

## Are there rules for radioactivity in foods for international trade?



There are internationally agreed Codex Guideline Levels (GLs) for radionuclide levels in internationally traded food following a nuclear or radiological emergency. These GLs are published by the Joint FAO/WHO Codex Alimentarius Commission.

The GLs state that, "as far as generic radiological protection of food consumers is concerned, when radionuclide levels in food do not exceed the corresponding Guideline Level, the food should be considered as safe for human consumption. When the Guideline Levels are exceeded, national governments shall decide whether and under what circumstances the food should be distributed within their territory or jurisdiction. National governments may wish to adopt different values for internal use within their own territories, where the assumptions concerning food distribution that have been made to derive the Guideline Levels may not apply, e.g., in the case of widespread radioactive contamination. For foods that are consumed in small quantities, such as spices, that represent a small percentage of total diet and hence a small addition to the total dose, the Guideline Levels may be increased by a factor of 10".

GLs for radionuclide levels can be found in the Codex General Standard for Contaminants and Toxins in Food and Feed – (CODEX STAN 193-1995)

- [Codex General Standard for Contaminants and Toxins in Food and Feed \[pdf, 617KB\]](#)  
(CODEX STAN 193-1995)

## What general advice can be given to food consumers and producers in the event of a nuclear emergency?

The response to an emergency involving radioactivity should be the same as the response to any emergency involving any hazardous material contaminating food. In the early stages of an emergency, and if it is safe to do so, it is possible to take immediate actions to prevent or minimize the contamination of food by radiological materials. For example, it is possible to do the following:

- protect food and animal fodder which is stored in the open; cover with plastic sheets or impermeable tarpaulins;
- close the ventilation of greenhouses to protect growing vegetables;
- bring livestock in from pastures and move animals into a shed or barn;
- harvest any ripe crops and place under cover before any fallout has been recorded; and
- don't harvest after fallout – wait for further instructions after contamination has been recorded.

Many other short-, medium- and long-term actions need to be considered in areas confirmed to be seriously contaminated, such as:

- avoid consumption of locally produced milk or vegetables;
- avoid slaughtering animals;
- avoid consumption and harvesting of aquatic animals and plants (including fish, shellfish, and algae); and
- avoid hunting or gathering mushrooms or other wild or collected foods.

- [Additional information on emergency preparedness and response](#)

Joint FAO/IAEA Programme

## Can food produced in other countries be affected by the events in Japan?

The damage to the Daiichi nuclear power plant in Fukushima, Japan, and the subsequent detection of radioactivity in certain food samples from neighbouring areas have raised concerns about the safety of food from Japan. The Japanese authorities have regulations in place relating to provisional regulatory limits of radioactivity in food and food monitoring is being implemented. Measurements of radionuclide concentrations in food have been taking place and are being released by the Japanese authorities.

These food safety-related questions and answers produced by the FAO and WHO address some of the international concerns over the safety of food produced in Japan.

- Radioactive material has been released into the environment from damaged Japanese nuclear power plants. Radiation levels measured to date in other countries are far below the level of background radiation that most people are exposed to in every day circumstances and do not present health or transportation safety hazards, according to the United Nations organizations closely monitoring the situation.
- Minute amounts of radioactive caesium and iodine might be found using very sensitive detection methods but this should not affect foods produced in other countries as the amounts involved will be well below acceptable levels and would not pose a health concern to those who eat the food.

## Why do the guidance levels for radioactive iodine-131 in drinking water vary?

The guidance levels found in different sets of recommendations vary because some apply to routine situations and others to emergency situations. The table below summarizes the guidance on radioactive iodine-131 in drinking water and provides an indication of the equivalent exposure from routine activities.

Guideline name	Advised maximum levels for radioactive activity in water (Bq/L)	Approximate equivalent radiation exposure if consuming water at this activity level for a year
WHO Guidelines for Drinking-water Quality (1)	10	A New York - London flight
Japanese provisional (emergency) standard for adults (2)	300	One year's exposure to natural background radiation, or 10-15 chest X-rays
Japanese provisional (emergency) standard for infants (3)	100	
IAEA Operational Intervention Level for nuclear emergencies (4)	3000	Not applicable. The advised maximum level should be used only to trigger action in the early stages of the emergency

(1) WHO Guidelines for Drinking-water Quality should not be taken as the reference point for nuclear emergencies because the levels set are extremely conservative, and designed to apply to lifetime routine intake.

(2) Provisional regulation values relating to limits on food and drink ingestion, established by the Japanese Food Sanitation Act, as indicated by the Nuclear Safety Commission of Japan. These standards are precautionary and have taken international guidance into consideration, including recommendations of the IAEA and the International Commission on Radiological Protection.

(3) As in (2) above, but applicable to drinking-water used to prepare baby food. This level is equivalent to the international guideline set by Codex Alimentarius for infant food.

(4) IAEA Safety Guide GSG-2 established Operational Intervention Levels (OILs) which would be the default international guidance levels for the early stage of an emergency.