



Consumer Advisory

For immediate release

OTTAWA, October 2, 2001

INORGANIC ARSENIC AND HIJIKI SEAWEED CONSUMPTION

Based on health risk information received from Health Canada, the Canadian Food Inspection Agency (CFIA) is advising consumers to avoid consumption of hijiki seaweed. Tests results have indicated that levels of inorganic arsenic were significantly higher than in other types of seaweed. Hijiki is one of several types of seaweed that are imported to Canada for human consumption. Most hijiki seaweed is sold at the wholesale and restaurant levels.

Hijiki seaweed is normally eaten with other foods such as vegetables or fish. It may be added to foods that have been steamed, boiled, marinated in soya sauce or fish sauce, cooked in oil, or added to soup. Hijiki seaweed may also be mixed in with rice for sushi, but is not used as a wrap to prepare sushi.

Consumption of only a small amount of hijiki seaweed could result in an intake of inorganic arsenic that exceeds the tolerable daily intake for this substance. Therefore, consumption of this type of seaweed is to be avoided. Although no known illnesses have been associated with consuming hijiki seaweed to date, inorganic arsenic is suspected of causing cancer in humans and exposure to high levels of inorganic arsenic has been linked with gastrointestinal effects, anemia and liver damage. People who follow a macrobiotic diet that often includes large amounts of seaweed may be at greater risk.

Arsenic

Arsenic is a semi-metallic element that occurs in nature mainly in combination with other minerals. The average arsenic concentration in the soil is two parts per million (ppm), but it may be present in higher concentrations in some ores. The concentration of arsenic in sea water may be between two and fourteen parts per billion (ppb).

Trace levels of arsenic occur naturally in air, food and water. Exposure from these low levels is not a health concern. Nevertheless, it would be prudent to minimize exposure to inorganic arsenic whenever possible. Arsenic compounds may enter the environment through sources such as pesticide manufacturing, smelter and industrial operations, burning fossil fuel or cigarette smoke.

Arsenic in Seaweed - Organic versus Inorganic

Not all forms of arsenic are associated with serious health concerns. Organic arsenic, the less toxic form, is commonly found in most seaweed and other marine foods. Exposure to organic arsenic from most seaweed and other marine foods has not been associated with human illness, therefore organic arsenic from these sources is considered to be relatively non-toxic

Inorganic arsenic compounds are relatively toxic. Sample results have shown that hijiki seaweed is high in inorganic arsenic. Sample results for several other sea vegetables, including dulse, nori, kombu have been low.

The Federal Government's Role

The CFIA, Health Canada, and food safety authorities in other countries where sea vegetables make up a significant portion of the diet, share information on test results and guidelines for inorganic arsenic. All appropriate action will be taken to protect the health of Canadian consumers.

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