



Programme & Abstracts

5th World Congress on Tattoo and Pigment Research

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[O35] AUSTRALIA MOVES TOWARDS REGULATING COSMETIC INKS

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Since August 2019 Australia moved to investigate the potential risks of certain tattoo inks for the purpose of restricting their use through a regulatory initiative. This activity was undertaken by the Queensland Health Department. The **Departmental Standards – Tattoo Inks** has been made pursuant to section 233 of Medicines and Poisons Act 2019 by the Chief Executive of Queensland Health, and establishes procedures and requirements of use of the products. The standard also prescribes the requirements for a **Compliant Analysis Certificate** under section 48A of the Act.

Representing the PMU industry, the Aesthetics Practitioners Advisory Network (APAN) being the largest industry standards body/association, while the body tattoo art was represented by the Australian Tattooist Guild and the Professional Tattooing Association of Australia.

This Standard must be followed where it is referenced by the Act or Medicines and Poisons (Poisons and Prohibited Substances) Regulation 2021 (Poisons Regulation) or when it is required as a condition of an authority.

Supporting the move for introducing the Departmental Standards included the Australian Medical Association, however, the new laws were opposed by the two tattoo industry bodies who did not support the proposed Compliance Analysis Certificate stating that it would “place an unnecessary and unfair burden on suppliers”. This led to section 48A of the Act to be differed pending a further investigation by the Health Department.

This presentation will report on:

- The outcome of this investigation.
- Australia’s position in aligning its regulatory decision to EU Commission Regulation (EU) 2020/2081
- The debate of safety as it affects the process of tattoo removal and other considerations.

[O36] ENCAPSULATION OF AZO- AND XANTHENE-TATTOO PIGMENTS IN LIPID MICROPARTICLES: COLORANTS PHOTOSTABILIZATION AND RETENTION BY THE PARTICLE MATRIX IN EXCISED PORCINE SKIN

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Aim: The light-induced degradation of tattoo pigments is a critical issue for the stability and safety of tattoo inks, since the colorant photodecomposition not only results in tattoo fading but also in the formation of potentially hazardous photoproducts. In the present study, the photo-protective effect of lipid microparticles (LMs) on encapsulated azo- and xanthene-tattoo colorants (C.I. 15865, C.I.19140 and C.I. 45380) was investigated. Moreover, for C.I. 45380, the capacity of the LMs to retain the incorporated dye after intradermal injection in excised porcine skin was evaluated.

Methods: LMs loaded with the colorants were prepared using tristearin as lipidic material. Photolysis experiments were performed by irradiation of the samples with a solar simulator and the extent of photodegradation was measured by HPLC. For stability evaluation, the LMs were introduced in excised porcine skin mounted in Franz diffusion cells.

Results: The light-induced degradation of C.I. 45380, C.I. 19140 and C.I. 15865 was significantly decreased by their incorporation into the LMs (particle size 30-75 nm) from 20.2±5.8 to 1.9±2.1%, 4.2±2.6 to 0.6±1.6% and 13.1±2.7 to 0.6±0.8%, respectively. Moreover, only 1.5±1.7 % of microencapsulated C.I. 45380 was lost from tattooed excised porcine skin, indicating that the LMs did not degrade in the dermal tissue.



Conclusions: The obtained results indicated that incorporation in LMs of the examined tattoo colorants enhanced their photostability. The triglyceride based LMs exhibit the additional advantages of excellent tolerability combined with good stability, as no significant release of the encapsulated colorant was detected in the dermal region of isolated pig skin.



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