RECOMMENDED GUIDELINES FOR THE LABELING OF MICROWAVE COOKING INSTRUCTIONS

Unlike ready-to-eat (RTE) food products, which are safe to consume in the form purchased by consumers, not-ready-to-eat (NRTE) products often require further cooking by consumers to ensure safety. Many frozen or refrigerated foods sold at retail today are labeled with cooking instructions for both conventional appliances (ovens, stoves, toaster ovens) and microwave ovens. It is important that these instructions are accurate and effective, and that consumers understand the instructions and are able to follow them.

Most conventional cooking methods ensure constant application of heat to foods and are relatively reliable, predictable and easily performed. Microwave cooking, where microwave oven performance can differ within and between brands, can be more variable. It is important for consumers to understand some of the factors that affect the cooking performance of their microwave oven. Factors such as (1) presence/absence of turntable; (2) size of oven cavity; and (3) shape, size and consistency of food being cooked, as well as the container holding the food, can all affect microwave oven cooking performance.

In an effort to assist the food industry in developing cooking instructions that can be more easily understood and followed by consumers and that are generally consistent in language among the many microwaveable products on the market, several examples of messages that should be considered for use, where appropriate, on labels—*singly or in combination*—are provided below. These messages, divided into two categories—Cooking Statements, which relate directly to cooking instructions, and Supportive Statements, which provide additional information or advice to consumers—are not applicable to all products; therefore, manufacturers should determine which are suitable for their specific products and make any changes to the wording, as necessary. Some of these messages might require USDA approval for use on meat or poultry product labels. In summary, the goal is to help food manufacturers provide clear, concise information to consumers to help them understand that a particular food item needs to be thoroughly cooked and/or to be able to identify if a product is not thoroughly cooked.

Examples of Cooking Statements

- “*For food safety, cook thoroughly to X °F* (internal temperature).”
- “*Follow these COOKING instructions carefully.*” OR, if “food safety” is not mentioned prior to this—“*For food safety, follow these COOKING instructions carefully.*”
• “After the standing time, use a food thermometer to check temperature.”

• Recommended cook times (the number of minutes can be a range):
  
  o **600 – 800 Watts** – **cook for X minutes** (Lowest wattage times should be bolded and/or enlarged for emphasis, as suggested informally by USDA/FSIS)
  
  o > 800 – 1100 Watts – cook for Y minutes
  
  o > 1100 Watts – cook for Z minutes
  
  o **OR** in place of the two lower wattage ranges, add: “For lower wattage or compact microwaves cook for Y minutes or until product reaches x°F.”

• In addition to cooking statements for time/temperature, provide visual cues, if possible, to help consumers identify when a product is adequately cooked.

• Include stir steps, when appropriate, such as: “*Cook X minutes; stir contents thoroughly; cook X additional minutes.*”

• For small, individually packaged products, when labeling space is limited, at a minimum a statement such as “For food safety, do not eat without cooking thoroughly” should be included OR visual cues should be clearly pointed out that will help ensure adequate cooking, such as “*Cook one at a time until the crust is brown.*”

• Provide graphics, whenever possible.

**Examples of Supportive Statements**

• “*Do not eat product without cooking.*”

• “*Do not allow product to thaw.*”

• “*When using a turntable, place [food name] to one side to help it heat more evenly.*”

• “*Standing time is important for safety and quality.*” (Can be used as a footnote to a standing time in the instructions.)

• “*Check for cold spots and continue cooking, if needed.*”

• Principal display panel call-outs to be used singly or in combination, as appropriate:
  
  o “*Cook thoroughly*”
  
  o “*Contains raw/uncooked ingredients*”
  
  o “*Not ready to eat. Cook thoroughly*”

• Label raw ingredients, in the ingredient statement, that may pose a risk as “raw” or “uncooked,” i.e. “raw chicken” instead of “chicken.”

• Specify the number of units that can be cooked using instructions provided or advise against cooking multiple units simultaneously.

• Provide graphics, whenever possible.
Visual Cues or Indicators of Cooked Product

Since the power range of home microwaves (< 600 watts to > 1100 watts) varies and many consumers may not know the stated wattage of their microwaves—much less the actual wattage being delivered—the inclusion of visual cues to cooking adequacy can be helpful in minimizing the likelihood that undercooked NRTE food products will be consumed. Inclusion of visual cues on NRTE labels is encouraged.

To the extent that the labeled cooking instructions include key descriptors or visual cues about the characteristics of fully cooked products, as determined during validation testing, consumers can be alerted that products not conforming to these characteristics may not be adequately cooked and should be returned to the microwave for additional time. Alternatively, visual cues to undercooking could be provided.

Illustrative Visual Cues for Microwaving

(Specific statements will necessarily be product specific and can be customized by individual manufacturers to meet their needs.)

Cues for fully cooked product

- Entrée should be steaming hot when removed from microwave
- Caution: Adequately cooked entrees will be steaming
- Caution: The top crust of adequately cooked entrees will be brown
- Cook until crust is brown
- Cook until bubbling
- Cheese will be melted on adequately cooked pizzas

Cues for undercooked product

- Caution: If bottom of dish is cold after cooking, additional heating is required.
- Caution: If cheese on top is not melted, additional time in the microwave is required
- Caution: Stir the meat and sauce before serving; if clumps remain, additional cooking is required

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