

House of Lords Science and Technology Select Committee

Call for Evidence: Nanotechnologies and Food

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Submitted on an individual basis

As a specialist in risk and ethics I would simply like to point out the following:

At the nanoscale, technological innovation for applications faces unprecedented complexity and uncertainties which impinge on all aspects of the nanotechnological research and development. This set of technologies has the power to transform our industry, play a part in overcoming our severe environmental issues and create new opportunities for recession-busting investment. It must be supported.

However, the real opportunities are in strong lightweight materials, industrial catalysts, energy, insulation, electronics and the like. There are gains to be had in nanomaterials for storage of food, but nanotechnology for food and drinks additives are a very low priority and too risky at our current state of knowledge. These should be the last to develop once we have gained understanding of nanoscale interactivity in other areas of theory and applications development.

To give some examples. It is not clear

(1) that nanoscale ceramics in PET (plastic) bottles, now widely in use, do not leach into the drink and if they do what the long term consequences would be for consumer health.

(2) whether nanoscale additives such as Silver, useful as anti-pathogenic agents, are not cumulatively toxic to humans.

(3) whether the ability of some nanoparticles to pass through the protective biological barriers such as the blood-brain barrier, the retinal barrier and the fetal (placental) barrier does not pose cumulative risks for human health.

There are countless other questions that currently have no clear answer, but many 'nano' food-related products are already on the market without the innovative risk assessment which is appropriate for a new technology with unknown risks, and without any requirement for the labelling which the public would expect.

In this situation it is incumbent on the UK government to ensure that the food industry acts in accordance with the Precautionary Principle, which it has signed up to (Commission of the European Communities, Brussels, 2.2.2000, COM [2000] 1 final Communication from the Commission on the precautionary principle.) It is not impossible that any future mass tort may rebound on the UK government.