

# NANOMATERIALS

**DATABOOK 2024**

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They worry many consumers due to their possible toxicity for the human body. But manufacturers are also concerned, since they use them for their multiple cosmetic properties and constantly need to adapt to new regulatory requirements, often with insufficient means available. Definition(s), characterization, safety assessment and regulations, scientific studies, alerts and debates... Here is a dossier at the core of the infinitesimal of nano-ingredients.

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# First approach to nanos in cosmetics

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If they are most tiny, they are still greatly difficult to deal with. Before they were discovered by the general public, they already had a long, more or less discreet history in cosmetics formulas... But their oh-so specific and diversified properties do not make them any easier to understand. And very soon, once Cosmetics Regulation 1223/2009 had 'found out' about them and highlighted them on product labels, they triggered both suspicion and interest. Here are a few introductory details to better understand what we are talking about when it comes to nanos.

## NANOMATERIALS: BACK FROM DUSK TO PLAIN LIGHT

**European M.Ps. have made it mandatory: nanomaterials in our cosmetics shall be listed since 11 July 2013. This is an important step forward for regulation. Though they are widely used in our cosmetics, in fact, in many of them (sunscreen creams, deodorants, anti-wrinkles creams, eye shadow, hair care, fragrances...), nano-ingredients kept a low profile on labels. This “low profile” has not been consistently the rule, and this “low profile” has not been consistently the rule, and it thus can’t be now,, but their “return” from light to shade and back needs clarification.**

First, they were seen as revolutionary ingredients, amazingly efficient vehicles for anti-ageing agents. They were displayed in large print on labels and pushed forward in ads.

Nanoparticles have also become ubiquitous in sunscreen creams, giving minerals (Titanium Dioxide and Zinc Oxide) a size small enough to prevent unsightly white layers on skin while having the same protection level against UV radiation.

Then, someday, any “nano” something was deleted from cosmetics ads and selling points. The word was banned from labels. Selling points pointed out other ingredients; an awkward silence was the only “action” about these tiny particles, though it seems they are far from absent from formulae. Why this sudden closely guarded secret?

### **From light to dusk**

Let us go backwards. Nano-ingredients began to be used in our cosmetics (but also in our food or in our environment) before any evaluation of their safety and before any epidemiological tests being performed according to their specific characteristics.

Following a path very similar to GMOs’ development, nanomaterials have been invented and developed, then very quickly present in widely used products. Thorough tests, studies on their potential toxicity, as well as better information to the consumer, and an in-depth debate are... postponed by the industry until a further date.

Indeed, “a further date” is... now. The first tests and the reports made by the researchers are ringing the bell enough to make ecologist and consumers associations alarmed, as well as public opinion, or at least, part of.

Cosmetics manufacturers were not late to react. A reaction from suspicious consumers, even more, a “no to nanomaterials” reaction would have dramatic consequences: the “Parabens scenario” is a nightmare and shall not be duplicated. No more wording about nanomaterials. At least, officially.

Then, the word is no longer on the labels, but nanoparticles are in the products for real. They are there, but nothing let it to be known. From a time when the consumer got some pieces of information, not well documented, on these products, we are now in a time when nothing is said. No information given about the technology, even less about the presence of these materials in products.

As the regulation does not-yet-require manufacturers to give any information, they can lawfully forbear from advising consumers; they may prevent a rising concern about the safety of nanomaterials from affecting their products and, subsequently, their revenues... This is an easy means not to have to answer embarrassing questions. Nevertheless, these questions are there.

### **Nano, what does it mean?**