

This is provisional English translation of an excerpt from the original full report.

Risk Assessment Report

Zinc (Beverages)

Food Safety Commission of Japan (FSCJ)
April 2017

ABSTRACT

The Food Safety Commission of Japan (FSCJ) was asked by the Ministry of Health, Labour and Welfare to assess the risks related to the amendment of the standards for ‘beverages’.

The question was estimated risks when zinc in sterile and unsterile mineral water would not be prescribed in specifications that is defined according to the Food Sanitation Act.

FSCJ note that the decrease in SOD activity in RBC that provided the LOAEL of 65.92 mg/person/day (0.94 mg/kg bw) (as zinc) in human intervention studies is a minor finding, and that zinc is a biologically essential mineral. Taking these facts into consideration, FSCJ specified 0.63 mg/kg bw as the upper limit of intake of zinc for people of 18 years and more dividing this LOAEL by 1.5.

FSCJ estimated daily intake of zinc from mineral water, tap water and meals in Japan. The estimation gave a value of 0.090~0.14 mg/kg bw/day as the average, and 0.26 mg/kg bw/day as for the case of high consumers. While estimation of the daily intake including supplementary intake, such as from food with nutrient function claims, gave a high intake of 0.55 mg/kg bw/day, though it may be an overestimation. When comparing these values to the upper limit for zinc intake, 0.63 mg/kg bw/day, FSCJ judged that the risk to human health from the intake of zinc from mineral water, tap water and meals is low.

In order to assess risks on human health from deletion of prescriptions for the items related with zinc from specification for sterile and unsterile mineral water, FSCJ estimated intake of zinc from domestically distributed mineral water. Since the estimated average of daily intake and of high intake of zinc from domestically distributed mineral water are respectively 0.0071 mg/person/day (0.00013 mg/kg bw/day) and 0.17 mg/person/day (0.0032 mg/kg bw/day), FSCJ considered that the intake of zinc from domestically distributed mineral water is much lower than the intake from mineral water, tap water and meals. Hence, FSCJ concluded that the risk to human health from intake of zinc from mineral water is low in Japan, even if prescriptions for the items related with zinc from specification for sterile and unsterile mineral water is deleted.

At the same time, since possible presence of mineral water containing high concentration of zinc is undeniable, risk management organizations should endeavor to follow analytical data on zinc in mineral water and other drinking water.