Dioxin in containers

Several people over the last couple of weeks have asked about the risks of leaching dioxins out of plastic containers used to warm foods in microwave ovens. Apparently a doctor on some TV program waxed poetic about the horrors of dioxin leaching into food and raised the prospect of cancer. He cited the example of foam containers that were removed from fast food restaurants a few years ago as evidence of the problem.

Well, the good doctor took some scientific facts but got all muddled with his explanation and advice. First, let's state categorically that dioxins are nasty compounds. They are certainly animal carcinogens and most probably human carcinogens as well. We want to avoid them as much as possible. But avoiding plastic containers in microwave ovens is not the way to do this. Let me try to figure out how this story got started. Here is what we know about forming dioxins. These compounds contain chlorine, so you need a source of this element if dioxins are to form. You also need for the chlorine to combine with high temperature incineration products of organic matter. Indeed, if chlorinated substances are incinerated, dioxins will form.

Polyvinyl chloride, or PVC, is a commonly used plastic. It can be made into fabrics, tubing and various containers. If these are incinerated, dioxins can form. But this takes a high temperature, not the temperatures we deal with in a microwave oven. And furthermore, the containers we use in microwave ovens are almost always made of polyethylene or polypropylene, not PVC. These do not contain any chlorine and therefore cannot give rise to dioxins. The statement that foam containers were removed from fast food restaurants because of the dioxin problem is completely false. They were blown with freon, a greenhouse gas. That is why they were removed. Nothing to do with dioxins. In fact, these containers were replaced by paper, and guess what! The chance of dioxin contamination here is greater. Paper has to be bleached in order to make it white and this often is done with chlorine. So paper has a greater chance of dioxin contamination that foamed polystyrene. I remember a few years ago when people were up in arms because traces of dioxin had been found in toilet paper. This was no great concern, except of course to toilet paper eaters. In any case, you can see how a kernel of scientific truth can be blown out of proportion by those who do not understand the whole story. No need to worry about dioxins leaching out of your Tupperware. Can't happen because it ain't there.