



AVICENN

Association de veille et d'information civique
sur les enjeux des nanosciences
et des nanotechnologies

SEARCHING FOR [NANOS]

in everyday products

SUMMARY

December 2022



BACKGROUND

For years, **the nano subject has been taboo:**

- lack of information and data provided by manufacturers
- limited obligation of "nano" labeling and lack of enforcement by manufacturers
- ...

➤ It is actually extremely difficult to identify products that contain nanos*.

What's the matter with this ? Well... the smallness of nanos makes them **more likely to diffuse in our body**, even in our cells, where their strong reactivity can lead to potentially **harmful effects on health** (inflammations, allergies and even cancer risks) and the risks linked to their **dissemination in the environment** are also potentially important. However, both are still largely underestimated and insufficiently assessed.

OBJECTIVES

- **Verifying the presence of nanos in everyday consumer products.**
- **Getting a sense of how widespread the presence of nanos is in everyday products.**



Our investigation has not sought to evaluate the risks associated with the presence of nanos in products: assessing these potential risks requires studies that mobilise human means and resources **over the long term** which go far beyond what an association like ours can consider.



The full report is available
on request at: redaction@veillenanos.fr

* "nano" is used in the sense of "nanomaterial" defined by **ISO**: "material with any external dimension in the nanoscale or having an internal structure or surface structure in the nanoscale" > "approximately" between 1 and 100 nm.

METHODOLOGY



AVICENN has selected and sent 23 daily products to the **National Testing Laboratory (LNE)**, a reference actor in the field of nanometrology:

- not only cosmetic and food products
- but also hygiene products, toys, food packaging, etc. where the presence of nanos was suspected but not tested until now.

Using a **scanning electron microscope (SEM)** equipped with two secondary electron detectors, experts looked for **nano** and identified their **shape** and **size**.

The nature of the detected nano substance (silver, titanium, silica, ...) was identified by an elemental analysis performed with **EDX technique**.

THE 23 PRODUCTS TESTED



Light from Paradise, L'OREAL
Facial powder



Vegan Naturally, LABELLO
Lip balm



Party face paint, SNAZAROO
Children's make-up



5-in-1 BB Cream, NIVEA
Facial cream



Magic Retouch Blond L'OREAL
Colouring spray for hair



Scalp-Care-Relaxer DARK AND LOVELY
Children's hair-relaxer cream



9-vegetables soup KNORR
Dehydrated soup



Tarte en Or -30% HERTA
Puff pastry



Les fines et fondantes AOSTE
Ham



Optipro 0-6 months formula GUIGOZ
Infant formula



SOLGAR Vitamin C
Dietary supplement



MINI kibble Royal Canin
Animal food



Absorbent pad LE GAULOIS
Food packaging



SIGNAL Toothbrush
Children's toothbrush



Xarelto 20 mg BAYER
Anticoagulant drug



Intimewear NANA panties
Period panties



Boxer shorts SUPIMA UNIQLO
Underwear



Next BW FFP2 mask
Face mask



Anti-viral mask BACCIDE
Face mask



Claricup CLARIPHARM
Antibacterial menstrual cup



Slime Powder, Canal Toys
Children's toy



Sprays Glitzy GP Toys
Children's creative set



Ondi Pure Velvet ZOPLAN
Depolluting paint

* Company document

TEST RESULTS

• Nanos were detected in 20 products:

► Results by product category

→ COSMETICS

- The 6 cosmetic products contained **titanium dioxide (TiO₂)** nanoparticles.
- Three also contained **iron oxide** nanoparticles.

→ HYGIENE & HEALTH*

- The toothbrush, menstrual panties, boxer shorts and antiviral mask contained **nanosilver**.
- The drug and the boxer shorts contained **TiO₂ nanoparticles**.
- The drug also contained **iron oxide** nanoparticles.
- The FFP2 mask contained **silica nanoparticles**.

→ FOOD

All 6 food products contained **silica nanoparticles**.

→ TOYS

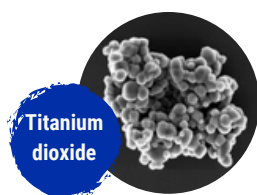
Only* the children's make-up contained **TiO₂ nanoparticles**.

→ PAINT

The paint contained **TiO₂ nanoparticles**.

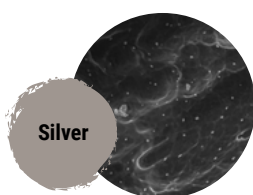
* The analyses did not show nanos in the menstrual cup, slime powder or creative colouring sprays.

► Results by nanoparticle type



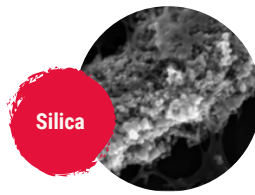
→ 10 products:

- L'OREAL Face powder
- L'OREAL Colouring spray
- LABELLO Lip balm
- NIVEA Face cream
- SNAZAROO Children's make-up
- DARK AND LOVELY Children's hair relaxer
- XARELTO Drug
- UNIQLO Boxer shorts
- LE GAULOIS Absorbent pad
- ZOPLAN Paint



→ 4 products:

- SIGNAL Toothbrush
- NANA Menstrual panties
- BACCIDE Face mask
- UNIQLO Boxer shorts



→ 7 products:

- HERTA Puff pastry
- KNORR Dehydrated soup
- AOSTA Ham
- GUIGOZ Infant formula
- ROYAL CANIN Dog food
- SOLGAR Vitamin C
- NEXT BW, Facial mask



→ 5 products:

- L'OREAL Face powder
- L'OREAL Colouring spray
- LABELLO Lip balm
- NIVEA Face cream
- XARELTO Drug



More details in the full report, available upon request at redaction@veillenanos.fr

THE MAIN FINDINGS

1 More nanos than expected

Nanoparticles of titanium dioxide, silver, iron oxides, silica: **the number of tested products containing nanos is disconcerting.**

20 products out of 23 contained nanos, in various categories of products and sometimes for unsuspected applications.

Some products **contain nanos in alarming proportions**, while others are not as significant.

2 The [nano] labelling obligation: a complete failure

- The **vast majority of tested products** covered by the European labeling obligation **are not labeled [nano]**.
- The **others contain nanos** but are **not covered by any obligation** to inform consumers.

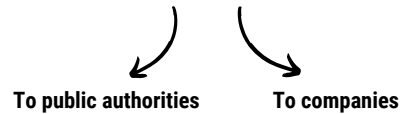
Our investigation reveals that, apart from sunscreens and a few cosmetics, **[nano] labelling is almost invisible in supermarkets...** although nanos are much more widespread than expected.

3 Many unauthorised nanos

Our tests have highlighted, to an unsuspected extent, that nanos are widely used although they are not authorized.

This is true for **all cosmetic products** tested and for hygiene and health products.

OUR DEMANDS



1 Improve knowledge on nanos and associated risks



- By fostering **better characterization** of nanos in raw materials and end products
- By implementing an independent risk assessment system financed by companies **to better assess health and environmental risks**

2 Increasing transparency and addressing the [nano] labeling fiasco



- By **intensifying inspections and sanctions** in case of non-compliance with the labelling obligation.
- By **extending this obligation** to sectors that are not covered today.
- By enabling the **identification of products containing nanos** through the **improvement of national registers** (if any) and the creation of a European register.

3 Developing collective vigilance on nanos

- Providing a **specific framework** for nanos that slip through the regulatory net.
- By **eliminating nanos** for which the **benefit/risk analysis** is unfavorable.



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