Stop! Don't Toast that Bread, or Risk Acrylamide 'Poisoning'

By Ruth Kava — January 24, 2017

Here we go again. Considering that there are literally thousands of chemicals out there to pick on, one wonders why we keep seeing scaremongers return again and again to the old ones. Case in point: acrylamide. Back in 2002, some Swedish scientists discovered that acrylamide is present in many foods, and the scare began.

Credit: Shutterstock.com
The main industrial use for acrylamide is as a precursor to polyacrylamide, a chemical used to clarify water, e.g. waste water. It has been known for a while that workers exposed to acrylamide in industrial settings (not eating the stuff, just working with it) have demonstrated some neurological problems. But they didn't get cancer.

However, some mice exposed to high levels of the stuff in their water did show an increased incidence of some cancers. That was enough to keep the scare rolling. In fact, the FDA published lists of how much acrylamide could be found in various food stuffs — those lists can be accessed here [2]. If you peruse the list you will note that the foods that seem to contain the most acrylamide are those, such as bread and potatoes, that contain carbohydrates. This is because acrylamide is formed when carbohydrate carbons (the black balls in the diagram) combine with the (blue) nitrogen from amino acids in the foods: this occurs when the food is cooked at high temperature (think toaster). Both the carbohydrates and the amino acids are present naturally.

The current issue began when the British Food Standards Agency (FSA) warned consumers [3] to
avoid browning their toast or other starchy foods — make them a golden rather than a brown color. But not everyone agrees that such a move is necessary, or even advisable. However, the health information officer from Cancer Research UK was quoted in the BBC article references above: "She said there was many other well-established risk factors for cancer "like smoking, obesity and alcohol which all have a big impact on the number of cancer cases in the UK". So if the folks who should know seem to discount the importance of this latest acrylamide warning, why should we be any different?

For a more extensive consideration of the whole acrylamide fuss, see the ACSH white paper, *Acrylamide in Food: Is It A Real Threat To Public Health?*

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