INTERNATIONAL SHOE CO.

MANUFACTURERS

1509 WASHINGTON AVE.

ST. LOUIS, MO.

September 11, 1942

Dr. Robert A. Kehoe,
Kettering Laboratory of Applied Physiology,
University of Cincinnati,
Cincinnati, Ohio.

Dear Dr. Kehoe:

Please accept our thanks for the helpful information you gave us in your letter of September 3. Our investigation of the potential hazards involved in this use of lead is based on the assumption that we may soon be forced to apply a coating of lead to metal box toes for shoes.

A copy of the report of the American Public Health Association to which you referred, has already been obtained by us. This publication indicates that you have done a very thorough job of the investigation and are to be commended on it.

You inquired concerning further details of the specific application. If lead were used the most practical way for us to apply it would be by means of a spray gun which maintained the lead slightly above the temperature required to keep it molten and which sprayed it onto the metal with a nozzle force of approximately 100 pounds pressure. The metal part which is to be coated is approximately 2½" in diameter and is slowly rotated at a distance of about 15 to 18" from the nozzle of the gun. The spraying booth is ventilated by means of a powerful exhaust fan, but the sprayer operator stays continuously on the job for eight hour shifts.

In view of the fact that we are not yet forced to adopt lead as a coating material, I would suggest that you refrain from spending more time on this for us. As soon as we are compelled to go to this practice, I shall take the liberty of again contacting you and giving you the benefit of any additional data that we may be able to obtain.

You have my sincerest personal regards and thanks.

Yours very truly,

A. H. Winheim

AHW:MM

A. H. Winheim

KE 0307650

N 7984

September 3, 1942.

Mr. A. H. Winheim,
Cherokee Laboratory,
1820 Cherokee Street,
St. Louis, Missouri.

My dear Mr. Winheim:

I should be able to answer the questions in your letter of August 28, much more effectively if you were to give me more detailed information on the operation in question. The danger must be considered quantitatively, not qualitatively, and therefore, all of the conditions attending it are important in any valid appraisal.

Lead fume, vapors, and finely divided metallic lead are all important as hazards. Protection against inhalation must be provided to such an extent that dangerous absorption does not occur. I can imagine conditions in which there would be no actual danger. On the other hand, it is not difficult to visualize conditions, with respect to temperatures, quantities of material, lack of ventilation, etcetera, that would give rise to fatal lead poisoning. If exposure of workmen is to be more than brief and occasional, the conditions should be such that the air breathed contains less than 1.5 mg. Pb per 10 cubic meters of air. This, no doubt, can be done by suitably designed ventilation. Unless the job is a purely temporary one it is inadvisable to depend upon respirators for protection.

Some discussion of this entire problem is given in a recently published report of the Lead Committee of the American Public Health Association, of which I had the honor to be chairman. Copy ofthis report can be obtained from the offices of the A.P.H.A., 1790 Broadway, New York City, for the very nominal sum of thirty cents.

If I can give you any further assistance on this problem, please do not hesitate to call upon me. A fairly complete description of the operation would be necessary if any specific advice is desired.

Very truly yours,

Robert A.Kehoe, M. D.

RAK ef

KE 0007651

N 7984.01

AMERICAN CHEMICAL SOCIETY

SAINT LOUIS SECTION

ST. LOUIS, MO.

August 28, 1942

Dr. Robert A. Kehoe,
Kettering Laboratory of Applied Physiology,
University of Cincinnati,
Cincinnati, Ohio.

Dear Dr. Kehoe:

Recently we made a superficial survey of the literature on the toxicity of lead. This was done in an attempt to ascertain the hazards we might encounter in spraying molten lead on metal parts.

As is usually the case, the statements in the literature are somewhat confusing on a question of this kind. Consequently, we would appreciate your opinion on a specific case where lead fumes and vapors of finely divided lead particles are present in the air. Knowing of your high standing in this field, I thought that you might not object to making a definite statement or referring us to some paper that you consider most applicable to this problem.

We are especially interested in learning whether forced ventilation or respirators would be sufficient precautions in protecting workmen doing this job. Any help that you care to give us would be most highly appreciated.

With best personal wishes to you, I am

Sincerely yours,

A. H. Winheim

A. H. Winheim,
Cherokee Laboratory,
1820 Cherokee Street.

AHW:MM

KE 0007652

N 7984.02