

# Sushi Preparation

Sushi is a general term for food items containing acidified rice combined with various toppings, wrappings, and fillings that sometimes includes raw fish. The health risks associated with sushi can come from the raw seafood and the sushi rice. Raw seafood may contain parasites or other illness-causing organisms. Sushi rice is traditionally held at room temperature, which may support the growth of illness-causing bacteria if not properly acidified. Rice acidified to a pH of less than 4.6 will inhibit the growth of pathogenic bacteria.

## Handling, Preparation, Storage and Sale of Sushi

Preparing sushi involves handling of both raw and cooked foods. Once prepared, sushi is eaten without any further cooking it is important that it is prepared correctly and safely.

As with the preparation of any food, hands should be washed with soap and water prior to preparing sushi, when changing tasks, and at all other appropriate times.

If gloves are used, they should be changed frequently and hands should be washed with soap and water between glove changes.

Avoid cross contamination between raw and cooked ingredients, and where possible between types of fish. Ensure proper surface cleaning and disinfection.

## Temperature

Food operators must ensure that prepared sushi products and all sushi components (except properly acidified rice) are kept at 4°C (40°F) or below during transport, storage, and display.

## Equipment and Surfaces

Bamboo and plastic mats must be cleaned and sanitized daily. If bamboo mats are used then it is recommended that they be covered with clean cling wrap and the cling wrap changed frequently (recommend at least every 2 hours).

The hangiri (bowl), the shamoji (spoon), other utensils used in the preparation of sushi, and sushi

rolling machines will need to be periodically cleaned to remove build-up of rice and other ingredients.

Boards and utensils must be cleaned and sanitized between uses, especially when preparing foods that will not be further cooked (e.g. raw fish and cooked teriyaki chicken).

## Preparation of acidified rice

*Note: If cooked rice is not acidified, it must be stored under refrigeration at or below 4°C (40°F) at all times.*

- Develop and follow a written recipe that includes the amount of rice and water in each batch prior to cooking, and the amount, strength and brand name of the vinegar/acidification agent added.
- Rice must be cooked and kept hot (above 60°C) until vinegar is added.
- Mix vinegar into rice in a shallow pan to rapidly cool rice and ensure even distribution of vinegar.
- The pH of the rice should be checked daily to ensure proper acidification has occurred.
- Acidified rice can be stored up to 8 hours and at the end of the day, any remaining rice must be discarded. Rice should be covered when not in use.

## Measuring pH in Rice

The pH can be measured using:

- a pH meter
- pH strips, or
- pH paper

Conduct the pH test on the acidified rice once the vinegar mixture has been evenly distributed to assure a target pH of 4.6 or lower. If using a probe pH meter, ensure that it is properly calibrated by following manufacturer's instructions.



To attain a pH reading using a meter or general pH strips:

1. Prepare a rice slurry by combining  $\frac{1}{4}$  cup of rice taken from various locations from the batch and adding  $\frac{3}{4}$  cup of distilled water in a clear plastic cup.
2. Ensure uniformity by blending the slurry for approximately 20 seconds.
3. Insert the pH paper, strips, or probe into the liquid portion of the slurry.
4. Record the measurement.
5. In the event the target pH is above 4.6, add more vinegar to the batch and adjust the recipe accordingly.

Specialized pH strips specifically designed to be placed directly on sushi rice are available and acceptable for use.

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## Record Keeping

A standardized recipe that assures the proper pH of all batches. The pH must still be verified at frequent intervals (recommended daily). All formulations, records of pH tests, letters of guarantee from suppliers and temperature checks shall be maintained and made available upon request of a public health inspector (PHI).

## Parasite Destruction for Raw Fish

Seafood products to be served raw must have been frozen at a temperature of  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) for at least 7 days or below  $-35^{\circ}\text{C}$  ( $-31^{\circ}\text{F}$ ) for 15 hours, to destroy parasites that might be present unless:

- the fish was aquaculture-raised and fed formulated feed that contained no live parasites infective to the fish;  
OR
- the product is confirmed as tuna.

The facility operator must be able to provide a label or other indication from the fish supplier that the fish has undergone one of the above approved freezing methods.

If a facility is freezing fish for parasitic destruction within the public eating establishment, the operator must contact their local PHI for guidance on proper procedures and requirements.

## More Information

Contact your local PHI for further information on *The Food Safety Regulations* or the Public Eating Establishment Standards. Contact information for Saskatchewan Health Authority public health inspection offices is available at:

<http://www.saskatchewan.ca/residents/health/public-health/public-health-inspector>

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