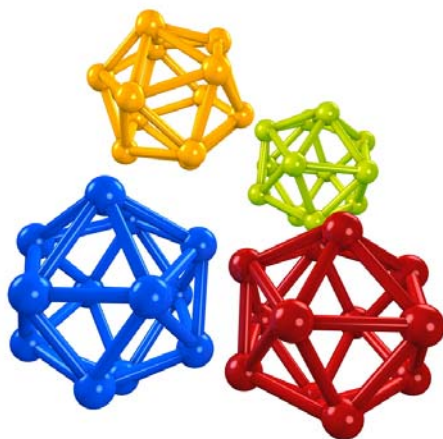


Nanotechnology: Small is beautiful but is it safe?



What are nanotechnologies & nanomaterials?

Nanotechnologies are a **range of technologies that use materials on an incredibly small scale** (nanomaterials). One nanometre is one millionth of a millimetre, which means about 10,000 times smaller than the diameter of a human hair.



What is new with nanotechnologies? Why and where are they used?

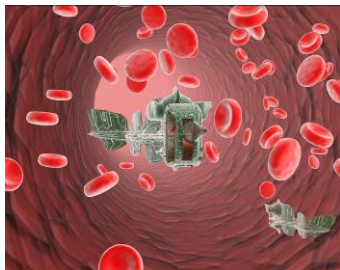
On such a small scale, materials have **novel physical and chemical properties compared with normal sized materials**. Industry is using nanomaterials' singular properties more and more often to create new products.



In the cosmetics sector, one of the main areas of interest is **sunscreen**. For example, titanium dioxide that is used as a UV-filter in high protection sunscreens makes the sunscreens white and thick and difficult to apply to skin. However, when used in the nano-form, the pigment makes the sunscreens become transparent and easier to apply while offering a high level of protection against UV. Nanomaterials are also used in other cosmetic products including creams, shampoos and toothpaste.

In the food sector, nanomaterials may be used to make products more nutritious (allowing for increased bioavailability and absorption of nutrients) or healthy (nano salt which provides the same taste using less salt, for example) or to produce stronger colourings and flavourings. It might also be used in packaging to increase the shelf life of a food.





In the health sector, nanotechnologies may lead to new medical treatment opportunities (to increase the effectiveness of a drug, for instance).



Nanomaterials might also be used in various consumer products with the stated purpose of increasing their performance and lifespan, or by bringing them other added values.

Examples are lighter and more solid tennis rackets containing carbon nanotubes; anti-bacterial and odour-free socks with nanosilver; stain-resistant self-ironing clothes treated using nanotechnologies and self-cleaning windows coated with titanium dioxide.



Another stated field of application of nanotechnologies is to **address environmental challenges** by creating new types of pollutant filters or improving the efficiency of appliances in terms of energy, resources and cost.



Are nanotechnologies & nanomaterials safe?



Despite increased communication about the potential benefits of nanomaterials, there is **very little scientific evidence as to their safety** and a **clear lack of understanding about the related potential risks to health and the environment.**

There are many unanswered questions regarding the safety of nanomaterials. The increased reactivity and mobility of some nanomaterials in the human body seem to present opportunities for making medicines more efficient for instance but also **raise concerns regarding their safety for human health and the environment.** In addition, previous assessments of the same substance without nanoscale features cannot be assumed to reflect the safety of a substance in its nano-form.

In this context, many scientists and governmental bodies in the EU continue to **strongly recommend that the safety of nanomaterials is fully assessed by a scientific body before they are allowed for use in products.** In spite of these safety concerns and calls to apply the precautionary principle, the number of products claiming to contain nanomaterials on the EU market is increasing, yet many consumers are unaware of their presence.



How can you know whether a product contains nanomaterials?

Many products containing nanomaterials are already available on the market in the EU. Unfortunately, it is very difficult for consumers to know where they are. Some products make no reference to nanomaterials on their packaging – although they do use nanomaterials – whilst others refer to the use of nanomaterials in their ingredients' list. Some products even claim that they have benefits because they contain nanomaterials although they do not contain any. This is undoubtedly a confusing situation for consumers.



To help you identify products claiming to contain nanomaterials, **our organisations established an inventory of products which are being promoted as containing nanomaterials and are on sale in the EU.** This inventory will be updated on a regular basis and is available for free on our websites or upon request. Please feel free to contact us.

What do we ask for?

- **Clear definitions of nanomaterials and nanotechnologies** to guarantee legal certainties and allow the development of regulatory requirements;
- The application of the **precautionary principle** in the field of nanotechnologies;
- **The assessment of the safety of nanomaterials** by independent scientific bodies before they can be used in consumer products with which consumers come in direct, close or frequent contact (including cosmetics, food and clothing) or in products that could potentially harm the environment;
- **Adequate safety and risk assessment methodologies** taking account of all characteristics of nanomaterials;
- **The adaptation of existing European legislation relevant to nanomaterials or the development of new legislation** in order to safeguard consumer health and safety, and the environment;
- The establishment or adaptation of **legal requirements related to health and safety** (e.g. limit values for certain nanomaterials in products);
- The establishment of a **public inventory of products that contain nanomaterials** to ensure **transparency about the use of nanomaterials**;
- **The labelling of consumer products containing nanomaterials** in particular products with which consumers come in direct, close or frequent contact such as cosmetics, food products and clothing;
- **Effective participatory processes** in order to allow citizens to fully engage in technological developments which will have an impact on their everyday lives.

For more information

Visit our websites: www.beuc.eu and www.anec.eu or contact our members in your home country.

ANEC is the European consumer voice in standardisation. This means we represent the European consumer interest in the creation of technical standards developed to support the implementation of European laws and public policies.



Raising standards for consumers

ANEC represents consumers from EU Member States and 3 EFTA countries (Iceland, Norway and Switzerland).

ANEC has standing Working Groups on a number of priority areas: Child Safety, Design for All, Domestic Appliances, Environment, Information Society, Services and Traffic.

BEUC, the European Consumers' Organisation, represents forty three well respected independent consumer associations from thirty one European countries (EU, EEA and applicant countries).



BEUC investigates EU decisions and developments likely to affect consumers, with a special focus on eight areas identified as priorities by our members: Safety; Energy & Sustainability; Financial Services; Food; Health; Consumer Contracts; Digital; Environment; Group Action.

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