Cooling Time/Temperature Control for Safety Food (TCS)
PREVENTING BACTERIA FROM MULTIPLYING OR FORMING TOXINS

Safe cooling times and temperatures
▪ TCS food must be cooled from 135°F to 70°F within 2 hours and completely cooled to 41°F or below within 6 hours.
▪ TCS food prepared from ingredients at room temperature must be cooled to 41°F or below within 4 hours.

Examples of safe cooling
Properly cooked chili is cooled from 135°F to 70°F in 1 hour. Five hours remain to completely cool the chili to 41°F.
Tuna salad prepared from room temperature ingredients is cooled from 68°F to 41°F in 4 hours or less.

Examples of unsafe cooling
Properly cooked chili is cooled from 135°F to 41°F in 6 hours, but the initial cooling to 70°F took 3 hours. The chili must be discarded.
Tuna salad prepared from room temperature ingredients is cooled from 68°F to 50°F in 4 hours. The tuna salad must be discarded.

Temperature danger zone
The temperature range in which disease causing bacteria grow best in TCS food is called the temperature danger zone.
▪ The temperature danger zone is between 41°F and 135°F.
▪ TCS food must pass through the temperature danger zone as quickly as possible.
▪ Keep hot food hot and cold food cold. Always use a thermometer to check internal food temperatures.

Cooling methods
Cool food rapidly using one or more of the following cooling methods:
▪ Place food in shallow pans
▪ Separate food into smaller or thinner portions
▪ Place containers in an ice water bath and stir frequently
▪ Use metal containers
▪ Add ice as an ingredient
▪ Use rapid cooling equipment, such as blast chillers
▪ Use cleaned and sanitized ice wands
▪ Use other effective methods

When using cold holding equipment to cool food, provide space for air flow between and around containers. Always protect food from contamination.
Resources

Minnesota Department of Health Food Business Safety (www.health.state.mn.us/foodbizsafety)

Minneapolis Department of Health
Food, Pools, and Lodging Services
PO Box 64975
St. Paul, MN 55164-0975
651-201-4500
health.foodlodging@state.mn.us
www.health.state.mn.us

Minnesota Department of Agriculture
Food and Feed Safety Division
625 Robert Street N
St. Paul, MN 55155-2538
651-201-6027
MDA.FFSD.Info@state.mn.us
www.mda.state.mn.us

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