

Analytical Research Department

July, 1959

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Analysis - Customer Complaints - Project AD-40

Black Powder on Kem Color Meter at Elyria, Ohio

A black powder appeared on a Kem Color Meter located at Elyria, Ohio. It was feared that this powder might contaminate the Kem Tinting bases or that it might have resulted from excessive wear in the machine. An analysis of the powder was requested to aid personnel in the Emulsion Laboratory to determine the cause of the powder and its probable effects.

The black powder is primarily a magnetic iron oxide compound or mixture. No carbon black is present. The source of the black powder may have been spilled iron black pigment, such as S-W Code 7150, or friction products which resulted from wear on steel parts in the Kem Color Meter.

J. D. McG.

Black Powder on Kem Color Meter at Deshler Products Plant

A black powder appeared on a Kem Color Meter which was in use at the Deshler Products Plant. It was feared that this powder might be Kem-Tint Black which would tend to contaminate the other tinting bases contained in the machine. Hence, an analysis of the powder was requested.

The powder is primarily a magnetic iron oxide compound or mixture. Only a minor portion of the black powder could be lamp-black from Kem Tint Black spillage. Magnetic iron oxide, $\text{Fe}_3\text{O}_4 \cdot x\text{H}_2\text{O}$, is used by S-W (Code 7150 dry) as a black pigment for paints. However, it is possible that a similar oxide mixture could have been produced by wear of steel parts in the Kem Color Meter.

J. A. W.

Lead Content of Super Kem-Tone Peelings

A user of Super Kem-Tone reported that a ceiling coated with this paint was peeling. This customer desired to know whether his two small children could be poisoned by this paint. A small sample of the peeled paint was submitted with the request.

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The lead content of the paint peelings is 0.03 % - 0.04 %. According to the American Standard Specifications to Minimize Hazards to Children from Residual Surface Coating Materials sponsored by American Academy of Pediatrics, approved February 16, 1955, by the American Standards Association, Inc.:

"A liquid coating material to be deemed suitable, from a health standpoint, for use on articles such as furniture, toys, etc. or for interior use in dwelling units where it might be chewed by children shall not contain lead compounds of which the lead content (calculated as Pb) is in excess of 1 per cent lead of the total weight of the contained solids (including pigments and drier)."

The lead content of the paint peelings then, of course, is only 4 per cent of the amount that is listed in the above standards.

The lead content of the paint peelings was determined by means of x-ray fluorescence spectrography. A chemical determination of the lead content would be time-consuming and expensive. Also, chemical analysis would destroy the sample. In case something were to go wrong in the analysis, there would be no sample left to analyze.

P. J. S.

Poor Adhesion of Kem Cati-Coat

The West Virginia Pulp and Paper Company had used Kem Cati-Coat in painting their plant. In one section of the plant the paint film did not hold up as well as it should. It was the suspicion of the Technical Service Department that the paint failure was due to the presence of urea on the wall. The Analytical Research Department was requested to check the surface of this paint film for urea.

Urea was found on the surface of the paint chips submitted for analysis.