

Exposure of consumers to manufactured nanomaterials: Afsset recommends the precautionary principle

Today, Afsset published results of a collective expert appraisal assessing the risks associated with nanomaterials for the general population and the environment.

- This expert appraisal has identified several hundred widely used products containing nanomaterials, present in our daily life: textiles, cosmetics, foodstuffs, sports equipment, building materials, etc. New studies suggest the possibility of health and environmental risks from certain products.
- Given this uncertainty, Afsset recommends taking immediate action in the name of the precautionary principle:
 - **Making the traceability of nanomaterials compulsory. This will be done by compulsory declaration by the manufacturing companies.**
 - **Implementing clear labelling** that states whether the products contain nanomaterials and informs about the possibility of release upon use.
 - **Going as far as prohibiting certain uses of nanomaterials for which** the usefulness is low in comparison to the potential hazards.
 - **Harmonising French and European regulatory frameworks** in order to bring best practices into general use: declaration, authorisation, substitution.
In particular, revising REACH is essential in order to take specific account of manufactured nanomaterials whatever their tonnage.
- It has also made recommendations to develop a new health risk assessment method that is suitable for the specific characteristics of nanomaterials.

In order to do this, Afsset has tested standard risk assessment methods on 4 characteristic and common products: antibacterial socks (silver nanoparticles), self-cleaning cement and sun protection lotion (titanium dioxide nanoparticles), and food silica in a nanometric form. These 4 products represent human exposure pathways (skin, inhalation, ingestion) and the possibility of environmental dispersion.

This work has shown the urgent need to further knowledge on exposure and potential hazards of nanomaterials. Today, only 2% of studies published on nanomaterials are about their risks to health and the environment.

The first step must be to standardise nanomaterial characteristics. Research priorities should focus on toxicology, ecotoxicology and the measurement of exposure.

Finally, Afsset expects to give itself the task of defining, with its working group, a simplified risk assessment tool within 2 years. This is a risk evaluation matrix that will allow products to be categorised into several risk scales.

- **Faced with this considerable project, networking between European and international organisations is necessary in order to share the work.** It began with the OECD, which coordinates risk assessment studies, and ISO, which works on the implementation of new standards.

As for Afsset, it is coordinating a European project called "nanogenotox" that aims to identify the toxicity to genes and DNA of 14 nanomaterials. 18 organisations from 13 countries are involved.

This new report follows the expert appraisal of October 2008 on "occupational health and safety" in the face of risks from nanomaterials. It had suggested the application of regulations for dangerous chemical substances, such as containment in production sites.

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