

## 19<sup>th</sup> CENTURY PIGMENT SrCrO<sub>4</sub> – SYNTHESIS AND CHARACTERISATION

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The main focus of the presented work was to investigate the synthesis and characterization of SrCrO<sub>4</sub>. This pigment is most commonly known as strontium yellow, and its use was popular among painters in the late nineteenth-early twentieth century. Since it causes toxicological and environmental risks, the strontium chromate is banned for present-day arts.

However, re-synthesis and characterization of historical pigments may be crucial for restoration out of both reasons: to match the original hue and to distinguish which changes in colour have been made over the course of time and/or by chemical degradation. Also, conservation effort needs to be supported by knowledge of suitable technics related to specific materials. Finally, the authentication of artworks cannot be verified in absence of comparison with substances as original as possible.

There are several methods suitable for strontium yellow preparation, mostly based on precipitation of potassium chromate or dichromate with strontium nitrate or chloride. Currently, the only one scientific article dealing with the synthesis of SrCrO<sub>4</sub> – according to historical records – has been found [1]. Other articles were frequently concerned with preparation of nano-particles of SrCrO<sub>4</sub> for catalytic and optoelectronic purposes.

The influence of initial raw materials, temperature, precipitation time and other reaction conditions on the phase composition and colour of the strontium yellow was investigated primarily. Nevertheless, other properties related to pigment utilization – e.g. particle size distribution and applicability – were also studied.

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References:

[1] Otero V., et al.: Heritage Science 5 (2017) 46.