

Sushi Food Safety

Sushi and sashimi pose food safety risks due to two main ingredients –raw fish and cooked rice.

Parasites: Raw seafood used in sushi and sashimi may contain the parasite **Anisakis simplex**.

Rice: is cooked, cooled and then used to prepare sushi rolls. The spore-forming *Bacillus cereus* bacteria naturally contaminate raw rice. The rice cooking process kills the vegetative cells of the bacteria but does not kill the spores. Time and temperature abuse of the hot cooked rice in the danger zone and pH of 4.6 to 7.5 results in the germination of *Bacillus cereus* spores and the production of a toxin that causes foodborne illness.

Control:

Anisakis simplex: the parasite can be killed by cooking or freezing. Freezing raw fish at -20°C for 7 days or below -35°C for 15 hours kills any parasites present.

- Purchase seafood confirmed by an approved supplier as “parasite-free” and “sushi-grade” or “adequately frozen”.
- Some seafood products may not need to be frozen before sushi preparation and service, such as aquaculture-raised fish fed on formulated pelletized feed and tuna species such as Albacore, Yellowfin (Ahi), Blackfin, Bluefin and Bigeye.
- Follow food safety best practices:
 - Avoid cross-contamination between raw and cooked ingredients
 - Practice personal hygiene and proper handwashing after handling raw seafood products
 - Wrap sushi-prep bamboo mats in food-grade plastic wrap. Replace plastic wrap every two hours, and each time a different species of raw fish is used.
 - Clean and sanitize all other food contact surfaces after sushi preparation before using those surfaces for different foods.

Rice can be made safe by using the FATTOM principles of acidity, time and temperature control to prevent the germination of spores and the growth of bacteria.

- Acidify rice below pH 4.6 with vinegar as soon as cooking is completed. Mix the rice thoroughly

to ensure even acidification. Measure pH using pH indicator paper or a pH meter to confirm the proper acidification process.

- Cool the acidified rice rapidly using the two-stage cooling process and refrigerate promptly. Use cooled rice within 3-5 days.
- Sushi facilities must have the means to measure pH.
- Maintain the following logs/records: Acidified rice pH, Cooling and Refrigeration temperatures, Purchasing and Receiving.

References:

Alberta Health Services – Guidelines for Preparing Sushi Products

<https://www.albertahealthservices.ca/assets/wf/eph/wf-eh-guidelines-for-sushi-prep.pdf>

British Columbia Center for Disease Control – Sushi Safety

<http://www.bccdc.ca/resource-gallery/Documents/Educational%20Materials/EH/FPS/Fish/SushiSafety.pdf>

Manitoba Food Safety Guidelines for the preparation of Sushi

<https://www.gov.mb.ca/health/publichealth/environmentalhealth/protection/docs/sushi.pdf>

Nova Scotia Sushi/Sashimi Preparation Guidelines

<https://novascotia.ca/nse/food-protection/docs/sushi-guidelines.pdf>