

June 30, 1949

Mr. Mark W. Westgate,
National Paint, Varnish and Lacquer Assn., Inc.,
1500 Rhode Island Avenue, N.W.,
Washington 5, D. C.

Dear Mr. Westgate:

Your letter of June 17, concerning the Maryland Toxic Finishes Law, poses a problem which is difficult indeed. You may well wonder how to interpret a law which is so phrased. I think I am reasonably familiar with the conditions which brought this law into existence. I may be mistaken, but I strongly suspect that the attention given to lead poisoning among children in your state and in the City of Baltimore has been responsible for this law. Unfortunately, this law, like many others, does not go straight to the point, but tries to cover the universe, thereby creating difficulties of interpretation and administration. As you are probably aware, there is no sound basis at the present time for the establishment of tolerances, on a percentage basis, in paints and finishes, or on any other basis. Actually one is not concerned here, in the case of children, with the size of a single toxic dose of pigments or other substances in paints. Rather the problem relates to the dose of material taken over a period of days or weeks or perhaps months, which will induce illness. The physiologic background of this problem has been worked out adequately only in the case of lead. It can properly be said that the dosage of lead taken in per day over a period of a few months must not exceed something of the order of magnitude of one milligram. In determining the extent of the risk, one has to consider both the size of the dose and the duration of time over which it is taken. In the case of children one has also to consider a factor of susceptibility, and therefore the size of the dose indicated above has a rather large safety factor. I have been asked repeatedly to make a statement concerning the concentration of lead that might safely be used in paints used on furniture and on interior surfaces. So far as I know, there is no evidence that would enable us to say how much lead could be ingested by a child in chewing the paint from the surface of furniture and toys. For this reason I should be disposed to make sure that painted articles of this type have no more than traces of lead in their composition. It might be suspected that cadmium and mercury were in a similar situation. This is almost certainly true of mercury, while cadmium is definitely less toxic. So far as I know, the barium compounds used in paint are quite insoluble and do not present any problem. Iron presents no problem at all. I have neither seen nor heard of any evidence of hazard from chromium in itself, but the lead salts of chromic or chromous acid would be expected to present somewhat the same problem as the other lead pigments, with perhaps some reduction in the hazard because of the relative insolubility of these salts.

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This is a rather difficult problem, Its solution would require a very thorough study of the literature, with a careful interpretation of scattered and somewhat irrelevant experimental data. In the final analysis it could only be solved by rather extensive experimentation. My statements above are the best I can give you without prolonged study, and I trust they may be of some help to you.

I am very glad to forward to you certain reprints which may be helpful. If I can be of any further assistance to you, please do not hesitate to let me know.

Very truly yours,

Robert A. Kehoe, M. D.

RAK ef

Reprints under separate cover. Certain relevant paragraphs are checked.