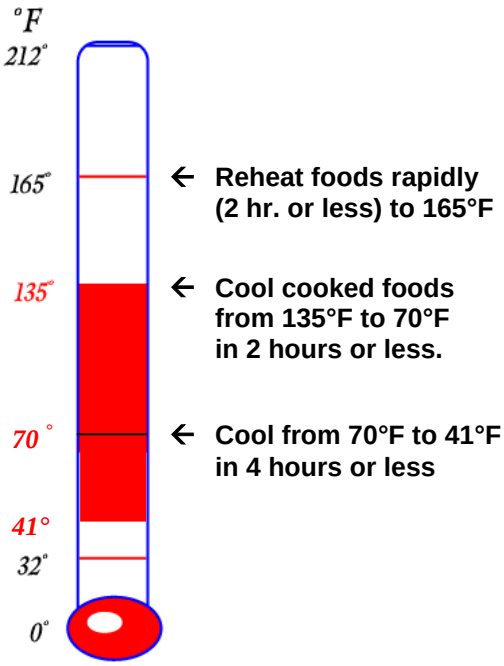
Cooling Time-Temperature Control for Safety (TCS) Foods



Cool TCS Foods Quickly

Cooling TCS food helps keep it safe. Bacteria grow more rapidly at 41°F to 135°F, the **Temperature Danger Zone** (TDZ). Bacteria can increase in numbers to dangerous levels if foods are not cooled properly. Some bacteria produce toxins in the TDZ. Many toxins resist destruction at normal cooking temperatures.

Requirements

Chill TCS foods prepared at ambient (room) temperature from 41°F or cooler in 4 hours or less. These foods include items such as tuna, chicken, and pasta salads; meat, poultry and seafood while being cut or processed; cut tomatoes and melons; creams and meringues; and other foods. Pre-chill the ingredients.

Chill cooked TCS foods from 135°F to 70°F in 2 hours or less, and from 70°F to 41°F or less within another 4 hours.

Methods

Use a variety of methods for cooling foods, especially for larger portions.

Ice paddle

- **Reduce thickness of foods** by placing in shallow pans or cutting into pieces.
- **Stir the food frequently** for even cooling and to allow hot air to escape.
- **Transfer the food to pre-cooled containers** from the refrigerator or freezer.
- **Use an ice water bath** to cool containers of heated food.
- **Add ice as an ingredient.** For example, make chili or soup extra thick, then add ice.
- **Use an *ice paddle*** or other immersible cooling equipment.
- **Place the food in a cooler or freezer** which is capable of cooling the hot food *and* which can continue to cold hold food properly. Do not place large amounts of hot food in a refrigerator if it cannot maintain other TCS foods at or below 41°F.
- **Leave containers vented or uncovered during cooling** to allow warm air to escape. Condensed moisture in a container may suggest that food was covered too soon.
- **Use containers which facilitate quick cooling.**
- **Portion food** in small containers or bags. Portions may be immersed in an ice water bath.
- Other methods of cooling may be appropriate. For example, some facilities use **blast chillers**.

Monitor the Cooling Process

Check times and temperatures during cooling using calibrated thermometers. Recording times and temperatures to determine which methods work best with different foods.

Reheating Leftovers

Heat all leftovers to 165°F in 2 hours or less. Stir while reheating to achieve consistent heating throughout. Check **internal** temperature of the food. When reheating in a microwave: heat, stop, stir, and heat again, then check the temperature. Hot hold all TCS foods at or above 135°F at all times unless using **Time as a Public Health Control** (TPHC). TPHC requires record keeping and a written policy. Contact CUPHD/CCPHD if you are considering using this method.