

ESTABLISHED 1828

THE WM. S. MERRELL COMPANY

Manufacturing Pharmacists

LOCKLAND STATION
CINCINNATI

June 4, 1941

E. G. GERWE, PH. D.
DIRECTOR OF LABORATORIES

Dr. Robert A. Kehoe
Director, Kettering Laboratory of
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University of Cincinnati
Eden and Bethesda Avenues
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Dear Dr. Kehoe:

We have before us at the present time a problem on which we shall appreciate your comments. You undoubtedly know that because of the great demands for tin by the various defense industries a considerable amount of effort has been made to use other metals in its place. The ordinary tin collapsible tube, for example, will soon no longer be available and manufacturers are at this time experimenting with tubes made with substitutes.

Quite recently, one of the manufacturers of collapsible tubes has sent us a quantity of tin-lined lead tubes which are being recommended for use in place of tubes made from tin. When this matter was first brought to our attention my thoughts quite naturally ran to the possibility that materials contained in tubes of such construction might become contaminated with significant quantities of lead.

As we understand the process of manufacture involved, the lead sheet is covered with a very thin layer of tin which, thus coated, is subsequently fabricated in the usual manner. It may be presumed that as a result of handling during the process of converting the sheet into tubes that there might be some possibility that the tin would not completely cover the entire inner surface of the tube allowing the lead to become exposed in places. It is possible, of course, that the process will be developed to such a state of perfection that this will not happen.

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Dr. Robert A. Kehoe

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Fortunately, collapsible tubes are used for the most part, at least in our industry, as containers for products which are not given internally, such as ointments and jellies. The majority of such products are applied directly to the skin but certain of these, such as ophthalmic ointments, pile ointments, and lubricating jellies, come into contact with mucous surfaces through which absorption is greater.

Do you think that there may be a possibility that significant quantities of lead may be taken up by ointments and jellies contained in the tin-lined lead tubes which I have described, and in the event that appreciable quantities of lead are absorbed in this manner by the preparations, is there a chance that any lead poisoning might result? In most instances, as you understand, a product of this type may not be used more than a few times, but in the case of rectal ointments, for example, for use in patients suffering from hemorrhoids, it is conceivable that it may be used fairly frequently over a long period of time.

We have already begun studies to determine if the chemical or physical properties of such of our products as are packaged in these containers will be affected by the use of tin-lined lead tubes instead of tubes made from all tin. By the use of ordinary laboratory procedures, we undoubtedly would have difficulty in detecting the presence of small quantities of lead with which the product might become contaminated.

I hesitate to bother you with our problem but knowing of your wide experience in the field of lead poisoning, I am sure that your comments will be most helpful and may save us from doing a great deal of unnecessary investigation.

With kindest personal regards, I remain

Sincerely yours.

E. Gerwe 
Director of Laboratories

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