

ACRYLAMIDE IN FOOD

Acrylamide is still a serious issue, so serious that California plans to repropose requiring warning labels on foods containing acrylamide under Proposition 65.

Acrylamide is produced by a chemical reaction when certain types of foods are subject to high temperature. Acrylamide exists in two forms: a monomer and a polymer. The monomer is toxic to the nervous system, a carcinogen in laboratory animals, and a suspected carcinogen in humans. Scientists also have established that acrylamide is more than a carcinogen. It is also "genotoxic", which means that it causes mutations in DNA - one of the primary mechanical steps in the development of cancer.

In 2002, Swedish researchers discovered that acrylamide forms during the baking, frying or roasting of certain kinds of foods, particularly starchy foods. Other researches have also confirmed that acrylamide is present in many kinds of cooked and heat processed foods, such as French fries, chips, crackers, cookies and fried or baked snack foods. The polymer form is not known to be toxic and is used as additives for water treatment flocculants, paper making aids, thickeners, and textiles. Although the polymer polyacrylamide is not toxic, a small amount of the acrylamide monomer may leach from the polymer.



In 1993, WHO has established a guideline value of 0.05ug per liter for acrylamide in drinking water. According to the California Office of Environmental Health Hazards Assessment (OEHHA), a typical four ounce serving of French fries or potato chips has about 40 micrograms of acrylamide. This is nearly 800 times the legal limit in drinking water. Researchers also reported moderate levels of acrylamide in protein rich foods (0.5-5ug).

To minimize the risk of acrylamide in food, FAO and WHO advised that food should be cooked at lower temperature for a longer time. However, food products must be cooked thoroughly to destroy food-borne pathogens. At the same time, FDA advises consumers to eat a balanced diet, choosing a variety of foods that are low in trans fat and saturated fat, and rich in high-fiber grains, fruits, and vegetables, and to moderate the consumption of fried and fatty foods, so as to reduce the intake of foods high in acrylamide.

As a global leader in verification, testing and certification, SGS will be your reliable partner to develop a nutrition label for you.

Sources and References:

1. D. Archer and A. Simmone. April 2006. Acrylamide in Foods: A Review and Update. University of Florida IFAS Extension.

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