

National Paint, Varnish and Lacquer Association

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June 17, 1949

DR. ROBERT A. KEHOE
Kettering Laboratory of Applied Physiology
University of Cincinnati
Cincinnati 19, Ohio

Dear Dr. Kehoe:

Once again I write to you for help, this time in connection with the new Maryland Toxic Finishes Law (H.B. 102, June 1, 1949) which states in part:

"It shall be unlawful for any person to manufacture, sell or offer to sell, any toy or plaything, including children's furniture, decorated or covered with paint or any other material containing lead or other substance of a poisonous nature, from contact with which children may be injuriously affected, unless such article shall contain a label affixed thereto stating in clear and unambiguous language that the said paint, or other material contains lead or other substance of a poisonous nature."

Our industry is faced with the proper interpretation of this law, the crux of which may lie in the underlined phrase. Unfortunately, no state administrative agency has been established to which we can turn for statements of policy or authentic information on tolerances. It seems that each case will depend on the whim of a court or jury.

Our intention is to locate, if possible, authoritative estimates of single-dose, ingestion tolerances for small children. The list of potentially toxic materials that may find their way into paint and related products is undoubtedly large, but as a beginning we would like to be able to suggest tolerances for bright colored pigments based on lead, chromium, cadmium, arsenic, antimony, mercury, barium, iron (Prussian) blue and organic toners.

We would also appreciate a reprint of your publication "Experimental Studies on the Ingestion of Lead Compounds", and any other information that will help us to advise our anxious members.

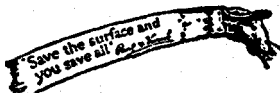
Very truly yours,

Mark W. Westgate
Mark W. Westgate

MW/zmm

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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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Mr. Mark W. Westgate - (2) - June 30, 1949

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.

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Reprints under separate cover. Certain relevant paragraphs are checked.

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