

## House of Lords Science and Technology Select Committee

### Nanotechnologies and Food

#### Food Standards Agency – Supplementary Evidence

21 April 2009

At the evidence session on 31 March, the Food Standards Agency was invited to provide additional information in relation to a list of products reported to be available on the market in Germany. Our comments on this list are given below.

In addition, we would like to provide supplementary information in relation to products from non-EU countries (exemplified by Brazil, as raised during the meeting on 31 March), and on the FSA-funded review of public attitudes that was published after our earlier evidence was submitted.

#### **(a) Products on the German market**

On investigation, it seems that not all of these products are currently on sale and in many cases the presence of nanoparticles has not been confirmed.

The information provided from the UK contact in Germany (Annex 4 to the written evidence from DIUS) referred to two sources, a presentation by a member of the Federal Institute for Risk Assessment (BfR) and a list of products reported by BUND, the German equivalent of Friends of the Earth, to be available on the German market.

The first presentation was given at a forum "Consumer Protection - Nanotechnology" that was held at the BfR in November 2008. We have confirmed with the German authorities that the examples in this presentation were given as illustrations of potential future applications, rather than examples of "nano-products" that were already available on the German market. In the case of the nanoscale micelles manufactured by the company Aquanova, this technology has been investigated by the German authorities, who concluded that the coenzyme Q10 product did not fall within the definition of "novel food" as since the metabolism of the coenzyme Q10 in this formulation was not different from common products already on the market.

The BUND lists were based on a global inventory published earlier in 2008 by Friends of the Earth (FoE) in Australia. In addition to the products in the original FoE inventory, BUND reported that a number of additional products available in Germany, largely via internet sites, were being marketed as containing nanoparticles. In drawing up these lists, a size threshold 300nm was applied (where particle size information was available). The lists include products which are poorly described in the marketing information, and which may or may not contain nanoparticles.

The list also includes a number of brands of food supplements containing nanoparticles of silver, also known as colloidal silver. This is a long-established substance and, as explained in our original evidence (page 4), it is found also on the UK market.

In the case of food additive silicon dioxide (silica, E551), the German industry has confirmed that this substance has a long history of use and the specification currently used is the same that has already been assessed and authorised for many years. Although nanoparticles occur during the manufacturing process, these immediately aggregate and agglomerate into much larger units and the dimensions of the silica particles used in foodstuffs are typically in the range 2-12 µm.

The presence of nanoparticles in other products on the list, whether below 300nm or 100nm, has not been confirmed.

We would certainly agree with the point made in the FoE and BUND reports, that the extent to which substances are absorbed into the body is likely to differ when they are presented in small particles compared with larger particles. This is true whether the particles are in the nanoscale or of some larger dimension. Indeed, the effect of different formulations, including different particles sizes, on the bioavailability of active substances has been a major area of investigation in the pharmaceutical industry for many years. Similar investigations are also carried out by the supplements industry. We would reiterate that it is the responsibility of food businesses to ensure that the products they market are safe, and this includes considering the effect of changes to manufacturing processes and reformulation of existing ingredients, even where such changes do not trigger a formal regulatory review.

#### **(b) Products on the Brazilian market**

At the evidence session on 31 March, the Committee was concerned about the implications of product development in countries like Brazil and whether such products could automatically gain entry to the EU market.

We would like to emphasise that UK and EU regulations apply equally to imported products as to domestic production. World Trade Organisation rules are designed to prevent unfair barriers to international trade but it is not the case that a product that is legally marketed in one WTO member state must be accepted in other WTO member states. Countries are free to establish their own safety requirements, provided that these do not discriminate against imports.

The UK contact in Brazil has confirmed that their report (Annex 1 to the evidence submitted by DIUS) refers to the absence of regulatory controls in relation to research and not to the marketing of food. In other words, there are no laws or directives preventing Brazilian scientists from conducting research in nanotechnology applied to food. The same situation applies in the UK. Brazil does however have a solid regulatory framework that applies to the commercialisation of new products, especially in the area of food, and there are standard food safety + health and safety laws which are applicable for all new products, including products obtained using nanotechnologies.

#### **(c) Evidence review of public attitudes to emerging food technologies**

In September 2008 the Food Standards Agency commissioned a review of existing studies on public attitudes to a range of new technologies in relation to food, including nanotechnologies. This report was published on 26 March 2009 and a copy is attached for the Committee's information. The main findings in relation to nanotechnologies and food were summarised on page 11 of our earlier evidence.