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### TATTOO MATERIALS ON THE BELGIAN MARKET

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A personal survey was done by D'hollander in 2006, concerning tattoo inks used in Belgium in body art parlours, checking the CI numbers from the list of ingredients of suppliers Mario Barth's Intenze, Starbrite, Diabolo Novum, Diabolo Classic, Micky Sharpz Traditional, Micky Sharpz Easyflow, Millennium Mom's.

Currently used colorants that can be obtained from suppliers on the Internet are labelled with a Colour index number (CI). The different CI numbers correspond to different chemical categories, with the same CI number used for different qualities of purity. Three different categories of purity exist according to cosmetics, food and medicine and are subject to EU regulations, respectively EU directive 76/768/EOF (cosmetics), EU directive 95/45/EC (food), EU directive 78/25/EC (medicine). The results of this survey are summarized. This survey also illustrates that a great deal of the colorants that can be purchased in an easy way did not respond to the requirements of cosmetics.

In 2008 The council of Europe has dealt with the safety issue of tattooing and PMU for years and adopted in 2003 the CoE Resolution on the regulation of tattooing/PMU products. Although tattoo inks are implanted intradermally it would have been reasonable to treat these products like medicine concerning their sterility and composition. However a more realistic approach has been chosen and the cosmetic approach submitting tattoo and PMU colorants to the requirements and safety assessments of cosmetics has been proposed. This resolution "follows a negative list approach by listing the substances which must not be used in tattooing products and PMU, based on current knowledge in this field," but also recommends "to regulate the use of substances in tattoos and PMU by taking steps towards establishing – on the basis of safety assessments carried out by competent bodies and harmonised at European level- an exhaustive list of substances proved safe for this use under certain conditions (positive list)." The resolution includes specifications about the content of the tattoo/PMU products, the labelling, the conditions of application and the obligation to inform the public and the consumer about the health risks of tattoos and PMU and tattooing practice.

A sample survey was repeated in 2013. The results demonstrate that the pigments considered safe are still the same (black, white, green, blue and brown), but the pigments most likely to cause problems, often based on azo-pigments (yellow, orange, red and magenta) show a shift, sometimes towards a more safe alternative, sometimes to an alternative with the same possible health risks.

It is my belief that the manufacturers try to find a more safe pigment within this color range, but have no choice but to use potentially hazardous pigments simply because there is no alternative with good qualities for the purpose: insolubility, light fastness, color hue, etc.

The labeling on all sampled inks is according to the resolution. All sampled inks contain on the label a manufacturer, list of ingredients, batch or lot number, expiration date, mentioning of sterility. Only a few brands mention through the use of the cosmetics logo that the content must be used within a period after opening. A few bottles have mistakes in the list of ingredients (eg, CI 77226 instead of 77266 for a black ink).

The CI numbers on the ingredients list give a good indication towards the safety of the product, but it must be noted that this says nothing about the purity of the ingredient.

A 'safe' pigment like ironoxide can potentially be unsafe if the pigment used is of a technical quality which may contain heavy metals. Where as an 'unsafe' pigment can be of a medical quality, encapsulated in ABS making it inert and more biocompatible and as such 'safe' to use.