How to cool hot food safely: HACCP plan for cooling pumpkin soup

This plan explains how to cool hot food safely, using pumpkin soup as the worked example. You cool the food in a wide, shallow container, monitor it with a sterilized probe, and record every check on the Cooling Temperature Monitoring Sheet. The plan follows the 2 Hour / 4 Hour Rule from Food Standards Code 3.2.2.

Process scope

This section defines what the plan covers.

Item	Detail
Product	Hot food that needs cooling. The example is pumpkin soup.
Location	Kitchen, using the stove, a sink, and a refrigerator.
Preparation steps	Check the temperature, transfer the food to a wide, shallow gastronome container, refrigerate it, and monitor the temperature at set intervals.
Equipment	Digital temperature probe, sterilizing wipes, gastronome container, refrigerator, Cooling Temperature Monitoring Sheet.
Service method	Not covered in the source. State here how the cooled food is stored, reheated, or served.
Intended consumers	Not covered in the source. State here the consumer groups the food is made for.

Hazard analysis

The source identifies two hazards linked to the cooling process.

Process step	Hazard type	Hazard	Control
Testing food temperature	Biological	Cross-contamination from an unclean probe	Clean the probe with a sterilizing wipe before every use.
Cooling	Biological	Bacterial growth while the food is in the temperature range between hot and cold	Cool within the 2 Hour / 4 Hour time and temperature limits. Use a wide, shallow container to speed up cooling.
All steps	Chemical	Not covered in the source	List chemical hazards here, such as cleaning or sanitizing agents, and the step where each applies.
All steps	Physical	Not covered in the source	List physical hazards here and the step where each applies.

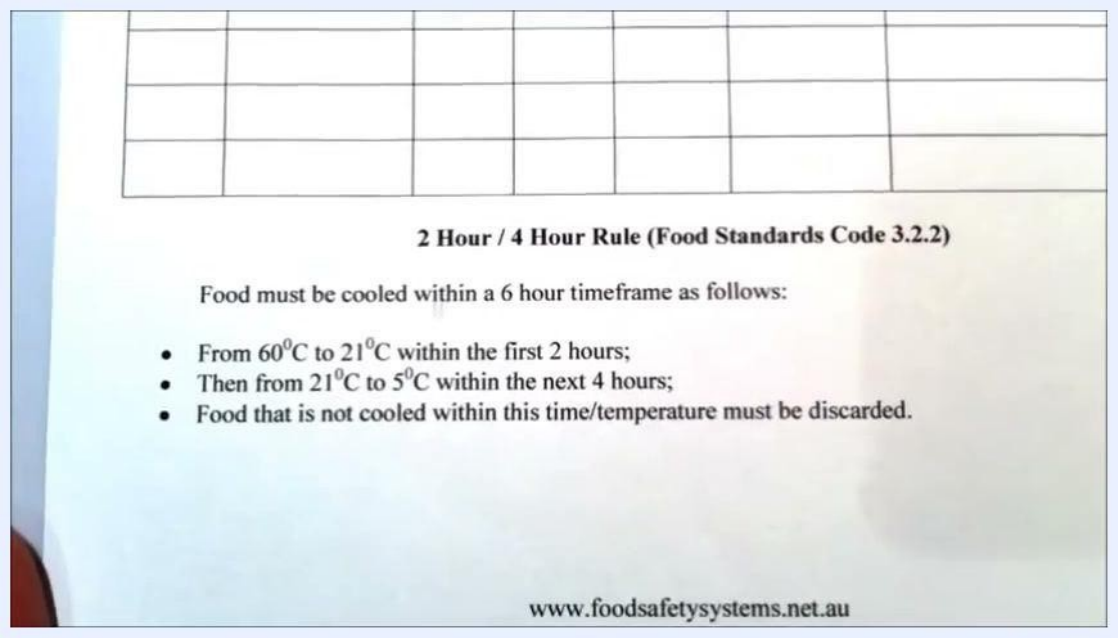
Critical control points

The critical control point is the cooling of hot food. You must complete cooling within the limits below.

Element	Requirement
Starting condition	Food is just above 60°C before cooling begins.
Critical limit 1	Cool from 60°C to 21°C within the first 2 hours.
Critical limit 2	Cool from 21°C to 5°C within the next 4 hours.
Limit missed	Discard any food not cooled within this 6-hour timeframe and temperature range.
Required equipment	Sterilized temperature probe, wide shallow gastronome container, refrigerator.

Responsible role	Not named in the source. Assign the person who takes, records, and signs off the readings.

The printed rule sheet shows these limits and the discard policy.



Printed sheet showing the 2 Hour / 4 Hour Rule (Food Standards Code 3.2.2), with bullet points for the cooling requirements and the discard policy

Monitoring

Follow these steps in order to monitor the cooling process. The first group covers preparing and starting the cooling process, and the second group covers the interval checks.

Check the temperature before you cool hot food safely

1. Confirm that the food is just above 60°C before you start cooling. At this temperature the food is still food safe.

2. Clean the temperature probe thoroughly with a sterilizing wipe. This prevents cross-contamination and supports an accurate reading.



Chef in a kitchen, preparing to demonstrate food safety procedures. He is wearing a white chef's coat and standing in front of wooden cabinets and a tiled backsplash.



Kitchen scene with the stove and a temperature probe ready to be sterilized before testing

3. Insert the sterilized probe into the food and confirm that the temperature is just above 60°C.



Temperature probe held ready to test the soup in a pot on the stove



Digital thermometer inserted into the pumpkin soup in the pot to measure its temperature

Prepare the container and refrigerate

4. Once the correct temperature is confirmed, prepare to transfer the soup. Choose a container with a large surface area, such as a gastronome container, to speed up cooling.



Pot of pumpkin soup on the stove with the digital thermometer showing the temperature reading

5. Pour the hot soup into a wide, shallow gastronome container. The larger surface area lets the food cool more quickly and evenly.



Pumpkin soup poured into a wide, shallow stainless steel gastronome container in a sink



Second view of the soup in the gastronome container, showing the large surface area for cooling

6. Place the filled container in the refrigerator as soon as possible. Containers with a large surface area, or longer gastronome containers, help the food cool down very quickly.



Hands near the soup-filled gastronome container in the sink, ready to be moved to the refrigerator

7. Fill out the cooling record with the temperature and the time the food was placed in the refrigerator. This record supports food safety compliance and traceability.



Temperature probe in hand in the kitchen, ready to complete the cooling record

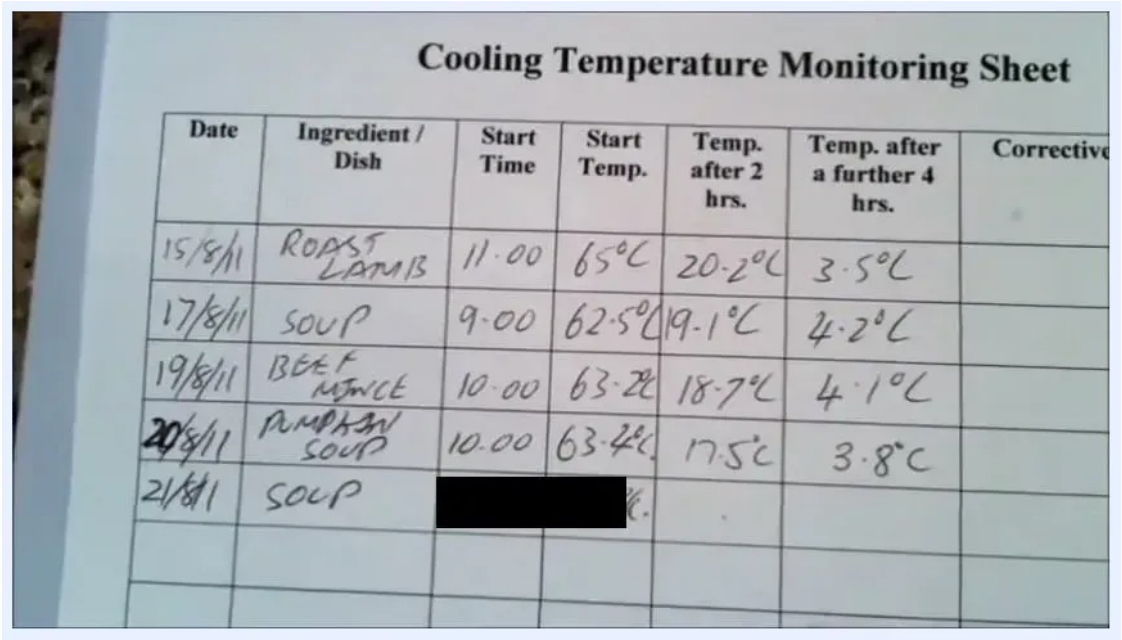
8. Double-check that the food is at the correct temperature before and after cooling, as your food safety protocol requires.



Temperature probe held above the soup-filled gastronome container, ready to verify the temperature

Record the starting temperature

9. Insert the sterilized probe into the soup in the gastronome container. Read the digital thermometer and confirm the starting temperature. In the example it is 65.2°C.



Cooling Temperature Monitoring Sheet

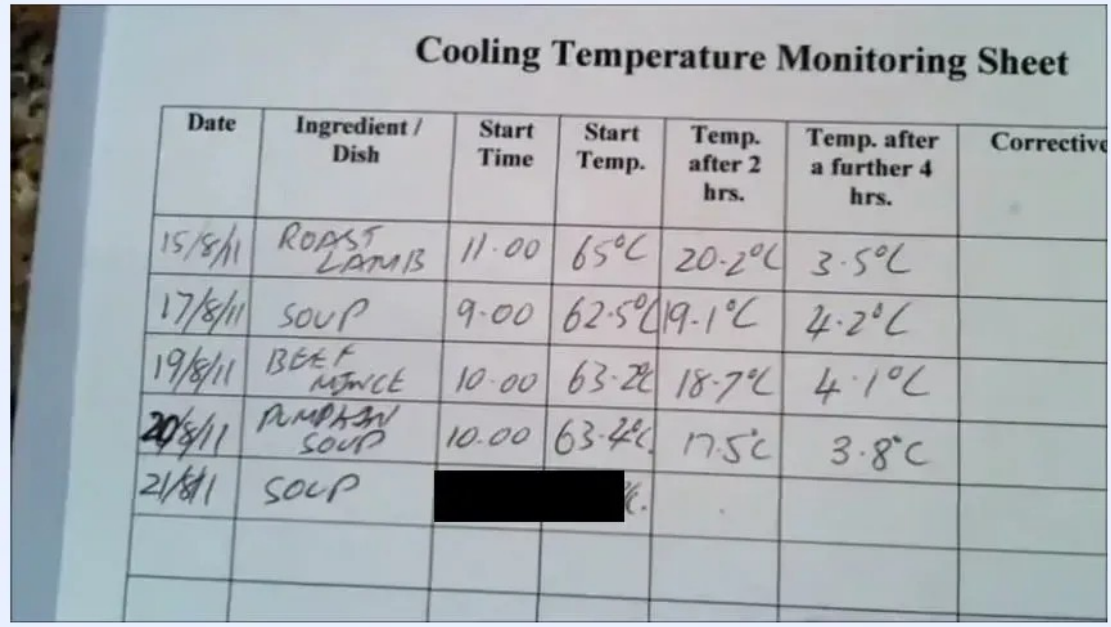
Date	Ingredient / Dish	Start Time	Start Temp.	Temp. after 2 hrs.	Temp. after a further 4 hrs.	Corrective
15/8/11	ROAST LAMB	11.00	65°C	20.2°C	3.5°C	
17/8/11	SOUP	9.00	62.5°C	19.1°C	4.2°C	
19/8/11	BEEF MINCE	10.00	63.2C	18.7°C	4.1°C	
20/8/11	PUMPKIN SOUP	10.00	63.4°C	17.5°C	3.8°C	
21/8/11	SOUP	[redacted]				

Digital thermometer showing 65.2°C inserted into the gastronome container of pumpkin soup in the sink

Record these details on the Cooling Temperature Monitoring Sheet:

- Date: 21/8/11
- Ingredient/Dish: Soup
- Start Time: 10:00

- Start Temp.: 65.2°C



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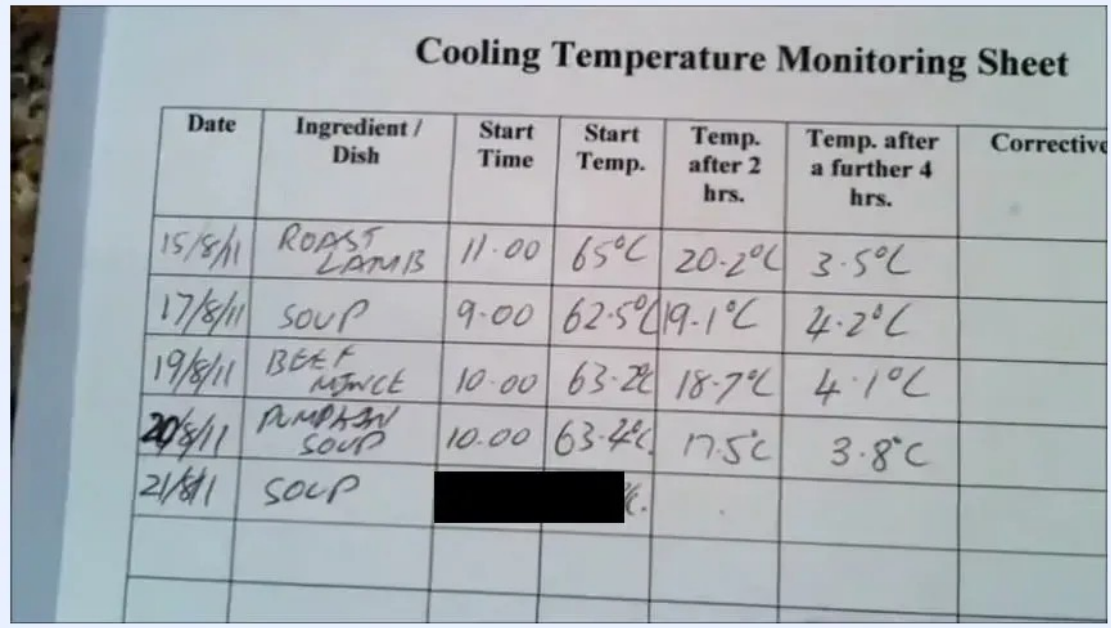
20/8/11	PUMPKIN SOUP	10.00	63·4°C	17·5°C	3·8°C	
21/8/11	SOUP	[redacted]				

Hand entering 21/8/11, Soup, 10:00, and 65.2°C in the columns of the Cooling Temperature Monitoring Sheet, with earlier entries for other dishes visible

10. Check that the starting temperature and time are entered correctly on the sheet.



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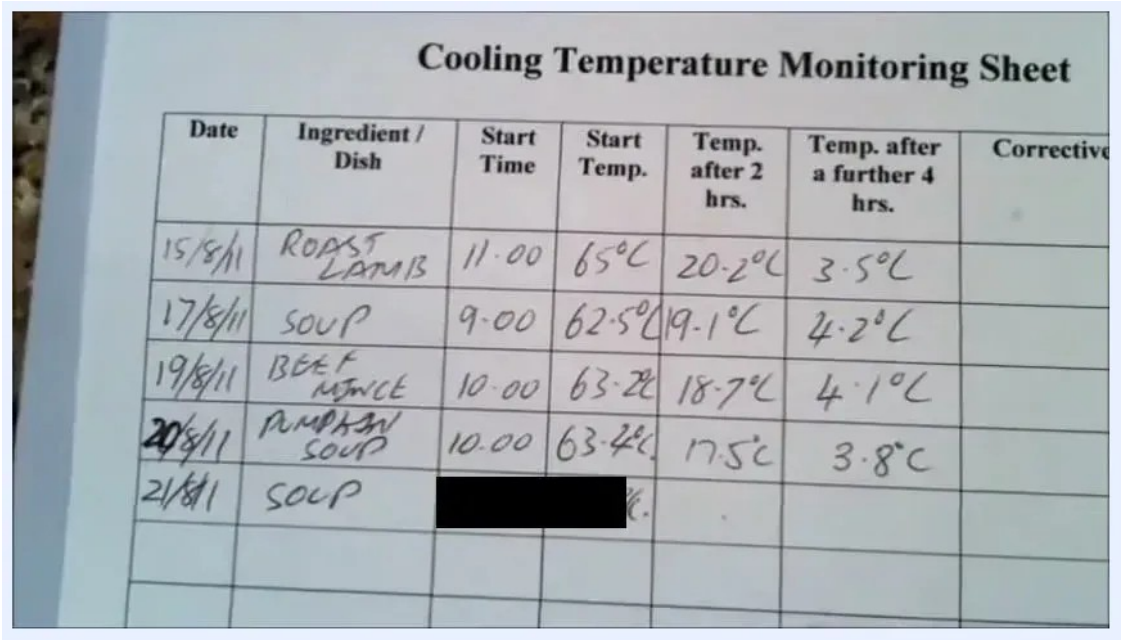
20/8/11	PUMPKIN SOUP	10.00	63·4°C	17·5°C	3·8°C	
21/8/11	SOUP	[redacted]				

Cooling Temperature Monitoring Sheet showing the new entry for 21/8/11: Soup, 10:00, 65.2°C

11. Move the gastronome container into the refrigerator immediately to begin cooling.



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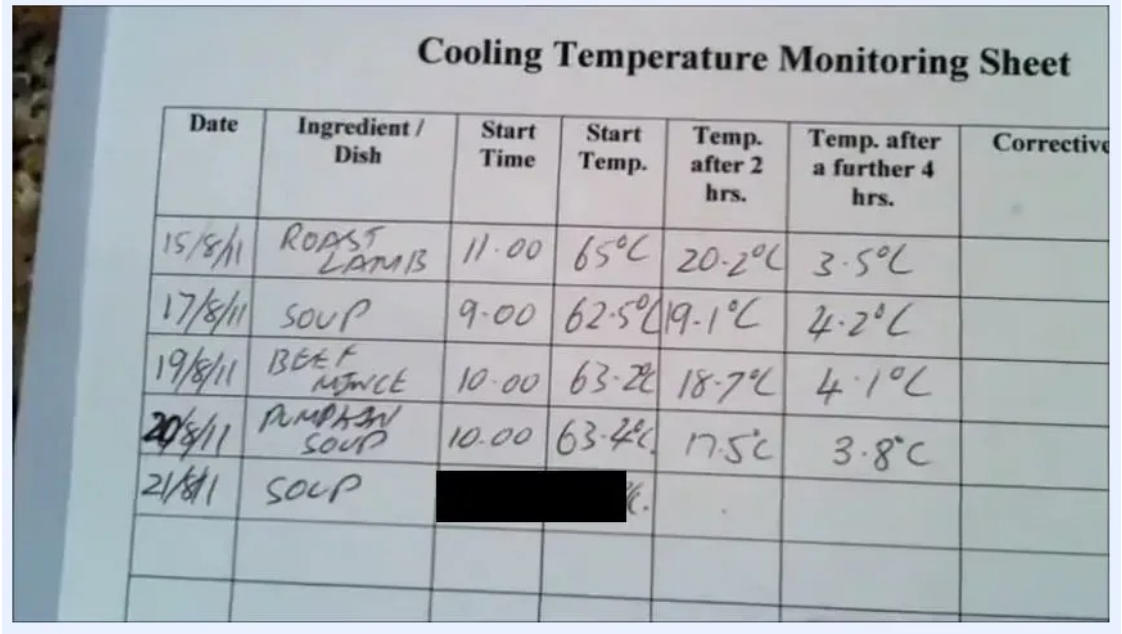
20/8/11	PUMPKIN SOUP	10.00	63·4°C	17·5°C	3·8°C	
21/8/11	SOUP	[redacted]				

Gastronome container of pumpkin soup on a refrigerator shelf, with a hand closing the door

Check the temperature after 2 hours

12. After 2 hours, open the refrigerator and prepare to check the soup. Clean the temperature probe with a sterilizer wipe before use.



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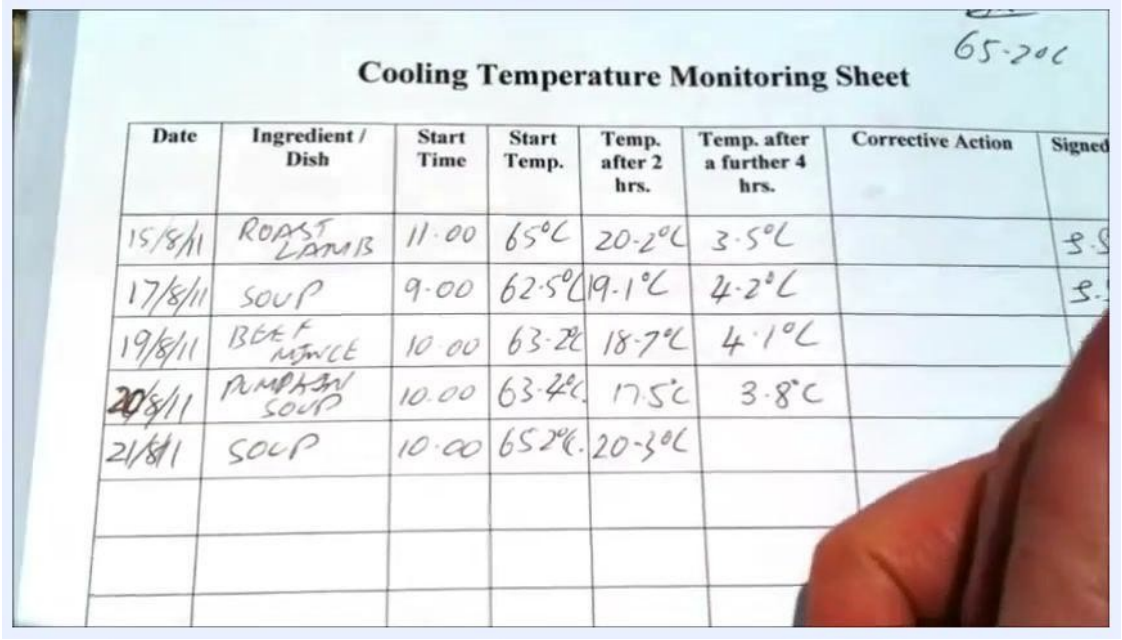
20/8/11	PUMPKIN SOUP	10.00	63.4°C	17.5°C	3.8°C	
21/8/11	SOUP	[redacted]				

Open refrigerator with the gastronome container of soup visible inside, ready for the 2-hour check

Make sure the probe is clean and ready for an accurate measurement.



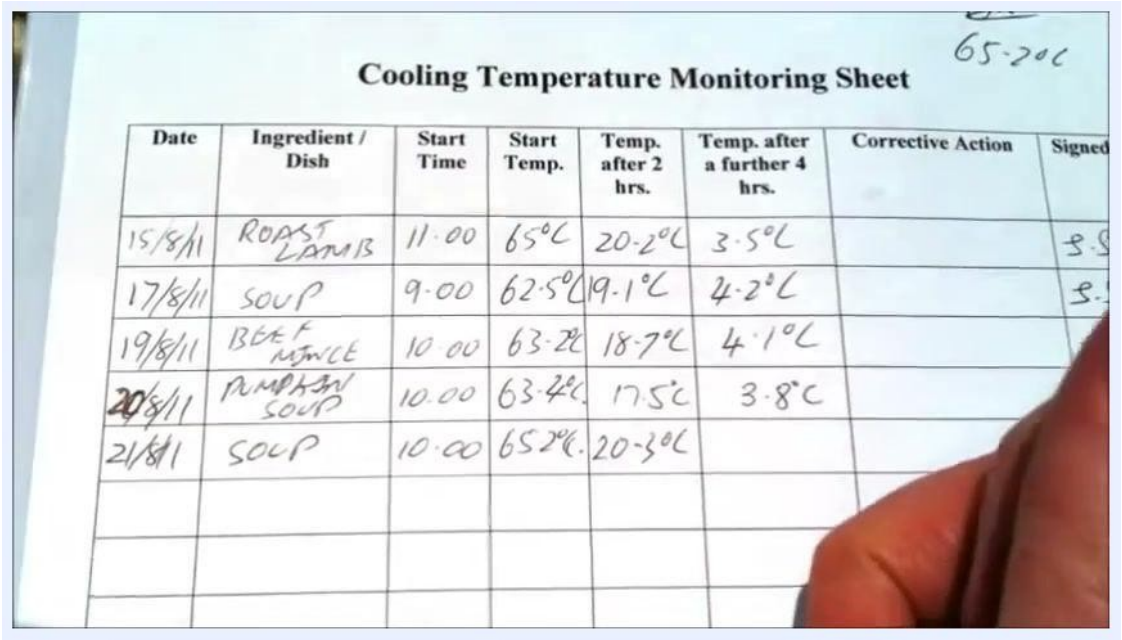
65-20C

Cooling Temperature Monitoring Sheet

Date	Ingredient / Dish	Start Time	Start Temp.	Temp. after 2 hrs.	Temp. after a further 4 hrs.	Corrective Action	Signed
15/8/11	ROAST LAMB	11.00	65°C	20.2°C	3.5°C		S.S
17/8/11	SOUP	9.00	62.5°C	19.1°C	4.2°C		S.
19/8/11	BEEF MINCE	10.00	63.2°C	18.7°C	4.1°C		
20/8/11	PUMPKIN SOUP	10.00	63.4°C	17.5°C	3.8°C		
21/8/11	SOUP	10.00	65.2°C	20.3°C			

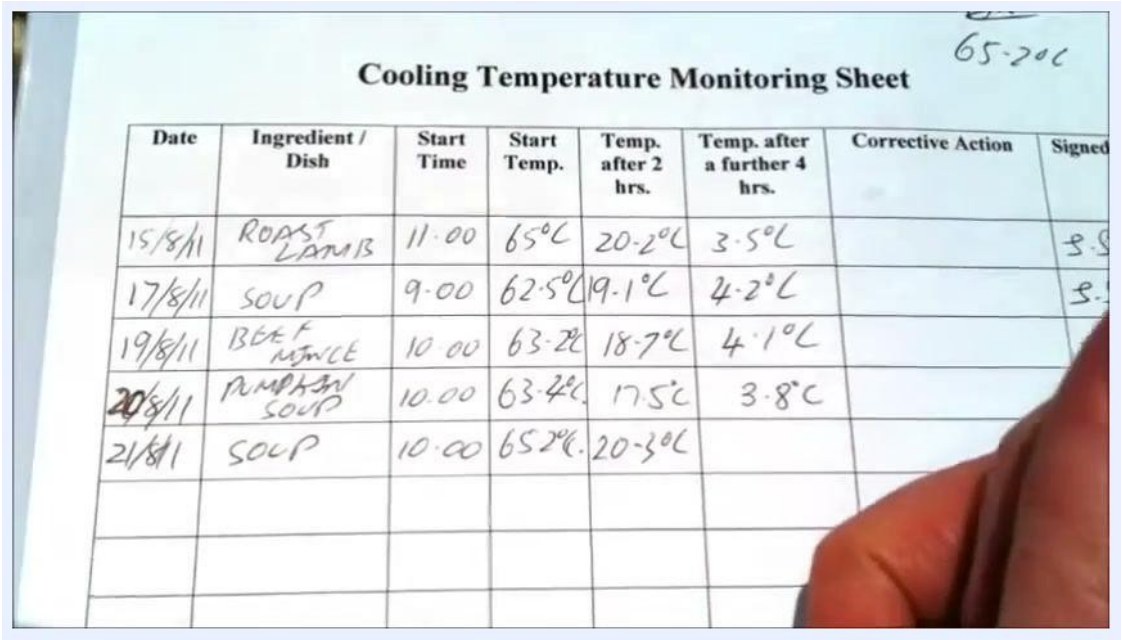
Temperature probe held in front of the open refrigerator with the soup container inside

Insert the probe into the soup and read the temperature. Confirm that it is below 21°C. In the example the reading is 20.3°C.



Digital thermometer inserted into the soup, displaying 20.3°C

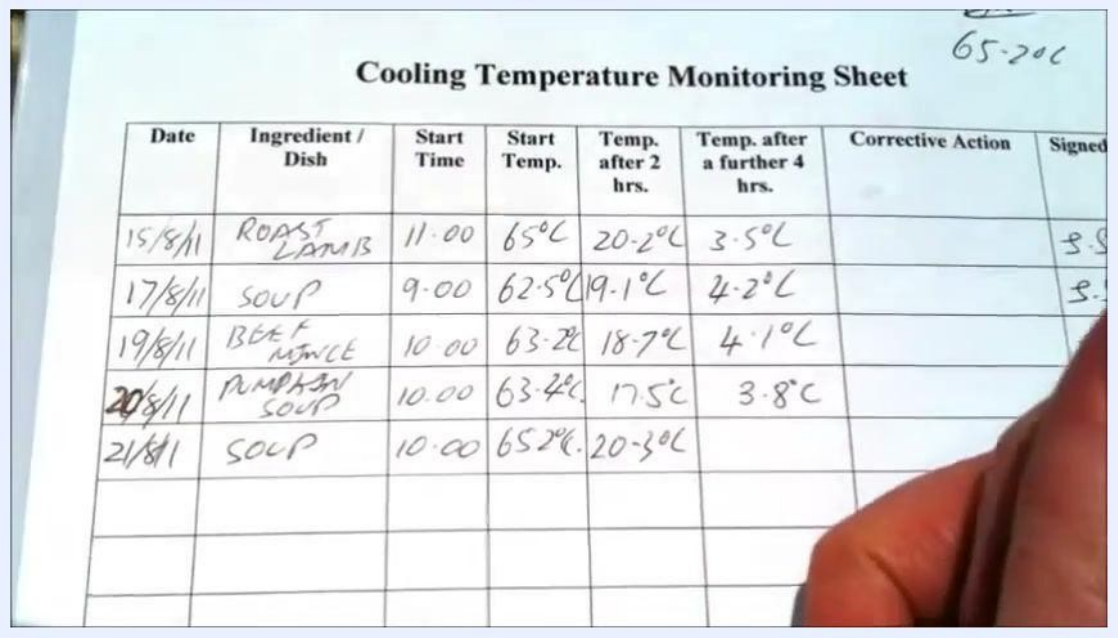
Record the reading on the Cooling Temperature Monitoring Sheet under Temp. after 2 hrs.: 20.3°C.



Cooling Temperature Monitoring Sheet with 20.3°C entered as the 2-hour temperature for the 21/8/11 soup entry

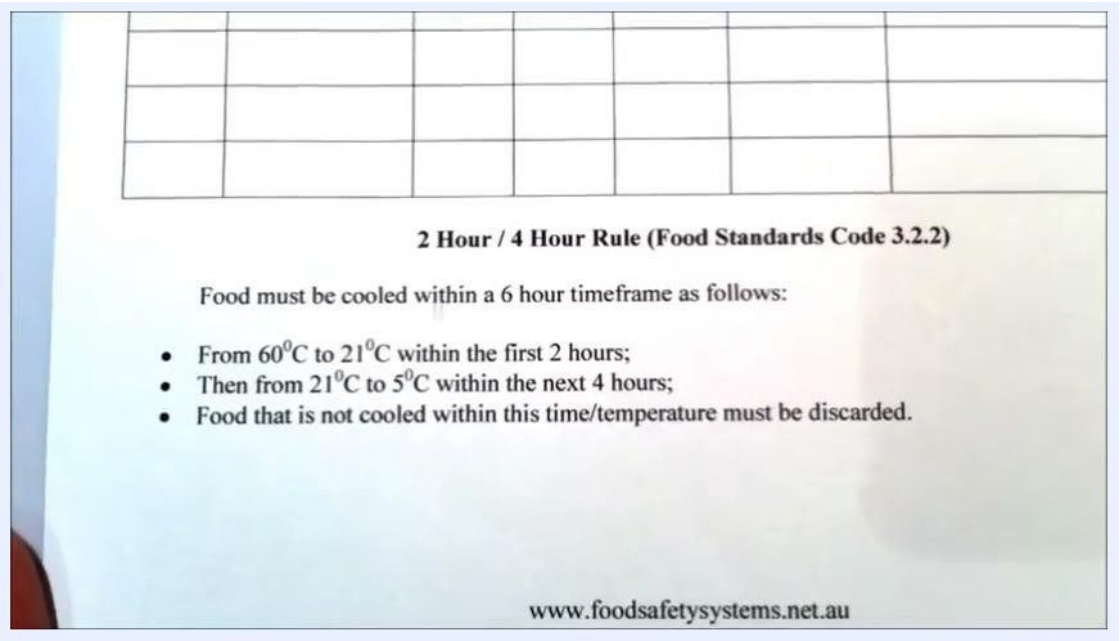
Check the temperature after a total of 6 hours

13. After a further 4 hours (6 hours in total), prepare to check the soup again. Clean the probe with a sterilizer wipe, insert it into the soup, and record the temperature on the Cooling Temperature Monitoring Sheet.



Digital thermometer inserted into the soup in the refrigerator, ready for the final reading after 6 hours

14. Use a sterilized probe to measure the final temperature of the soup in the gastronome container. Confirm the reading. In the example it is 3.6°C.



Digital thermometer showing 3.6°C inserted into the gastronome container of pumpkin soup inside the refrigerator

Enter 3.6°C in the column for the 6-hour check on the Cooling Temperature Monitoring Sheet. Then sign off the sheet to confirm that the process is complete and all required checks were done.

Monitoring summary

What is checked	When	Method	Where it is recorded
Food temperature before cooling (just above 60°C)	Before cooling starts	Sterilized probe	Cooling record
Start temperature and time (example: 65.2°C at 10:00)	When the food goes into the refrigerator	Sterilized probe	Cooling Temperature Monitoring Sheet
Temperature below 21°C (example: 20.3°C)	After 2 hours	Sterilized probe	Cooling Temperature Monitoring Sheet, Temp. after 2 hrs.
Temperature at or below 5°C (example: 3.6°C)	After a total of 6 hours	Sterilized probe	Cooling Temperature Monitoring Sheet, 6-hour column

Corrective actions

Act as follows when a critical limit is missed.

- Discard any food that is not cooled from 60°C to 21°C within 2 hours and from 21°C to 5°C within the next 4 hours.
- If all criteria are met, the food is safe for storage and later use.
- If a temperature check does not meet the requirements, discard the food as the guidelines state.

The source does not give further actions, such as retraining or investigating the cause. Add those here if your site requires them.

Verification

Verify the cooling process as follows.

- Check that every temperature reading and time on the Cooling Temperature Monitoring Sheet meets the 2 Hour / 4 Hour Rule.
- Check that the starting temperature and time are entered correctly.
- Sign off the monitoring sheet to confirm that all required checks were performed.

The source does not cover supervisor review frequency, probe calibration, audits, or validation of the cooling method. Define those activities and their schedule here.

Records

Record	Content	Owner
Cooling record	Temperature and time the food was placed in the refrigerator	The person who performs the cooling check
Cooling Temperature Monitoring Sheet	Date, Ingredient/Dish, Start Time, Start Temp., Temp. after 2 hrs., and the 6-hour temperature, plus sign-off	The person who signs off the sheet

The source does not state a retention period or a named accountable owner. Add both here.

What's next

- Store the food that meets all criteria for later use.
- Discard any food that missed a limit.
- File the signed Cooling Temperature Monitoring Sheet with your other food safety records.