

Microwave Food Safety

There are traits unique to microwave cooking that affect how evenly and safely food is cooked. “Cold spots” can occur because of the irregular way the microwaves enter the oven and are absorbed by the food. If food does not cook evenly, bacteria may survive and cause foodborne illness. Simple techniques ensure that meat and poultry microwave safely.

DEFROSTING FOOD

- Remove food from store wrap prior to microwave defrosting. Foam trays and plastic wraps are not heat stable at high temperatures. Melting or warping from hot food may cause chemicals to leach into food.
- Cook meat and poultry immediately after microwave thawing. Some areas of frozen food may begin to cook during the defrosting time. Holding partially cooked food is not recommended because any bacteria present would not have been destroyed.
- Remember to take food out of the microwave. Do not forget about a food item that has been thawing in the microwave. Food should not be left out of refrigeration more than two hours.

UTENSILS SAFE TO USE

If you are not sure if pottery or dinnerware is microwave safe, place the empty utensil in the microwave alongside a cup of water in a glass measure. Microwave on high 1 minute. If the dish remains cool, it is safe to microwave. If the dish gets warm or hot to the touch, do not use.

Safe Utensils for Microwave Cooking: These include glass and glass ceramic cookware and those labeled for microwave use. Do not use metal or

aluminum foil containers in the microwave. They can get too hot and burn.

Wraps and Bags: Wax paper, oven cooking bags, parchment paper and white microwave paper towels should be safe to use. Microwave-safe plastic wrap should be placed loosely over food so that steam can escape, and should not directly touch your food. The moist heat will help destroy harmful bacteria. Never use brown grocery bags or newspaper in the microwave.

Containers Not Intended for the Microwave Oven: Margarine tubs, whipped topping bowls, cheese containers and others can warp or melt from hot food, possibly causing harmful chemicals to get in the food. Do not use carry-out containers from restaurants or Styrofoam for the same reason. Foam insulated trays and plastic wraps on fresh meats in grocery stores are not intended for the microwave oven. Discard containers that hold prepared microwavable meals after you use them because they are meant for one-time use.

REHEATING FOODS

- Heat leftovers and precooked food to at least 165 °F. Food should be steaming and hot to the touch.
- Cover foods to hold in moisture and provide safe, even heating. Covering food helps protect against contamination, keeps moisture in, and allows food to cook evenly.
- Microwaving baby food and formula is not recommended because uneven heating can result in scalding a baby’s mouth. If microwaved, stir food, shake bottles and test for lukewarm temperature.

MICROWAVE SAFE COOKING BASICS

- Arrange food items uniformly in a covered dish and add a little liquid. Under a cover, such as a lid or vented plastic wrap, steam helps destroy bacteria and ensures uniform heating. Oven cooking bags also promote safe, even cooking.
- Foods and liquids are heated unevenly in the microwave, so stir or rotate food midway through cooking, and turn large food items upside down. This prevents cold spots where harmful bacteria can survive.
- Pierce hot dogs and baking potatoes with a fork before putting them into the microwave oven to keep them from exploding. Reheat hot dogs until they are hot and steaming.
- To prevent burns, carefully remove food from the microwave oven. Use potholders and uncover foods away from your face so steam can escape.

MICROWAVING MEAT AND POULTRY

- De-bone large pieces of meat. Bone can shield the meat around it from thorough cooking.
- Cook large pieces of meat on medium power (50 percent) for longer times. This allows heat to conduct deeper into meat without overcooking outer areas. Turn large food items upside down so foods cook more evenly and safely.

- Do not microwave whole, stuffed poultry. Cooking of meat is so rapid, the stuffing inside might not reach a sufficient temperature to be safe.
- Never partially cook food. When microwaving food partly done to finish cooking on the grill or conventional oven, transfer the microwaved food to another heat source immediately.
- Use a meat thermometer or the oven's temperature probe. This is important to verify the food has reached a safe temperature after cooking.
- Check in several places to be sure red meat is 160 °F and poultry, 180 °F. Ovens vary in power and efficiency. Observe standing times given so cooking is completed.

Source:

1. USDA Food Safety and Inspection Service (1997, June). *Microwave Food Safety*.
2. USDA/FSIS (2004, Sep). *Home Alone? After School Snacks and Food Safety USDA Quiz for Parents and Kids*. [WWW document]. URL http://www.fsis.usda.gov/News_&_Events/NR_090704_01/index.asp

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