



TCS Foods and Food Safety Review

What is a TCS Food?

Is food that requires Time and Temperature for Control. It was formally known as Potentially Hazardous Food. It is food that is susceptible to bacteria growth if left in the 'Danger Zone'. The temperature danger zone is between 41° and 135°—a temperature range in which pathogens grow well. Harmful microorganisms can grow to levels high enough to cause illness within four hours.

Poultry

- Chicken (ground, roasted, barbequed, fried)
- Chicken (nuggets, patties, strips)
- Casseroles with chicken/turkey
- Dressing
- Gravy
- Precooked, processed products
- Turkey (ground, roast)
- Soups
- Stews

Meats

- Bacon (in raw form)
- Beef (ground, roasts, steak)
- Gravy
- Ground meats (all)
- Hot Dogs
- Lunch meat
- Meat casseroles
- Pork (ground, ham, roasts)
- Processed meats (all)
- Sausage
- Soups
- Stews

Seafood

- Fish, Salmon, Tuna

Dairy Foods

- Whipped butter/whipped margarine
- Cheese (mozzarella, cottage, cream cheese, Ricotta)
- Cream (real)
- Cream sauce, white sauce
- Dairy whipped topping
- Ice cream
- Milk

Eggs

- Egg casseroles, Egg dishes
- Deviled eggs
- Fried eggs
- Hard (cooked eggs)
- Omelets
- Scrambled eggs

Bakery Foods

- Cream pastries
- Cream/custard pies and tarts
- Pudding prepared from a mix or from scratch

Pasta

- Noodles (all kinds when cooked)
- Rice cooked

Fruits and Vegetables

- Dry beans cooked (e.g. navy, refried, baked beans, etc.)
- Potatoes (baked, boiled, mashed-fresh & instant, scalloped/augratin-fresh & dehydrated)
- Cut/prepared fresh fruits and vegetables (including melons, tomatoes, and salad greens)
- Garlic in oil
- Seed sprouts

Other

- Salad dressings prepared from a mix




Temperature Danger Zone

What Is the Temperature Danger Zone?

The temperature danger zone is food temperatures between 41 and 135 degrees Fahrenheit, and the most rapid bacteria growth occurs between 70 and 125 degrees Fahrenheit. The longer food sits in this temperature range, the greater the risk that bacteria will begin to grow on your food.

As these bacteria reach unsafe levels, this can cause food to spoil and become dangerous for consumption. As a food service professional, it's your responsibility to avoid these issues by ensuring food is quickly chilled or heated to food safe temperatures.



Time/Temperature Control for Safety (TCS) Foods

Also known as Potentially Hazardous Foods, or PHFs



Garlic in oil

Potato
dishes

Cooked
vegetables

Raw sprouts

Cream
or
custard

Sliced melons
& tomatoes

Plants
with protein
(or protein-rich
plants)

Meat
products



Eggs

Dairy

Cut leafy
greens

Fish
&
shellfish

TO GROW, BACTERIA NEED:



FOOD



WARMTH



MOISTURE

TO STOP BACTERIA FROM GROWING:




- Control food temperature
- Control the amount of time food spends in the Temperature Danger Zone (41°F-135°F)



Safe Temperatures for Cooking Meat

To prevent the spread of salmonella, staphylococcus aureus, listeria, and other dangerous bacteria, it's important to closely monitor the internal temperature of the meat you serve.

The U.S. Department of Health & Human Services (HHS) recommends the following meat and poultry temperatures to ensure food safety:



CATEGORY	FOOD	TEMPERATURE	REST TIME
Ground Meat and Meat Mixtures	Beef, Pork, Veal, Lamb	160°	None
	Turkey, Chicken	165°	None
Fresh Beef, Veal, Lamb	Steak Roasts, Chops	145°	3 minutes
Poultry	Chicken & Turkey, Whole	165°	None
	Poultry Breasts, Roasts	165°	None
	Poultry Thighs, Legs, Wings	165°	None
	Duck & Goose	165°	None
	Stuffing (Cooked Alone or In Bird)	165°	None

CATEGORY	FOOD	TEMPERATURE	REST TIME
Pork and Ham	Fresh Pork	145°	3 minutes
	Fresh Ham (Raw)	145°	3 minutes
	Precooked Ham (To Reheat)	140°	None
Eggs and Egg Dishes	Eggs	Cook until yolk and white are firm	None
	Egg Dishes	160°	None

CATEGORY	FOOD	TEMPERATURE	REST TIME
Leftovers and Casseroles	Leftovers	165°	None
	Casseroles	165°	None
Seafood	Fin Fish	145°, or cook until flesh is opaque (no longer transparent) and easily separates with a fork	None
	Shrimp, Lobster, and Crabs	Cook until flesh is pearly and opaque	None
	Clams, Oysters, and Mussels	Cook until shells open during cooking.	None
	Scallops	Cook until flesh is milky white or opaque and firm	None

Why TCS foods can be dangerous

Bacteria need just three things to grow: food, moisture, and warmth. Small amounts of bacteria growth in TCS food are not a problem, but too much can cause foodborne illness. TCS foods have the nutrients and moisture bacteria need to grow. Add time and warmth to the mix, and these foods can become bacteria breeding grounds.

Cool from 135 to 70 degrees in 2 hours or less from cooking time.

Cooling foods

When cooling foods, the FDA Food Code recommends a two-stage cooling process. First, the food should be cooled from 135° to 70° degrees Fahrenheit in two hours or less. Second, the food should be cooled from 70° to 40° Fahrenheit in four hours or less. Total cooling should not exceed six hours.

Large batches of food, such as a large pot of stew, should not be cooled in one large container in a refrigerator. Doing so does not allow the food to cool fast enough and keeps the food in the temperature danger zone for too long and allows pathogens to grow to an unsafe level.

An inexpensive way to properly cool large batches of food is to divide it into smaller containers. Keep the containers uncovered while cooling to prevent extra moisture, but be sure to cover it when it has finished cooling.

How to Keep Food Out of the Temperature Danger Zone

The easiest way to keep food out of the temperature danger zone is to take and monitor temperatures regularly. This is imperative not only while cooking your temperature control for safety (TCS) food, but it is also imperative when holding food on your buffet line or salad bar.

Follow these important tips to ensure you're making the **best use of your thermometer to keep food safe for consumption**.

- ✓ Consistently monitor your refrigerator or freezer temperatures. You may want to **use a secondary refrigerator or freezer thermometer**, as the thermometer built into your appliance may not be accurate.
- ✓ Keep a written record including the temperature measured and the time it was taken.
- ✓ Clean and calibrate thermometers often.
- ✓ Regularly test employee's knowledge of proper thermometer handling and use.

Tips for Cooling Hot Foods to Food Safe Temperatures

Placing hot food directly into your refrigerator or freezer is never recommended because it endangers the food around it by raising the ambient temperature in your fridge or freezer. This creates the possibility of other foods in your refrigerator or freezer entering the temperature danger zone and developing bacteria without you even knowing. Instead, follow these tips for quickly cooling your hot foods.

- ✓ **Use a commercial blast chiller to quickly cool foods** while minimizing time food spends in the danger zone.
- ✓ Store foods in shallow containers to allow the temperature to distribute more evenly.
- ✓ Consider **using a cooling paddle to reduce the temperature of hot liquids** including soups, stews, and sauces, or lay it on top of warm casseroles to quickly bring foods below the danger zone.
- ✓ Create an ice bath by filling a pot, container, or sink basin with ice. Containers of hot foods can be placed in the ice bath to quickly cool food to 40 degrees Fahrenheit or below.



Cold Food Storage

In addition to holding and serving cold foods, it's important to know how long you can store cold foods before they become unsafe for consumption. Always date label your refrigerated foods and use a **first-in, first-out (FIFO) system**. Use this chart as a reminder of how long items can be safely kept before they must be discarded.

FOOD ITEM	REFRIGERATOR (40°F)	FREEZER (0°F)
Bacon	1 week	1 month
Beverages	3 weeks unopened, 7-10 days opened	8-12 months
Cheese - hard (Swiss)	3-4 weeks	6 months
Cheese - soft (brie)	1 week	6 months
Chicken, egg, macaroni, and tuna salad	3-4 days	Do not freeze
Cottage cheese	1 week	Do not freeze
Dough - cookie	Use by date	2 months
Dough - tube cans of rolls, biscuits, pizza dough	Use by date	Do not freeze

FOOD ITEM	REFRIGERATOR (40°F)	FREEZER (0°F)
Egg substitutes - opened	3 days	Do not freeze
Egg substitutes - unopened	3 days	1 year
Eggs - fresh in shell	3-5 weeks	Do not freeze
Eggs - hard cooked	1 week	Do not freeze
Fish - fatty (salmon)	1-2 days	2-3 months
Fish - lean (cod)	1-2 days	6 months

FOOD ITEM	REFRIGERATOR (40°F)	FREEZER (0°F)
Ground meats - raw	1-2 days	3-4 months
Ham - fully cooked, slices	3-4 days	1-2 months
Ham - fully cooked, whole	1 week	1-2 months
Hot dogs - opened	1 week	1-2 months

FOOD ITEM	REFRIGERATOR (40°F)	FREEZER (0°F)
Hot dogs - unopened	2 weeks	1-2 months
Luncheon meats - opened	3-5 days	1-2 months
Luncheon meats - unopened	2 weeks	1-2 months
Margarine	4-5 months	12 months
Mayonnalse - opened	2 months	Do not freeze
Milk	1 week	3 months
Poultry - cooked	3-4 days	2-6 months
Poultry - fresh, chicken or turkey	1-2 days	6 months

FOOD ITEM	REFRIGERATOR (40°F)	FREEZER (0°F)
Prepared leftovers	3-4 days	2-3 months
Sausage - raw	1-2 days	1-2 months
Sausage - cooked	1 week	1-2 months
Steaks, chops, and roasts - raw	3-5 days	4-6 months