

November 25, 1947

Mr. Russell Frank, Director,  
Safety and Personnel,  
The Enamelist Publishing Company,  
4150 East 56th Street,  
Cleveland 5, Ohio.

Dear Mr. Frank:

I have your letter of November 18 concerning information on the general problem of lead absorption. I think it is fair to say that the best and most recent comprehensive consideration of this problem, as it appears in the English language, will be found in a report issued by the American Public Health Association in 1943. This is a bulletin entitled "Occupational Lead Exposure and Lead Poisoning" and is a report prepared by the Committee on Lead Poisoning of the Industrial Hygiene Section of the American Public Health Association, of which I had the honor to be chairman. It can be obtained at a cost of 75 cents per copy from the Office of the Association, 1790 Broadway, New York City 19.

With specific reference to the absorption of lead silicate, there is not too much in the way of new or useful information. It seems quite clear, from theoretical considerations, that lead silicate is a much less hazardous lead compound than many others. Indeed in some instances industrial concerns have been advised to use a silicate in preference to other more soluble lead compounds. On the other hand, I have no doubt that if industrial workmen were exposed to lead silicate distributed into the atmosphere in sufficiently finely divided state and in sufficient dosage, cases of lead poisoning would develop among them. Undoubtedly some absorption would take place, and if the dosage were sufficient, such absorption could reach dangerous proportions, if exposure occurred over a sufficient period of time. It so happens that we have had no opportunity to measure the extent of human lead absorption, under known conditions of exposure to lead silicate. Consequently I cannot give you any better opinion than that expressed above. The experimental work required to evaluate this particular compound, in relation to other lead compounds would be extensive and costly. So far as I know, it has not been done. Indeed, there are very few experimental data or data obtained from specific industries, that would enable us to compare specific compounds with each other under the conditions of industrial exposure. I dare say that we in this Laboratory have some of the best data available anywhere on this subject. Nevertheless it would be quite impossible to deal with this problem in any more than general terms at present.

From the practical viewpoint the thing that is of greatest importance

Mr. Russell Frank - (2) - November 25, 1947

in the ceramic industry is the use of lead compounds, and particularly lead silicate, in a form that is not so finely divided as to give rise to dusts that remain suspended in the air breathed by workmen. If the use of such dusty material can be avoided, the control of the lead exposure is fairly readily achieved.

Very truly yours,

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Robert A. Kehoe, M. D.

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