must receive training?

Anyone who prepares food or who may come in contact with food products, food utensils, or equipment is a food handler. That means if you work at a job (waiter, waitress, bartender, chef, dishwasher, meatcutter, deli or salad bar worker, etc.) that requires you to handle food or dishes that are served to the public; you must receive training. Why? Because if you do not understand and do not follow the rules of food safety, you could make your customers sick.

This booklet was written for you, a food handler. It contains information to help you keep the public healthy and to help you keep your job. You should know this information and use it at work and at home. It is not difficult to learn. The booklet was designed to help you learn. Remember, the health of the public is in your hands.



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What can you do to control cockroaches, flies, mice, and rats?

1. Starve them out.
 - Keep the establishment clean.
 - Keep lids sealed tightly on food containers.
 - Clean the inside and outside of all trash and garbage containers on a regular basis.
 - Be sure trash and garbage containers outside the building are tightly closed. Keep the area surrounding the containers clean.
 - Have garbage picked up often.
2. Keep them out.
 - Repair any cracks or holes in walls, floors, or ceiling.
 - Seal off holes around drains and pipes.
 - Make sure doors, windows, and screens shut tightly.
 - Repair broken screens.
 - Inspect all boxes and other containers delivered to the store or restaurant. Cockroaches love to hide in paper and cardboard boxes.

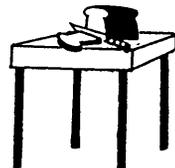
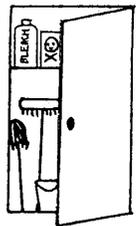


What else needs to be kept clean?

All kitchen utensils (such as knives, spoons, bowls, and can openers), equipment, work areas, countertops, tables, floors, and restrooms need to be kept clean.

- Thoroughly clean all utensils, equipment, and work areas used to prepare or serve food.
- Take apart and clean meat grinders daily.
- Clean beneath, behind, above, and around all equipment.
- Thoroughly clean restrooms daily. Clean floors, walls, sinks and faucet handles, doors and doorknobs, mirrors, toilets, and urinals. Be sure that single-use towels, liquid or powdered soap, and toilet paper are in their wall-mounted dispensers.
- Clean trash cans, mops, rags, and sponges on a regular basis.
- Have a daily cleaning schedule posted and follow it.

All detergents, sanitizers, bleaches, and other cleaning agents must be stored in their original container, away from food and the food preparation area.



What makes people sick from food?

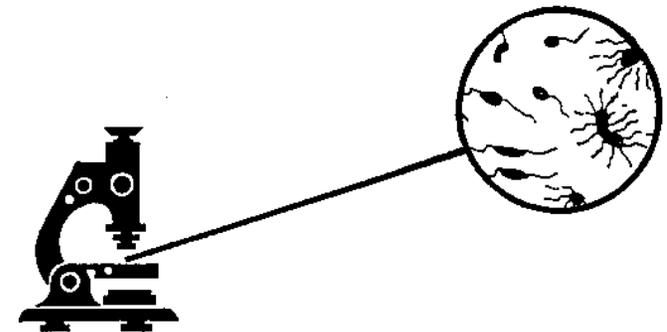
People can get sick if the food they eat contains too many germs, toxins, or chemicals. One germ may not be enough to make a person sick. But if the food contains enough germs, toxins, or chemicals, it is contaminated and can make a person sick.

Can you tell if food is contaminated?

Sometimes. Germs make food smell bad, and you know the food must be thrown out. But some germs do not always make the food spoil. The food may not look, smell, or taste bad, but it still could be contaminated.

What are germs, toxins, and chemicals?

- Germs are very small living organisms. You cannot see them without a microscope, but they are almost everywhere. Some help us, and some make us sick.
- Toxins are poisons made by germs. Toxins are hard to destroy; they are chemicals; they are not living organisms.
- Chemicals are substances which can be dangerous if eaten. They can get into food by accident. Some chemicals often found in kitchens are cleansers, bleaches, sanitizing agents, and insecticides.

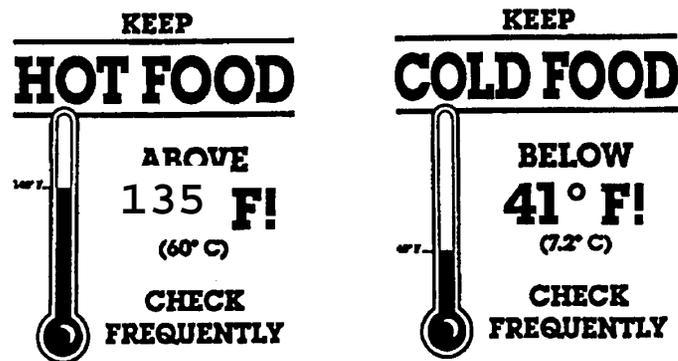


What are the germs that make people sick from food?

- ! There are several types of germs that are spread by food. They are called viruses, protozoa, parasites, and bacteria.
- ! Hepatitis is an illness caused by a virus. It can be spread by food handlers to the food they prepare and serve. If food handlers do not wash their hands after using the toilet, they can put the hepatitis virus into the food. So, to stop the spread of hepatitis, food handlers must wash their hands after using the toilet.
- ! Trichinae (round worm) and Taenia (tape worm) are parasites that can contaminate pork and beef.
- Most of the other diseases from food are caused by bacteria or the toxins they make.

What are the toxins in food that make people sick?

Toxins are poisons made by the type of germ called bacteria. If bacteria is kept out of food, you keep toxins out, too. Since some food already has bacteria in it, you must keep the bacteria from growing and making toxins. You can do this by keeping cold food cold and hot food hot. To keep bacteria already in food from growing, always keep food at the right temperature.



STEPS IN WASHING DISHES BY MACHINE

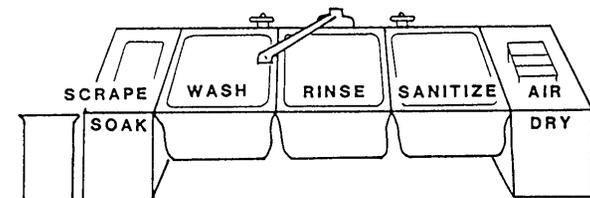
1. Scrape dishes and soak utensils.
2. Rack dishes so they do not touch and so water can reach every surface. This helps them get clean and keeps them from breaking and chipping.
3. Make sure that detergent, rinse agent, and sanitizer dispensers are filled and operating correctly.
4. Run the racks through a full machine cycle.
5. Let the dishes and utensils air dry. Do not dry them with towels.
6. At the end of the day, clean the dishwashing machine. Be sure to clean the spray holes and traps to remove food particles.

POTS & PANS

- If your establishment has a two-compartment sink for pots and pans, wash them in hot, soapy water in the first compartment, rinse in the second compartment and air dry.

STORAGE

- Store dishes in a protected area. Place utensils so they can be picked up by the handles.



What about washing dishes & utensils?

- Dishes and utensils must be washed and sanitized after every use. Spoons used for tasting should be washed and sanitized after each use.
- Washing gets dishes clean. Sanitizing dishes kills germs that cause disease.
- To wash dishes by hand, use a three-compartment sink and follow these steps:

Steps in Washing Dishes by Hand:

1. Scrape and soak to remove food particles.
2. Wash dishes in the first sink in hot, soapy water. Change water and detergent often.
3. Rinse in the second sink in clear, hot water to remove detergent. If detergent is left on the dishes, the sanitizer will not work.
4. Sanitize in the third sink to kill germs that cause disease. Dishes and utensils can be sanitized by either of the following:

-Contact for 30 seconds with 180°F water,

-Contact for 30 seconds with a solution of 100 parts per million (ppm) chlorine,

-Contact for 60 seconds with a solution of 200 ppm quaternary ammonium, or

-Contact for 60 seconds with a solution of 25 ppm iodine.

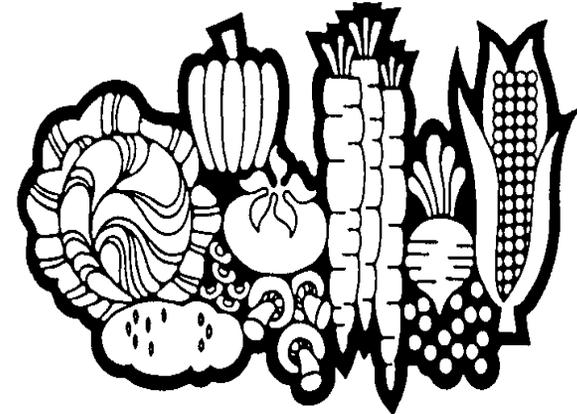
Use proper test strips often to make sure you are using enough sanitizer.

Read instructions on labels of the sanitizer containers to determine the right amount of sanitizer to be added to a full sink of hot water.

5. Air dry dishes and utensils. Do not dry them with towels.

- Some food contains germs naturally. High food temperatures will kill most of these germs. That is one of the reasons we cook meat, fish, chicken, and eggs. If foods are heated hot enough, the germs will be killed and illness is prevented.
- Food can get germs from objects or hands that have germs on them. If a clean food is touched by a dirty object or dirty hands with germs on it, the clean food becomes contaminated.
- Germs are mainly spread to food by hands of food handlers. So food handlers must wash their hands whenever they could become contaminated. Germs can also be spread by people coughing and sneezing onto food, by dirty kitchen utensils, dirty cutting boards and countertops, and pests such as cockroaches, flies, rats and mice.

Foods can get germs and chemicals from the places they grow so all raw fruits and vegetables must be washed before they are served, to get rid of the germs and chemicals on them.



1. Keep germs out of food. How?



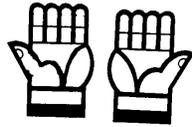
- Wash your hands before you begin working and whenever they might be contaminated.
- Use clean plastic gloves or clean kitchen utensils to mix, and prepare food. Try to avoid touching food with your bare hands, particularly food that will not be cooked or food that has already been cooked.
- If you are sick, do not work. You can pass on your germs to the customer through the food you handle.
- If you have an infected cut, wound or sore, see a doctor for advice. When you are released to return to work, cover the cut or wound.
- If you have an open cut, wound or sore you should not work with food. If the wound is on your arms or hands and you must work with food, cover the wound with a water-proof bandage and wear plastic gloves.
- Keep yourself and your clothes clean. Change your apron often. Bathe regularly.
- Always restrain your hair with a covering such as a hair net or cap. This keeps loose hairs and germs out of food.
- Do not smoke or spit in areas where food is prepared or served, or where utensils are cleaned or stored; this includes bartenders, and always wash your hands after smoking.

WHEN? Before beginning work and after every possible contamination.

- After using the toilet. Human wastes (urine and feces) can spread many diseases including hepatitis, typhoid, salmonella, dysentery, and clostridium perfringens.
- After all breaks, before going back to work.
- After sneezing, coughing, or blowing our nose. There are many germs in your nose and throat that can get onto your hands. The bacteria can produce toxins which are difficult to destroy.
- After handling uncooked or raw food. Raw products, such as raw meats, contain germs. If you touch them, your hands will be contaminated and can spread the germs to whatever you touch next.
- After eating or smoking. Germs that are always in the saliva in your mouth can get onto your hands when you eat or smoke.
- After scratching or touching your body, particularly infected sores, boils and pimples. Bacteria from infected sores and boils can product toxins which are hard to destroy.
- After combing or handling your hair. Even clean hair can carry bacteria.
- After touching dirty objects, such as customers' used dishes, and dirty equipment.
- After changing jobs, such as carrying out the trash or mopping the floor.
- After any possible contamination.



Why should you wash your hands?



Look at your hands, do they look clean? Just because they look clean does not mean they are clean.

They could have thousands of germs on them you cannot see. Hands spread germs from one place to another. Hands that are not thoroughly washed are one of the main reasons why people get sick from the food they eat. You can prevent this. How?

WASH YOUR HANDS IMMEDIATELY BEFORE PREPARING OR SERVING FOOD

How should I wash my hands?

Steps:

1. Use hot water and soap from a dispenser (not bar soap).
2. Scrub your hands together for 30-60 seconds. Scrub your wrists, nails, and the front and back of your hands. Try timing yourself. A minute may be longer than you think it is.
3. Rinse your hands in hot, running water.
4. Dry with a single-use towel (or air dry).

Where should I wash my hands?

- The employee handwashing sink in the kitchen or butcher shop. This sink is to be used only for handwashing. It must not be used for washing vegetables, storing pots, etc.
- The handwashing sink in the employees' or customers' restroom.



How else do I keep germs out of food?

- Wash and sanitize all utensils and work surfaces (cutting boards and countertops) after preparing one food and before preparing another.
- Keep food covered when stored or on display. Customers can contaminate food with their hands, coughs, and sneezes. Protect uncovered food with a sneeze guard and always provide serving utensils.
- Keep raw food separated from cooked food.
- Keep flies, rats, mice, and cockroaches out of the kitchen and away from food. They carry germs on their feet leave urine and droppings on food.

How do I kill the germs that may already be in food?

- ! Germs are killed by heat. Raw meat, fish and poultry should be cooked thoroughly to kill the germs on them, unless ordered otherwise by the customer.
- ! Foods listed below need to be heated or fully cooked to required temperatures:

<u>Type of Food</u>	<u>Heating °F</u>
Raw ground, chopped, or flaked or formed meats	157 °F or 155 °F for 15 secs
Foods made with raw eggs	145 °F
Pork or foods with pork	145 °F
Poultry, ground poultry, stuffed fish food stuffed with meat or poultry	165 °F

- ! A food thermometer should be used to make sure these foods are heated to required temperatures all the way through. Thermometers should be stuck in the thickest portion of the food.

Can MICROWAVE OVEN be used in heating or cooking food?

Microwave oven can be used for heating food or cooking, provided the following procedures are followed to kill the germs that may be in food:

- ! Foods containing raw or incompletely cooked ground meat, eggs, pork or poultry must be heated in the MICROWAVE OVEN to an internal temperature 25°F above the minimum temperatures required for these foods (that is, pork chop must be heated to 180°F in the microwave oven).
- ! Food must be covered and stirred or rotated frequently to assure even heating.
- ! After heating in the microwave oven, the food must be kept in its covered container for at least two minutes before removing and serving to allow the entire food to complete heating.

Other concerns about germs in food:

- ! Germs are not killed by cold temperatures. Cold temperatures will slow down the growth of bacteria, but some bacteria can live even in frozen food.

What about food toxins?

- Heating food to 165°F will kill live germs, but it will not destroy toxins made by bacteria. The two ways to keep toxins from being made are:
 - 1) keep bacteria out of food, and
 - 2) keep bacteria from growing by controlling the temperatures

IMPORTANT

Foods suspected of "temperature abuse" and toxin contamination, should be destroyed.

How do I keep germs that get into food from growing?

Bacteria need four conditions to grow quickly in food: time, moisture, food and temperature.



TIME - The more time bacteria have, the more they will grow. In a few hours, one bacteria can divide many times and grow into thousands of bacteria. If you eat food with thousands of bacteria in it, you probably will get sick.

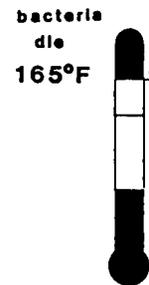
MOISTURE - Bacteria grow in moist food; they do not grow in dried food.



FOOD - Bacteria must eat something to grow. Bacteria mainly eat and grow in perishable foods which contain meat, fish, chicken, eggs, cheese, milk, and seafood.



TEMPERATURE - Food temperatures between 41°F and 135°F are the most dangerous.



- above 135°F bacteria will stop growing (but they are not killed until they reach 165°F or above),

- below 41°F bacteria will stop growing, but are not killed.

- between 41°F and 135°F, bacteria can grow quickly.

For this reason, 41°F-135°F is called the **DANGER ZONE**.

Remember: To keep bacteria from growing in food.

- Get foods out of the danger zone as quickly as possible. Heat up foods quickly and cool down foods quickly. Do not let perishable foods stay at room temperature.
- Be particularly careful to keep moist, perishable foods out of the danger zone.

How should you store food?

1. Put food in the refrigerator or freezer so there is room for cold air to circulate around the food. Do not stack food on top of other food.
2. Be sure every food item is covered and stored at least six inches above the floor.
3. Store raw meats and dirty, unwashed foods below clean, cooked food. Otherwise raw meat juice could drip on food below and contaminate it.
4. Store supplies so the older supplies are in front and will be used first.

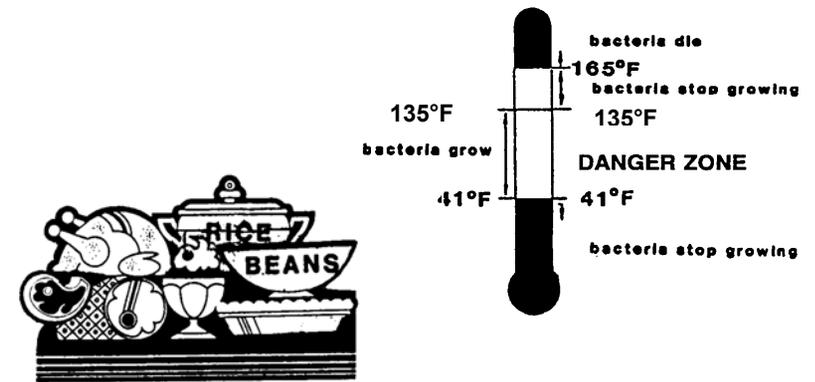
How should you serve food properly?

1. You should not touch food with your bare hands. Use clean tongs and other utensils to pick up and serve food. If you have open cuts or sores, do not handle food. Plastic gloves are a good precaution.
2. Ice is a food, so keep it clean. Even though it is frozen, ice can still contain germs. When scooping up ice, do not use your hands or a glass. Use an ice scoop. Keep the scoop outside the ice bin in a clean place. Do not store milk or cream or other drink containers in the ice used to make cold drinks. The ice used to chill food must not be served to customers.
3. Handle dishes, glasses, and cups carefully so they do not crack or chip. Cracked or chipped dishes must be thrown away. They cannot be used to serve or prepare food.
4. When handling dishes and utensils such as silverware, do not touch the surfaces that will be touched by food or a customer's mouth.
 - a. Carry plates and bowls by the edge.
 - b. Carry silverware by the handles.
 - c. Carry glasses by the bottom, not the rim.

What foods must be kept below 41°F and above 135°F

- Some foods can be kept at room temperature and do not need to be refrigerated. These are the foods in which bacteria either do not grow or grow very slowly. These are foods such as sugar, candy, salt, flour, breads, crackers, cookies, chips, etc.
- Other foods must not be kept at room temperature (70°F). These foods must either be refrigerated (41°F or below) or kept hot (135°F or above). If these foods are left in the danger zone, bacteria will quickly grow in the foods.
- The foods that must be kept out of the danger zone are called potentially hazardous foods or high-risk foods, they include:
meat, chicken, turkey, fish, eggs, milk, seafood, cheeses, cooked beans, and cooked rice.
- Foods made with these products also must be kept out of the danger zone.
- Examples of these foods are:
stews, gravies, meatloaf, casseroles, chili, chicken salad, tuna salad, egg salad, custard dishes, yogurt,

dressings, creamed pies, and creamed casseroles.



How should you thaw frozen food?

- In the refrigerator.
- Under cold, running water.
- In a microwave oven, set on defrost.
- Cook the frozen food; let it thaw as part of the cooking process.

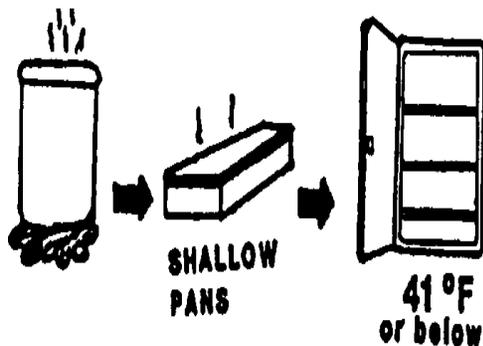
Why not let food thaw at room temperature?

As the food thaws, the surface of the food reaches room temperature, while the rest of the food remains frozen. Bacteria grow quickly at room temperature. Food must be kept out of the danger zone (41°F-135°F) whenever possible. Food must be kept at 41°F or below while it thaws.

What is the correct way to keep food warm while you are waiting to serve customers?

If you "hold" food in a steam table, holding oven, etc., follow these steps:

1. Food that has been heated before should be reheated quickly to 165°F (74°C) or more before putting it in the steam table, etc. This kills the bacteria.
2. Put the food in the steam table, etc., and keep it ("hold" it) at 135°F (60°C) or more. This keeps bacteria from growing in the food.
3. Steam tables, etc., must not be used to cook or reheat food. It would take too long for the food to get out of the danger zone and reach 135°F.



What should you do with leftovers?

1. Once food has been served to a customer or displayed on a buffet, any leftover food must be thrown away. This includes tortilla chips and rolls. The only exceptions are separately wrapped foods such as crackers, candy, or sugar packets, which have not been opened.
2. If there is leftover hot food that has not been served to a customer, cool it quickly to 41°F or below. Do not let it cool outside the refrigerator.

How do you cool down heated food quickly?

1. Cool heated food quickly to warm temperature (70°F) within two hours, before placing it in the refrigerator.
2. Cool rapidly large amount of heated food by using any method:
 1. Place the pot in ice bath, stir constantly
 2. Transfer the hot food in shallow metal containers, not more than four inches; keep it uncovered, constantly stir
 3. Use cooling sticks or add ice to the food
3. Place warm food immediately in the commercial refrigerator to cool down to 41°F within four hours.

COOLING HOT FOOD RAPIDLY

