

FOOD HANDLER'S GUIDE



NODAWAY COUNTY HEALTH DEPARTMENT

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What Makes People Sick from Food

Food Borne Illness While the onset of some food related illnesses occur in a matter of hours, some take days or weeks for symptoms to appear. Some germs can grow at a rapid and progressive rate in warm, nutrient rich environments created by allowing cooked foods to sit in the *temperature danger zone* between 41° F and 135° F; This will be discussed further in a moment.

Bacteria **Bacteria** grow fast and may cause food borne illness. Some bacteria make toxins that act like a poison. Cooking does not destroy most toxins. Almost always the food looks and smells good, but it may have enough bacteria or toxin to make someone sick. Toxins can occur in many foods that have not been kept cold enough (or hot enough) for several hours.

Viruses

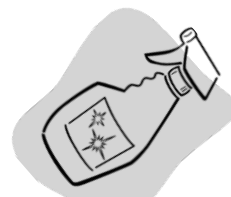


A **virus** is another kind of germ that causes illness. A virus can get onto food that a sick person touches. A virus can also survive in raw or uncooked foods. You can have a virus and not know it. Even before you start feeling sick, you may be passing viruses onto the food by not washing your hands after coughing, sneezing or using the toilet.

Tiny worms that live in fish and meat are called **parasites**. Cooking fish and meat to the right temperature will kill parasites.

Chemicals

People can also get sick when **chemicals** get into the food. Be sure to keep chemicals away from food.



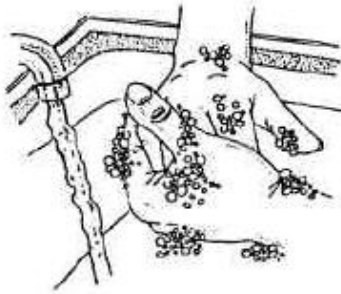
Employee Practices

Work Only When You Are Well

If you feel **sick**, you should not go to work. The germs you bring to work can spread when you sneeze and cough, and when you touch food, dishes, counters, utensils, forks, knives and spoons, pots, pans, and other people.

- Do not work if you have a fever or sore throat.
- Do not work if you have loose bowels (diarrhea).
- Do not work if you are throwing up (vomiting).
- Do not work if you have yellowing of the skin or dark tea color urine (jaundice). Tell your boss. Someone must tell the Nodaway County Health Department right away.
- Do not work with foods if you have an **infected** boil, burn, cut or sore on your hand. If the sore is not infected, wear rubber or plastic gloves.
- Do not work with foods if you are sneezing, coughing, or have a runny nose.

Hand Washing is Very Important



Wash your hands often when working with food and drinks. The best way to wash your hands is to scrub for approximately **15 to 20 seconds** with warm running water and soap, rinse, and then dry them with clean paper towels or an air dryer.

Remember to wash:

- When arriving for work in the kitchen.
- After touching bare human body parts other than clean hands and clean, exposed portions of arms.
- After using the toilet room.
- After coughing, sneezing, using a handkerchief or disposable tissue.
- After using tobacco, eating, or drinking from an open BEVERAGE container.
- After handling soiled EQUIPMENT or UTENSILS.
- During preparation, as often as necessary to remove soil and contamination and to prevent cross contamination when changing tasks.
- When switching between working with raw FOOD and working with READY-TO-EAT FOOD.
- Before donning gloves for working with FOOD.
- After engaging in activities that contaminate the hands.

Jewelry and Fingernails

Limit the amount of jewelry you wear on your fingers and forearms to a plain wedding band, medical bracelet or plain watchband. Jewelry can hide food particles and germs.

Be sure to scrub underneath your fingernails. Keep fingernails short. Do not wear fingernail polish or fake fingernails.

Beverages

You may drink from a closed beverage container when these precautions are taken:



- The beverage container must be covered and have a straw or handle so your hands do not touch where your mouth touches.
- The container must be handled and stored in a way that will not contaminate food, utensils, or equipment.
- The container should be cleaned and sanitized regularly or discarded after each use.

Hair Restraints

Hair restraints such as hats, hair coverings or nets, beard restraints and clothing that cover body hair should be worn to prevent the contamination of food, clean equipment, utensils, and linens.

Counter staff who only serve beverages and wrapped or packaged food, hostesses, and wait staff are not required to wear hair restraints if they present a minimal risk of contaminating exposed food, clean equipment, utensils, and linens.



Hand Sanitizers

Hand sanitizers do not substitute for hand washing. Hand sanitizers should only be used after hands have been thoroughly washed and dried.

Glove Use

Plastic gloves can spread germs. Wash and dry your hands before putting on gloves. Change gloves between tasks. When you wear gloves, be aware gloves can spread germs onto food that will not be cooked. Even when you wear gloves, it is best to keep fingernails short.

If used, single-use gloves must be used for only one task such as working with READY-TO-EAT FOOD, and used for no other purpose, then discarded when damaged or soiled, or when interruptions occur in the operation.

Gloves are utensils. When working with food, don't do anything with gloves that you wouldn't do with any other utensils.

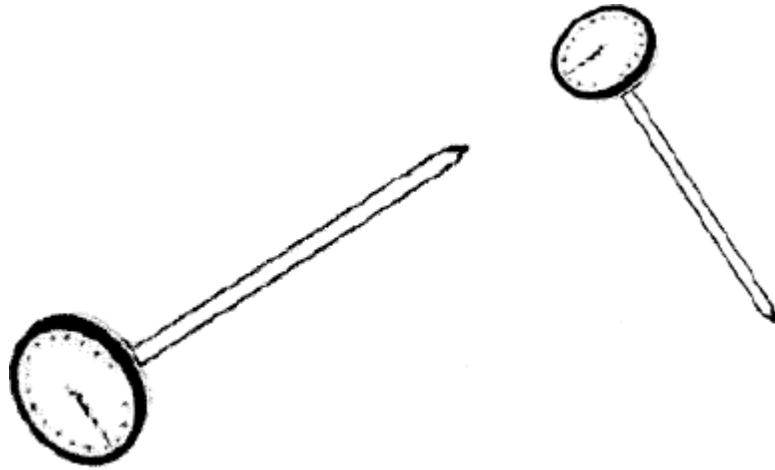
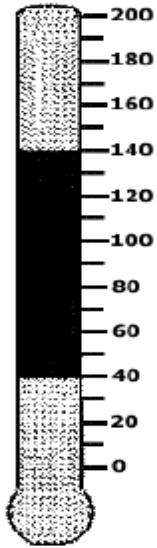
Important points to remember about food handling gloves:

- Gloves do not substitute for hand washing.
- Hands should be washed and dried with a clean paper towel or air-dried before donning gloves.
- Gloves are utensils, like spatulas or tongs. If properly using another utensil with clean hands, gloves are not needed.
- Gloves used to handle ready-to-eat food should only be used for that purpose. They should be changed if anything other than working with the food is done with the gloves.



Yes, he has a hair net.

Monitoring Food Temperatures



Temperature Control

This section is about monitoring food temperatures to control the growth of germs. This is called **temperature control**, and you need a thermometer to check food temperatures.

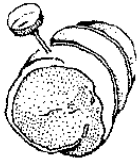
The “Danger Zone”

Germs like bacteria need time, food and moisture to grow. The **temperature between 41° F (5° C) and 135° F (57° C)** is the “***Danger Zone!***” When food sits in the “***Danger Zone!***”, bacteria can grow fast and make toxins that can make you and others sick.

Refrigerator Thermometers

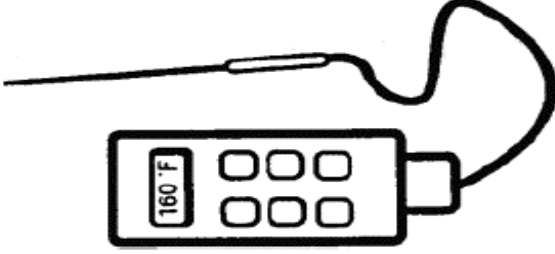


Every refrigerator is required to have a thermometer. This thermometer must be located where it is easy to see when you open the refrigerator door. Every refrigerator thermometer should read a range that includes 41° F (5° C).

Food or Probe Thermometer



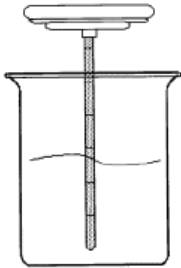
Using a thermometer is the only way to know the temperature of food. Anyone working with the food needs to know how to **calibrate** and use a thermometer. This is discussed on the next page.

Take temperatures in the thickest part of the food. When taking temperatures of a large amount of food like a big piece of meat, be sure to take the temperature in two or more locations. This way you will know that the food is heated to the right temperature throughout. A thermometer that works best will indicate a range of **0°F (-18°C) to 220°F (104°C)**.

Types of Food Thermometers	Speed	Placement
<p>Thermocouple</p>  <p>Most models can be calibrated</p>	2-5 seconds	$\frac{1}{4}$ " or deeper in the food as needed
<p>Thermistor</p>  <p>Some models can be calibrated</p>	10 seconds	At least $\frac{1}{2}$ " deep in the food
<p>Instant-Read Bimetal</p>  <p>Most models can be calibrated</p>	15-20 seconds	2- 2 $\frac{1}{2}$ " deep

Refer to manufacturer instructions to find out if your thermometer can be calibrated.

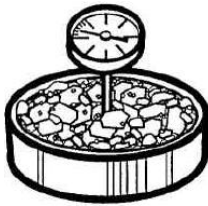
Calibrating A Food Thermometer



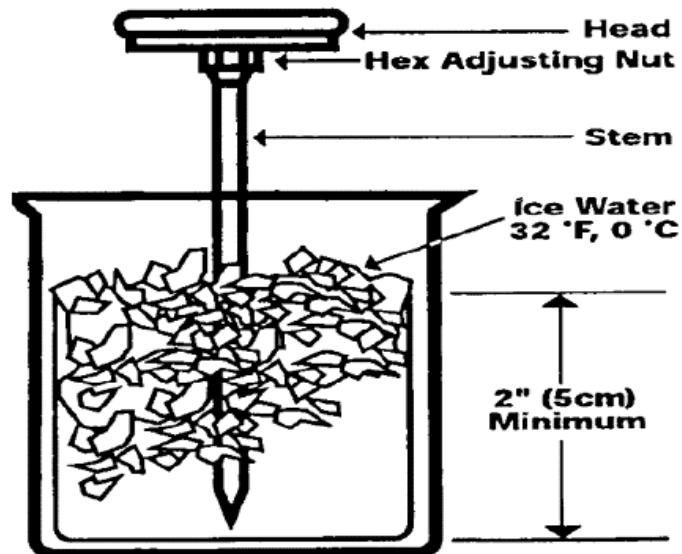
When you use a food thermometer you need to make sure the temperature it gives you is accurate. An easy way to do this is to calibrate the thermometer with ice and water.

Pack a large cup to the top with crushed ice. Put the thermometer at least 2 inches into the water. After 30 seconds, read the dial. It should read 32°F (0° C).

If it does not read 32°F (0° C) after you have waited at least 30 seconds, you need to:



1. Leave it in the ice water,
2. Use pliers or a wrench and turn the nut on the back of the thermometer until the needle reads 32° F (0° C),
3. Wait 30 seconds. Keep repeating these steps until the thermometer reads 32° F (0° C).



Calibrate your **food thermometer** in accordance with manufacturer specifications as necessary to ensure their accuracy, or when bumped or dropped.

Working with Food

Prep Work

Wash your hands first. Bring out only the amount of food that you can work on at one time. This practice will help limit bacteria growth.

Use separate utensils and cutting surfaces for raw meats than you use with other foods.

Potentially Hazardous Food (PHFs)

A food that is natural or synthetic and that requires temperature control because it is in a form capable of supporting the rapid and progressive growth of infectious or toxigenic microorganisms.

“Potentially Hazardous Food” does not include:

- An air-cooled hard-boiled egg with shell intact;
- A food with an A_w value of 0.85 or less;
- A food with a pH level of 4.6 or below when measured at 75 °F (24 ° C).
- A food in an unopened hermetically sealed container that is commercially processed to achieve and maintain commercial sterility under conditions of non-refrigerated storage.

PHF examples include: meat, fish, poultry, milk, re-fried beans, cooked rice, baked potatoes and cooked vegetables.



Safe Internal Food Cooking Temperatures

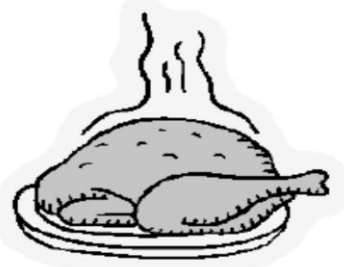
Here are a few examples of *potentially hazardous foods* and how hot they must get to be safe:

- Rare Roast Beef: 130°F (54°C)
- Pork, Steak, Fish, and Eggs: 145°F (63°C)
- Beef, Lamb, and Seafood: 145°F (63°C)
- Hamburger, ground meats except poultry: 155°F (68°C)
- Poultry 165°F (74°C)

145°F



165°F



Hot Holding



After the food is cooked and ready to serve, you will need to keep it warm enough to stop any germs from growing. You must turn on steam tables, soup warmers and heated surfaces before you need them so that they will be hot enough when you put the cooked food into them.

Keep hot food at 135°F (57°C) or hotter

The only way to know that the food is hot enough is to check the food with your *food thermometer* to make sure the food **stays** at least 135°F (57°C).

Food held on serving lines or buffets must be protected by sneeze shields.

**Ways to help
keep hot food
hot**

Stir food to help keep the food on top hot. Keep a cover on pans to help keep the heat in and the food warm enough.

**Cooling-Speed
is Important**

If you must make food in advance or save leftover food, cool it as **fast** as you can to prevent bacterial growth and toxin production. **Reheating will not destroy toxins.**



Cooling Time

You can choose several ways to cool food. No matter how you cool the food, it must drop from 135°F (57°C) to 70°F (21°C) within two hours and then drop from 70°F (21°C) to 41°F (5°C) within the next four hours.

2 Hours

135°F (57°C) to 70°F (21°C) within two hours,

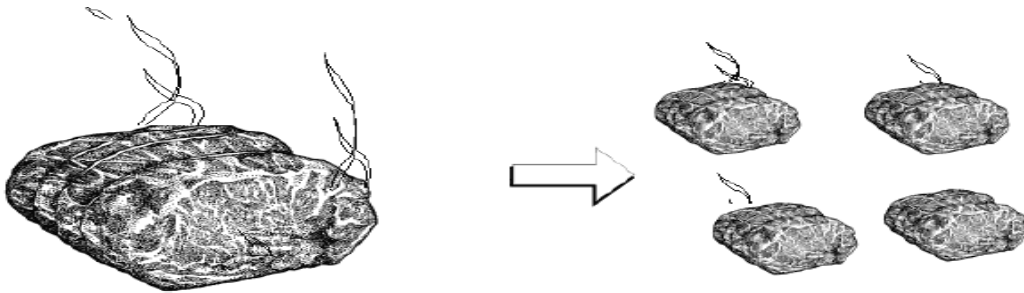
4 hours

70°F (21°C) to 41°F (5°C) within four hours.

Cooling Solid Foods

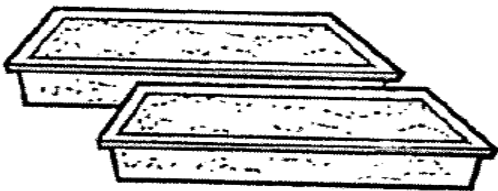
When cooling solid cooked foods such as roast, turkey, and solid cuts of meat, be sure to:

- Cut large roasts and turkeys into smaller portions. This will help them to cool faster,
- Place in the refrigerator,
- Cover loosely or leave uncovered until cool (if not exposed to contamination).



Cooling Soft/Thick Foods

Examples of soft/thick foods are refried beans, rice, potatoes, stews, chili, thick soup or thick sauces. You can cool soft/thick foods by pouring food into a shallow metal pan. Use a sheet pan for very thick foods like refried beans. Whenever possible use a flat pan and spread the food out as shallow as you can to speed up the cooling.



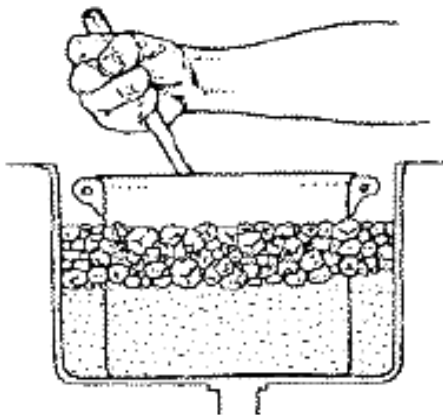
- Pour hot food into shallow metal pans,
- Stirring food speeds up cooling time,
- Place in refrigeration,
- Cover loosely or leave uncovered until cool (if not exposed to contamination).

Cooling Liquid Foods

You can use shallow metal pans or you can use an ice and water bath to cool thin soup and sauces. Ice paddles are another option.

Ice Bath

- Place the metal pot or pan of hot food inside a sink or larger container,
- Add ice around hot container **up to the level of food,**
- You can add water to the ice to make a bath,
- Stir the soup or sauce often so that it cools all the way to the center,
- Add more ice as ice melts if needed,
- The food must reach 41°F (5°C). Monitor with a stem thermometer.



Remember

You can choose several ways to cool food. No matter how you cool the food, it must drop from 135°F (57°C) to 70°F (21°C) within two hours and then drop from 70°F (21°C) to 41°F (5°C) within the next four hours.

2 Hours

135°F (57°C) to 70°F (21°C) within two hours,

4 hours

70°F (21°C) to 41°F (5°C) within four hours.

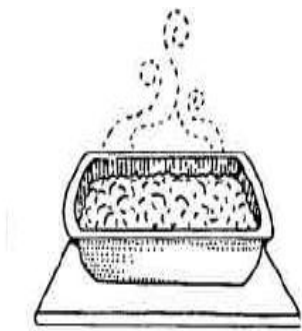


Tubs and Buckets

Do not use bus tubs or plastic buckets to cool food. Plastic prevents the heat from escaping. Also these types of containers are too big. It takes hours, and maybe even days for food to cool in these types of containers.



More to Remember



Whenever you are cooling, always remember:

- Do not stack pans; leave space for air to move around them.
- Use a **food thermometer** to check the food temperature (clean and *sanitize* thermometer stem after each use).
- Cool the food as quickly as you can. If it does not cool down from 135°F (57°C) to 70°F (21°C) in 2 hours and from 70°F (21°C) to 41°F (5°C) in 4 hours, the food will not be safe to eat!
- Wait until the food is cold before you cover it tightly.

Cold Holding

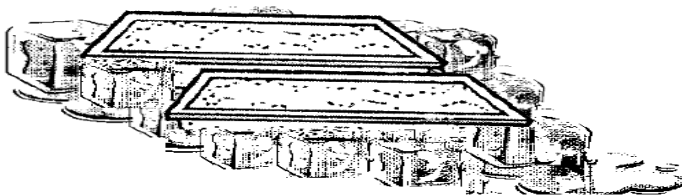
Always keep cold food at 41°F (5°C) and date mark if holding more than 24 hours (see page 17). Fish, shellfish, poultry, milk and red meat will stay fresh longer if you hold them cold at 41°F (5°C) or colder.

Using Ice

Use a *food thermometer* to check the food stored in salad bars and in refrigerators.

If you use ice to keep the food cold on a salad bar or food display, be sure that the ice comes up to the level of the food that is in the pan or the dish.

Food must be 41°F (5°C) or colder when you put it in the ice.



Thawing Frozen Food

Plan ahead to allow enough time to thaw foods in one of these three safe ways:

3 Methods

1. Thaw food in the **refrigerator**; it may take several hours to a few days. This is the best and safest way. Be sure to put meat in a container to catch the meat juices and to keep them from dripping. Put raw meats on the bottom shelf away from read-to-eat foods,
2. Hold the food under **cold running water**, or
3. Defrost in a **microwave** oven and then cook it right away.

Note

Never thaw food at room temperature, on a counter or in warm or hot water. These methods let the food get into the *“Danger Zone.”*

Reheating

Food that is cooked and then cooled may need to be heated again. **Reheat food quickly (within two hours) to 165°F (74°C)**

The right way to do this is on the stove burners, or in microwave ovens, convection ovens, or double boilers.

Do not use anything that will heat the food slowly, such as a crock pot, because it takes too long to pass the *“Danger Zone”*.

Stir the food to be sure that all parts of it are hot. Then use your *thermometer* to check the temperature. It must reach at least 165°F (74°C).

**What about
Foods left At
the Table**

When a customer leaves food on a plate or at the table, you must throw it away. If you have food like chips, rolls and bread and some of it is left over, you **cannot** serve it again.

Unopened packages of crackers, jelly, candy or sugar may be served again.

Safe Storage Practices

Date Marking

Potentially hazardous foods that are **ready-to-eat** must be marked with a date when placed in refrigeration.

7 days

The food can be stored for 7 days when the refrigerator maintains 41° F (5° C) or colder. Food older than 7 days must be discarded.

1 day

Food used within one day (24 hrs) is not required to be date marked.



**Good Food Needs
Good Storage**

Store food in a clean, dry location,

Where it is not exposed to splash, dust, or other contamination,

At least 6 inches above the floor.

Food may be stored less than 6 inches off the floor on case lot equipment if it can be moved for cleaning.

Pressurized beverage containers, cased food in waterproof containers, and milk containers in plastic crates may be stored on a floor that is clean and not exposed to floor moisture.

Store foods away from cleaners and poisons.

Be careful about storing foods in garbage cans or containers or plastic bags that are not made to store food.

Store food in **food-grade** containers.

Cross Contamination

Cross Contamination happens when germs from raw or unclean food get into foods that are ready to serve or that will not be cooked again before you serve them.

Keep Foods Safe From Cross Contamination

As a food handler you must prevent cross contamination.

Here are some important ways that you can prevent cross contamination:



- Store raw meat, fish, and poultry on the lower shelves of the fridge.
- Don't let raw meat, fish, or poultry drip onto foods that will not be cooked before serving.
- Separate different types of raw meat from each other.
- Store unwashed food or raw food away from ready-to-eat food.
- Never store foods that will not be cooked before serving in the same container as raw meat, fish or poultry.
- Wash your hands between handling raw meat and foods that will not be cooked before eating.

**Keep Foods Safe
from
Contamination**



Wash your hands before working with food,

DO NOT contact **ready-to-eat** food with bare hands,

Wash, rinse and *sanitize* the cutting surface and all the utensils and knives **every time** you finish with a job or between preparing different foods.

Store wipe cloths used around raw meat areas separate from wipe cloths used for other purposes.



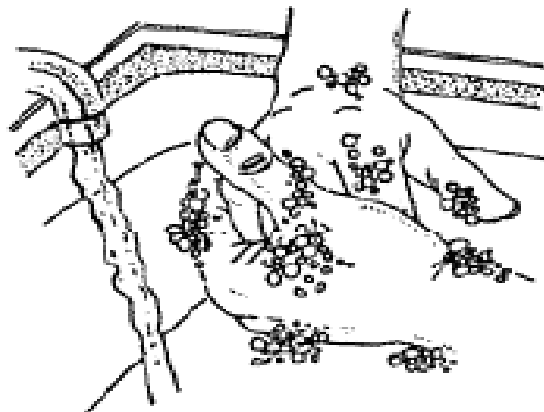
Use utensils to mix food.

Use a clean spoon or fork to taste food and do not reuse it.

Store bulk foods in covered bins and containers with labels.

Store scoops and tongs with handle extended out of the food.

Use clean utensils, instead of hands, for dispensing food.



Cleaning

A Clean Workplace is Safer

It takes more than soap and water to keep a food business clean and safe. You will likely be using detergents and sanitizers.

Follow These Important Rules



- Know what the directions say for using chemicals. Read the labels and talk to your boss about when to use them and how much to use. **Be sure you understand the directions!**
- Keep all chemicals away from food. You must put them below food, never on a shelf above food, or above any area where you fix food.
- Can you tell what the labels say? Are they easy to see? If they are not, tell the boss.
- Keep all chemicals in the bottles or boxes they come in. If you put them in a different container, label them clearly.

Wiping Cloths

Between uses, store the wiping cloths in a sanitizer that is at least 50 parts per million (ppm) chlorine residual but not more than 200 ppm.

Clean in Place

Meat slicers, grinders and cutting boards that are too big to run through the dishwasher or too big to wash in the sink, still need to be cleaned and sanitized.

In-Place Sanitizing must be done after the equipment has been used. To clean big pieces of equipment in-place, you need to:



1. **Wash** them in hot soapy water,
2. **Rinse** them in clean water,
3. **Sanitize** them with freshly prepared sanitizer,
4. Allow them to **air dry**.

Sanitizer

Making Sanitizer



You can measure bleach by using 1 to 3 teaspoons or the lid of the container. Mix the measured bleach with one gallon of water. However you decide to measure the bleach, you will need to test the concentration to make sure it isn't too weak or too strong.

Do not add soap to this mix because the sanitizer will not work with soap in it.

Testing Sanitizer

The only way to know the concentration of the sanitizer is to use test strips made for the type of sanitizer you are using.

For approved sanitizers other than bleach, follow instructions on manufacturer's label and use appropriate test strips to monitor concentration.

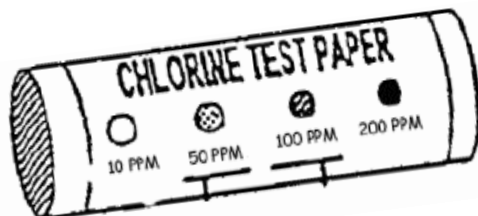
50 – 100 ppm Chlorine Residual

Use test strips that are made for the sanitizer you are using.

For chlorine or bleach, the test strip should turn a blue color that indicates 50 to 100 parts per million (ppm).

Look at the color chart on the test strip container.

If the sanitizer has less than 50 ppm it is too weak. If it has 200 ppm, it is too strong.



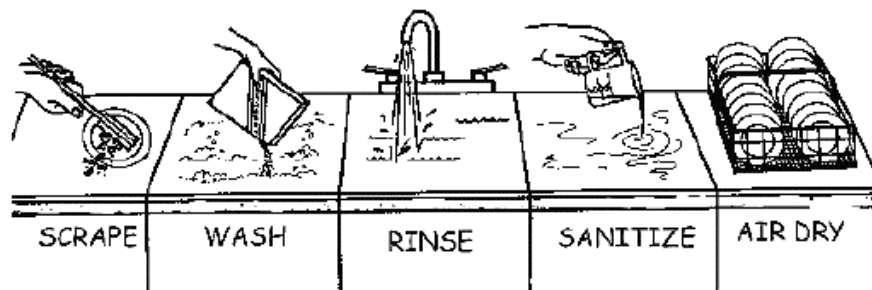
Ware Washing

Whether washing manually (by hand) or mechanically (with a dish machine), the process consists of three basic steps:

Wash,.....then Rinse,.....then Sanitize

Washing By Hand- Using a Three Compartment Sink

- Scrape and/or pre-rinse food from the dishes and utensils,
- Wash with detergent and hot water in the first sink,
- Rinse with clean, hot water to remove any soap in the second sink,
- Submerge in sanitizer for 10 seconds in third sink,
- Allow dishes to air dry before putting them away.



Glossary

Bacteria- Bacteria is a germ with only one cell that can rapidly and progressively multiply when food is in the danger zone for more than 4 hours.

Calibrate- To calibrate a thermometer is to test it for accuracy and adjust it if it isn't giving the correct temperature.

Chemicals- Components in cleaning, sanitizing, or pesticide products.

Cold holding- Cold holding is when you keep food cold by using refrigeration or ice.

Cooling- The process of taking a hot food and making it a cold food.

Cross Contamination- When bacteria from a food item that requires cooking are transferred to a food item that is ready to eat, usually through direct contact, dripping, or by way of contaminated hands, utensils, or equipment.

Date Marking- Prepared potentially hazardous foods that are to be refrigerated for more than 24 hours must be marked with the date of preparation or the date to discard unused food, or seven day storage.

Danger Zone- The danger zone refers to the temperature range between 41° F and 135° F for potentially hazardous foods.

Food Borne Illness- Sickness caused from germs or toxins in food, also called food poisoning.

Food Grade Containers- Containers that are approved for food storage, often indicated by stamp on the bottom, usually NSF or pictures of food.

Food Thermometer- A probe or metal-stem thermometer used to take food temperatures.

Hot holding- Holding food hot at a minimum of 135 ° F after it has been properly cooked or reheated.

Metal-Stem Probe Thermometer- A thermometer used to take temperatures of food.

Refrigerator Thermometer- A thermometer placed in a refrigerator or cooler used to monitor the inside ambient temperature. It should be placed in the warmest section.

Reheating- The process of making a cold food hot. Food must be heated from 41° F to 165° F within two hours.

Potentially Hazardous Foods- A food that is natural or synthetic and that requires temperature control because it is in a form capable of supporting the rapid and progressive growth of infectious or toxigenic microorganisms.

“Potentially Hazardous Food” does not include:

- An air-cooled hard-boiled egg with shell intact;
- A food with an A_w value of 0.85 or less;
- A food with a pH level of 4.6 or below when measured at 75 ° F;
- A food in an unopened hermetically sealed container that is commercially processed to achieve and maintain commercial sterility under conditions of non-refrigerated storage.

Sanitize- The final step to removing bacteria from food contact surfaces that have just been cleaned. Many establishments commonly use one teaspoon of bleach to one gallon of water for a 50-100 ppm mix.

Temperature Control- Keeping foods hot or cold enough to prevent the growth of microorganisms.

Virus- Viruses are germs that can only reproduce inside of a living cell. Many viruses are passed from the lack of hand washing, especially after using the toilet and then preparing food.

Notes

