Organic pigments for tattoos applications

ETAD‘s position

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ETAD®
The Ecological and Toxicological Association of Dyes and Organic Pigments Manufacturers

Working Together for Safer Colorants

ETAD in a nutshell

- ETAD was formed in the 70s by a group of colorant manufacturers concerned about the impact on the environment of the growing demand of colorants
- Based in Basel, 30 members present worldwide
- We strive for minimization of risk to health and environment in the value chain of organic colorants
- We coordinate and support member companies in implementation of regulations and standards
- We base our activities on scientific data
- We are guided by ethical values
- We work in cooperation with regulators, industry, stakeholders and other interested parties

First discussion on tattoos (2003)

- The available toxicological information did not allow to guarantee the safety of colorants used in tattoos applications
- In particular, the tattooing process bypasses body systems designed to deal with external inputs (skin and digestive apparatus)
- Therefore, information on usual exposure routes, i.e. dermal and oral toxicity, cannot be used to predict/assess the possible effects of colorants in the dermis
- ETAD member companies clearly stated that they did not recommend or market any colorants for use in tattoos

Second discussion (2010)

Pros

- More toxicological information about pigments
- High quality products for sensitive applications (food contact, toys, cosmetics) are available
- Literature about tattoos toxicity shows low relevance of colorant-related toxicity

Contra

- Still missing exposure assessment
- No long-term effects information

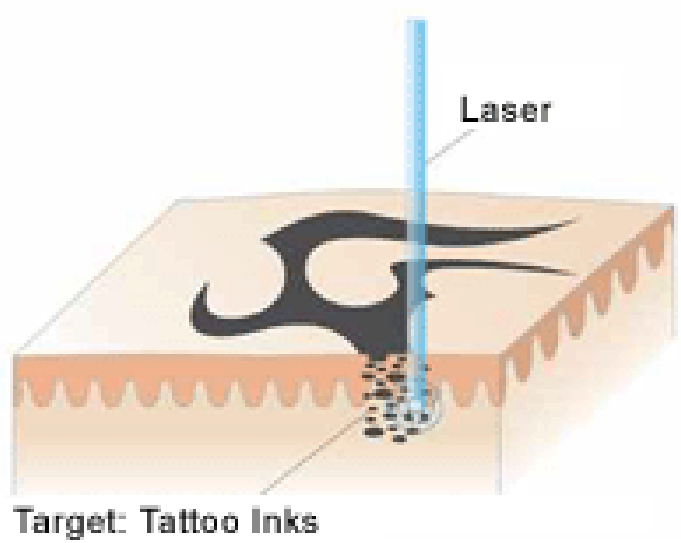
Room for reconsideration?

The new big contra: laser tattoo removal

The removal of tattoos with laser-based techniques is a growing business.

Specialists on this practice inform that:

“Lasers work by producing short pulses of intense light that pass harmlessly through the top layers of the skin to be selectively absorbed by the tattoo pigment.
This laser energy causes the tattoo pigment to fragment into smaller particles that are then removed by the body's immune system.”



New open issues

- A high-energy process is used in a biological matrix, with some assumptions on the outcome
- But in detail:
  - What are these small particles? Accordingly to available studies we obtain from non-toxic, chemical inert pigments, chemical reactive and potentially hazardous molecules (e.g. carc. aromatic amines)
  - Are they really removed?
  - How is the immune system involved?

- A new set of uncertain parameters enters into the safety assessment

Conclusions

- There are important pieces of information missing as regards the colorants in the whole «tattoo lifecycle»
- Responsible colorants manufacturers have to consider this complete cycle when deciding about the compatibility of a product to an application
- Even taking into account the quality and purity which can be achieved by available colorants, ETAD members still do not recommend their products for tattoos applications
- Of course, that leaves the market wide open and is not quite satisfactory…

A brighter message

- ETAD would welcome a solution to the issue which could allow its members to put «tattoo-safe» products on the market

- We are open to assist with our expertise (and our products) projects aimed at assessing the safety of tattoo colorants

- We will continue the dialogue with regulatory bodies and provide input based on the latest status of information on the chemistry and toxicology of colorants

For more information

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