

Tattoo pigments and their undesired effects

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Tattooing has been growing in popularity for almost more than 20 years now. Currently about 18% of adults worldwide do have one tattoo or more on the body. However, the introduction of pigments or exogenous dyes is not without risk and exposes to various skin complications. Tattoo inks have been primarily intended for other uses (paint, varnish...) and their harmlessness has never been established for tattoos. Tattoo dyes are soluble organic molecules, often mixed with small amounts of a stabilizing agents. Tattoo pigments are insoluble, usually metal salts or organic molecules, used more in traditional tattooing because of their stability and chemical resistance. Other additive substances are found in tattoo inks to modify the properties of the solution as well as preservatives (anti-infectives), solvents (ethanol, isopropanol). The composition of inks has clearly changed over the last 15-25 years. Today, inks are a complex mixture of dyes, metal salts and solvents. Since 2022, thousands of hazardous chemicals found in tattoo inks and permanent make-up are restricted in the EU under the REACH Regulation from January 2022. Through this presentation, the current research regarding tattoo pigments.