

June 10, 1942.

Lt. Col. Jack J. Hinman, Jr.,
The Engineer Board,
Fort Belvoir, Virginia.

Dear Colonel Hinman:

In response to your letter of June 1, concerning our objection to galvanized cans, I am sending you herewith a report of our observations on the galvanized water cans supplied us by the Jeffersonville Depot some time ago. I am somewhat surprised that you have not seen this report, for I should have expected that Colonel Gentskow would have made available our report to persons as interested as yourself in this problem. However, the distribution of such reports is not my affair, and, therefore, the best thing I can do is to send you our information on the subject. Generally speaking, I think it is fair to say one has to consider lead contamination, as well as zinc, in dealing with galvanized surfaces. Moreover, I think you will see from these data that the zinc concentrations in various types of waters standing in galvanized containers are significantly high.

We were not thinking at all of difficulties on the part of the gasoline, in the recommendations we issued. On the other hand, galvanized drums have given a great deal of trouble, and a somewhat special procedure has been required, the nature of which I can not tell you off hand, to render such drums suitable as gasoline containers. I do know that in a number of instances, gasoline reacted with the surface, thereby causing decolorization, and I think also some precipitation of lead compounds. If this is of any interest to you, I can find out what happened and what was done to cure this condition.

With kindest personal regards,

Cordially yours,

Robert A. Kehoe, M. D.

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Enc.

ADDRESS REPLY TO
THE ENGINEER BOARD
FORT BELVOIR, VIRGINIA

WAR DEPARTMENT
THE ENGINEER BOARD
FORT BELVOIR, VIRGINIA

REFER TO FILE NO.

671 (SP 315)

June 1, 1942

Dr. Robert A. Kehoe
Kettering Laboratory of Applied Physiology
College of Medicine
University of Cincinnati
Eton Avenue
Cincinnati, Ohio

Dear Dr. Kehoe:

In looking over the recommendations you made in your recent report on the cleaning of 5 gallon gasoline cans, I note that you specify very strongly that galvanized cans are not to be used for water. You also recommend that terne plate is not to be used.

As I remember the composition of terne plate, it is 60% lead and 40% tin. Consequently, it is obvious that you fear lead going into solution.

I am not sure just what you have in mind with regard to zinc. When we prepared the 1925 standards of the Treasury Department there was considerable dispute about the amount of zinc which would be permitted in the water. Some of the committee (particularly Dr. Sale) of the Department of Agriculture, wanted very low zinc content. Others wished to permit considerably larger concentrations. Finally, a compromise on 5 parts per million was reached and this was the value that I wrote into the Standards as secretary of that sub-committee. Subsequently, there has been some criticism due to the feeling that 15 parts per million would have been a better value. Reports have indicated that as much as 50 parts per million in certain Missouri spring waters have caused no trouble. I presume that you are familiar with all of that.

Perhaps it is the fact that gasoline reacts with a zinc coating which caused your statement about iron. I would be glad if you would ^{write} little more fully.

Sincerely,



Jack J. Hinman, Jr.
JACK J. HINMAN, JR.,
Lt. Col., Corps of Engineers,
Chief, Water Supply Section.

cc: Dr. R. H. Ewell.