

EXTENSION OF SURVEILLANCE ACTIVITIES IN ITALY: DETERMINATION OF POLYCYCLIC AROMATIC HYDROCARBONS IN TATTOO INKS CONTAINING CARBON BLACK

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Aim: A method for the determination of PAHs in tattoo and PMU inks was developed and validated to increase surveillance activities in Italy (until now, the surveillance activities have included the determination of carcinogenic aromatic amines and heavy metals).

Method: Carbon black pigment (Colour Index 77266) is often used as a main component in the production of dark inks. Carbon black, due to its physico-chemical properties, has a high adsorbent power and so it is able to adsorb – on its surface – various kinds of impurities.

Results / Discussion: *Resolution ResAP(2008)1 on requirements and criteria for the safety of tattoos and permanent make-up (superseding Resolution ResAP(2003)2 on tattoos and permanent make-up)*, defined maximum allowed concentrations of impurities in products for tattoos and Permanent Make-Up (PMU). The limits for PAHs are set at 0.5 ppm (mg/Kg) for total PAHs and at 5 ppb (µg/Kg) for BaP.

Conclusion: Polycyclic Aromatic Hydrocarbons (PAHs) are one of carbon black's common impurities: these wide group of molecules, composed of multiple aromatic rings, may be hazardous to health. Benzo[a]pyrene (BaP), one of the most famous PAHs, is classified by CLP Regulation (EC) No 1907/2006 as a carcinogenic compound." The analytical results of PAHs determination for about 20 black samples of various brands of tattoo and make-up inks are reported.