Risiken erkennen – Gesundheit schützen

The data situation for the assessment of the use of nanotechnology in food and food-contact articles is still not satisfactory

BfR Opinion No. 001/2009, 3 July 2008

Nanomaterials are already used in many products in daily life. One area is consumer products like fridges, packaging films or cutlery that comes into contact with food. So far there is no clear evidence of the addition of inorganic nanoparticles to foods.

Nanotechnology is used to produce structures and materials with at least one dimension of between 1 and 100 nanometres (nm). A nanometre is a billionth of a metre. Because of their size nanoparticles have different properties from larger particles of the same substance. This makes them interesting for various areas of use. In order to estimate whether nanoproducts constitute specific health risks, it is important to know whether the nanoparticles used in the product are firmly embedded or can be released from the product. Free nanoparticles are more likely to lead to a health risk than firmly embedded ones.

At the present time, consumers are not able to tell whether products contain nanomaterials or not. There is no mandatory labelling. Consumers can, therefore, only determine their presence when manufacturers use advertising claims referring to the use of nanotechnology. However, solely on the basis of the advertising claims for a product it is not yet possible to make any statements about whether that product actually contains nanoparticles or other nanomaterials.

According to a representative BfR survey, nanotechnology is mainly viewed positively by consumers at the present time. However, consumers adopt a far more critical attitude towards the use of nanotechnology in food and food-contact articles. The Federal Institute for Risk Assessment (BfR) bases its assessment of the application area on the research strategy on the health and environmental risks of nanotechnologies already developed in 2007 together with the Federal Institute for Occupational Safety and Health (BAuA) and the Federal Environmental Agency (UBA).

BfR comes to the conclusion that the toxicological data available on the assessment of nanomaterials and the data on exposure assessment are not sufficient to undertake a risk assessment of the use of nanomaterials in foods. Regarding the use of nanomaterials as food additives and in food-contact articles, BfR points out that already authorised substances intended for use in the nanorange, should also be reviewed prior to their use from the health angle unless the particle size was already taken into account in the initial assessment.

The full text of the Opinion in German can be accessed on

http://www.bfr.bund.de/cm/216/die_datenlage_zur_bewertung_der_anwendung_der_nanotechnologie_in_lebensmitteln.pdf