

Lead Industries Association

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MANFRED BOWDITCH
DIRECTOR OF HEALTH AND SAFETY

June 2, 1948

Robert A. Kehoe, M.D., Director
Kettering Laboratory of Applied Physiology
University of Cincinnati
College of Medicine
Eden Avenue
Cincinnati 19, Ohio

Dear Bob:

The magazine "Town & Country" has posed to the National Lead Company the queries embodied in my enclosure and they have, in turn, passed the buck along to us.

My offhand reaction to this problem, another of the many non-industrial items that find their way to my desk, would be that there would be greater hazard to health from water drained from lead painted roofs on which the paint was allowed to deteriorate than from such roofs which were kept well painted. My thought in this is simply that flaking and chalking of the paint would be a more serious hazard than any toxicity from surfaces covered with a sound coat of lead paint.

I doubt if any real study of this problem has ever been made but would think that you would be more likely to have worth while thoughts on the subject than anyone else in view of your quests for lead in odd parts of the globe.

Apart from any actual study or research, there appear to be two quite diametrically opposed schools of thought on this general subject. On the one hand, I understand that the American Water Works Association recommends red lead primers for the interior of water storage tanks, while at the other extreme is the Health Department of Queensland, Australia, which flatly prohibits the painting of any roofs whatsoever with any sort of lead paint, the theory behind this presumably being that rainwater in the more arid parts of Australia may be used for drinking purposes.

If you are willing to give me the benefit of your thoughts on the above, the kindness will be much appreciated.

Sincerely yours,

Manfred J. Kehoe

KE 03490



It occurs to me that your research department may be able to answer a question which has arisen several times in localities which depend upon rain for drinking water such as the dry islands in the Caribbean, where, as you know, many Americans are building or acquiring homes.

Most of these houses have metal roofs which require paint for protection. The taste is for white or pastel colored paint and these shades not being procurable in roofing paints the question arises of the danger of lead poisoning present in outside white paint.

If lead paint can safely be used for covering roofs used to catch drinking water; or, of after a certain drying period, it can safely be used; or if, by some special treatment it can safely be used, will you please advise me?

If lead paint cannot safely be recommended for such a purpose, will you be good enough to suggest the proper paint material?

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June 21, 1948

Mr. Manfred Bowditch,
Lead Industries Association,
420 Lexington Avenue,
New York City.

Dear Manfred:

I am sending you a copy of the paper on BAL in response to your letter of June 9.

Your earlier letter concerning the influence of painted roofs on water collected in tanks from such roofs, raises a question which is not readily answered. In fact, I think a very comprehensive investigation would be required to answer this question with any degree of assurance. The solubility of paints of a variety of kinds in water is certainly not very great. There is little question in my mind that scales of disintegrated paint will be found in rain water collected in this manner. Whether there will be more on a newly painted roof than on an old one is something which should be determined by experiment rather than by guess work, since the factors that would influence the outcome cannot all be visualized immediately. Undoubtedly most of the flecks of paint which would find their way into the water would settle out to the bottom and remain undissolved. Some portion undoubtedly would go into solution. My guess would be that such water would be very little higher in its lead content than is water carried in streams and brooks. However, I can imagine circumstances associated with the "chalking out" of the pigment, in which the lead content of somewhat carbonated rain water would be appreciable. I would not know how to determine the facts except through an experimental approach.

I do know that drinking water gets to be contaminated with lead from a variety of sources in various parts of the earth. To the best of my knowledge, this usually occurs as the result of contact of the water with metallic lead in alloys, solder and the like.

Regardless of the authority of the American Water Works Association, I should consider the use of red lead primers in water storage tanks as undesirable. Also despite the present point of view which permits drinking water to have a concentration of lead up to 0.1 mg. per liter, I do not consider any drinking water as really satisfactory for use, if the lead concentration is in excess of .03 to .04 mg. per liter. I consider that the Australians are just a little bit precious on this subject, but they have had some reason for their anxiety, and their present efforts to reduce the ingestion of lead in their country to the least possible level are not wholly realistic in view of medical viewpoints and certain types of medical evidence within their country.

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Mr. Manfred Bowditch - (2) - June 21, 1948

As to the appropriate coatings for roofs of this type, I have no ready answer.

Sincerely yours,

Robert A. Kehoe, M. D.

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