

Measures for Radioactive Materials in Foods

Approach for the Calculation of the Standard Limits (2/2)

3. Calculation of the upper limits by age group

Intervention level: 1 mSv/y

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Subtract permissible dose for drinking water (approx. 0.1 mSv)

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Permissible dose to be allocated to general foods (approx. 0.9 mSv) determined

Age groups are divided more finely than for the provisional regulation values

The upper limit is calculated in consideration of the amount of consumption and the conversion factor (effective dose coefficient) by age group.

* Effects of radionuclides other than cesium are also taken into account.

Age group	Gender	Upper limit (Bq/kg)
Under 1 year old	Total average	460
1 to 6 years old	Male	310
	Female	320
7 to 12 years old	Male	190
	Female	210
13 to 18 years old	Male	120
	Female	150
19 years old or older	Male	130
	Female	160
Pregnant women	Female	160
Minimum value		120

Standard limit
100 Bq/kg

The standard limit is set based on the strictest upper limit (the minimum value) out of those for all age groups.

- The standard limit results in reflecting requirements for all age groups.
- The standard limit secures an extra margin of safety from the upper limit especially for infants.

4. Standard limits for milk and infant foods

These categories are established in consideration of young children. Therefore, the standard limits should be stricter so that consumption of these foods would not cause any harmful effects even if all of them contain radioactive materials up to the upper limits.

→ The standard limits for milk and infant foods are both set to be 50 Bq/kg, namely half of the 100 Bq/kg for general foods.



Prepared based on the Ministry of Health, Labour and Welfare's website, "Measures for Radioactive Materials in Foods" 

The basic approach to set the standard limits is to figure out dose limits for each age group.

The annual permissible dose allocated to general foods is approx. 0.9 mSv/year, subtracting that for drinking water from the total.

The table above shows the upper limits for radioactive cesium concentrations (Bq/kg) by age group, which were derived based on the annual consumption and the committed effective dose coefficients for each age group. These limits also take into consideration the influence of radionuclides other than radioactive cesium (p.60 of Vol. 2, "Radionuclides Taken into Consideration").

As a result, the upper limit set for males aged between 13 and 18, 120 Bq/kg, was the strictest of all age groups.

To further ensure safety for all age groups, the standard limit was set at 100 Bq/kg, below the highest upper limit of 120 Bq/kg.

To further ensure the safety of children, the standard limit for milk and infant foods was set to be 50 Bq/kg, which is half of that for general foods. This limit was set so that no negative influence appears, even assuming that milk and all infant foods contain radionuclides up to the maximum permissible limit.

(Related to p.55 of Vol. 2, "Standard Limits Applied from April 2012," and p.61 of Vol. 2, "Approach for the Calculation of the Standard Limits (1/2)")

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