LEAD INDUSTRIES ASSOCIATION

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January 27, 1943

LEAD HYGIENE AND SAFETY
BULLETIN NO. 26

To Members of the Lead Industries Association:

Herewith please find extract from a letter by Dr. Joseph C. Aub of the Harvard Medical School on the medical investigations he is making aided by a grant from the Lead Industries Association.

Very truly yours,

F. E. Wormser

Secretary.

Lead Hygiene & Safety
Bulletin No. 26

COPY

January 27, 1943

Report on the Investigations aided by a Grant
from the
Lead Industries Association
1941-1942

Since my last report to you, in June,1941, we have continued to study radioactive isotopes, particularly in relation to the permeability of cells grown in tissue culture. To the work previously reported, we have added potassium and lead salts, and this work is continuing in spite of the war. A vast amount of information has been accumulated and is now nearing the stage where publication is possible. We have been fortunate in being able to continue to get radioactive isotopes from the cyclotron at the Institute of Technology, though that apparatus is devoted primarily to war needs.

On May 1, 1942, our laboratories moved to very nice quarters at the Massachusetts General Hospital. Research was interrupted for only a short period at the time of moving. At this time, however, we plunged into war work, studying wound shock, a problem which I studied during World War I. The personnel paid by the Lead Fund, however, was still able to carry on its work on inorganic salt metabolism. The technician who was working on the permeability problem has continued to do only that work and plans to continue with it until it is completed. Dr. Cohn has been able to supervise the work though he has spent most of his time on the war problem of shock which has engrossed our laboratory. Our first approach to the war problem was based on what we had learned from the permeability problem, supported by the Lead Industries Association, and proved of considerable value in working out the effect of shock on the permeability of body cells. Other problems have also arisen from this original study, such as the absorption of inorganic salts from the stomach and the permeability of cells for radioactive dyes, etc., which have been completed during the year.

In August of last year, Dr. Seymour Kety joined our staff. He has a National Research Council Fellowship which enables him to spend one year with us, but which he did not finally accept until he was refused by the Army because of a physical disability. Since then he has been partly involved in the shock problem but is also continuing his very interesting studies on the importance of citrate ions in the liberation and deposit of lead in the body. This approach to the treatment of lead poisoning is an extremely interesting one. It is based on the knowledge that lead citrate, like calcium citrate, is not ionized and, therefore, should have a very low toxicity. Dr. Kety has done very interesting work in this field at the University of Pennsylvania and here, using our supply of radioactive lead to see whether citrates liberate lead from the bones, and so accentuate excretion. We are particularly fortunate to have him with us for he is a most able young man and is proving a superior investigator.

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