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STATE OF ART OF BASIC SCIENCE AND TATTOOS AS A PREREQUISITE TO REGULATION

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Various tattoo colorants are sold to tattooists and the colorants mainly consist of the colouring compound such as carbon black, titanium dioxide, or azo pigments. Such colorants usually originate from industrial pigments which are frequently not intended for human use. Therefore, the purity of such colorants is frequently on a technical level and hence the concentration of admixtures and impurities is frequently 10 % and more. Impurities in the colorants consist of substances like the remaining educts of the pigments synthesis. Admixtures are typically solvents, preservatives and other auxiliary materials. From a technical point of view it would be feasible to produce highly pure pigments by using various steps of purification, however, at great expense. In addition, the pigment used should include no toxic or carcinogenic potential as an intact molecule and when decomposed by enzymatic processes or radiation impact (ultraviolet, laser).

To regulate tattoo colorants, a first and pragmatic approach is application of a so-called negative list. Such a list should contain the known substances which are forbidden to be used in cosmetics or medical drugs because of its known toxic or carcinogenic potentials. Tattoo colorants should be labelled according to this list claiming that none of these banned substances are in such a colorant. The tattoo colorants should be periodically checked that the ingredients comply with such regulations.