



Mine Safety Appliances Co.

BRADDOCK, THOMAS AND MEADE STREETS

Pittsburgh, Pa.

September 9, 1940

IN REPLY PLEASE
REFER TO

Dr. Robert A. Kehoe
University of Cincinnati
College of Medicine
Cincinnati, Ohio

Dear Dr. Kehoe:

It makes me feel ashamed to read your report and think that I failed to give you very much help. The tempo of my activities has increased, as you might expect, during the past few months and I have had practically no time to devote to committee work or reports. I hate to admit it but I also find that I cannot burn as much "midnight oil" as I have in the past fifteen or twenty years.

I am not very often felicitious regarding reports but in this instance it was a real pleasure to read the report you prepared. It not only covers the subject very well but in my opinion is well organized and explicitly presented -- subjects that can be dispensed with briefly are handled in that manner and those requiring further explanation are given good attention.

I have no serious comments or criticisms to offer. There are, however, a few points that I mention primarily from the standpoint of offering such assistance as I can.

I personally prefer to read short sentences. You might look the report over from the viewpoint of breaking up some of the longer sentences. The long sentences you use are clear but this is mentioned merely as an incidental comment.

Page 8, line 14. It might be well to add "mist" to the other forms of atmospheric contamination.

Page 9, line 13. There is a slight typographical error. The word "vapor" should be pluralized to "vapors".

Page 10, line 7. I am wondering if covering the lead bath with charcoal reduces the lead vapor by the prevention of oxidation or by absorption of vapors. Frankly, I have not studied this protective means but from a technical consideration, it would appear that if the surface of the lead was kept in a reduced, clean, metallic condition, the lead might volatilize more rapidly than

if the surface were coated with oxide. It would also be expected that the vapor pressure was independent of the charcoal covering and as the vapor escaped the charcoal it would later become oxidized and go into the air. I am not saying that the coating of charcoal will reduce the amount of lead oxide emitted to the air but am merely considering the mechanism by which the escape is suppressed by the charcoal. You undoubtedly have a good reason for your statement.

Page 11. I suggest the addition of a paragraph relating to the contamination of air by lead mist such as the mist produced in spray coating paints and glazes that contain lead.

Page 13, line 11. On reading the first time, I gained the impression that partial absorption into the tissues of the body related primarily to the lead deposited on the alveolar surfaces of the lungs. It is my opinion that once lead is deposited on the alveolar spaces very little of it gets away except through absorption into the body. I presume you mean that partial absorption refers in part to the dust that is deposited in the respiratory passages and later swallowed. This latter statement is true but if your statement refers primarily to that deposited in the alveolar spaces, I believe the word "partially" does not express the quantitative relation.

Page 17. I have attempted to break down one of the long sentences. I suggest that you indicate that even though the "lead line" is not useful as a practical measure of varying degrees of lead exposure, it constitutes an indication of need for immediately looking into the lead hazards that occur in ^{the working} environment. Although you indicate the usefulness of the "lead line" at a later place, it would seem well to refer to it at this point. I am no convert of the great usefulness of the "lead line" but believe that consideration of the suggestion will ease the minds of those who are converts.

Page 19. There is a continual argument among investigators and persons engaged in lead control regarding the number of "stippled cells" that are significant. I know you are aware of this and have so indicated in this report. It might be well, however, to point ^{out} more emphatically that it is difficult for two investigators to compare "stippled cell" data unless they use identical techniques. Even then, it might be hard to say when the techniques are identical. It is my opinion that each man's work must stand on its own legs in regard to "stippled cells" and that no very sound conclusions can be drawn from the data obtained unless the person has a control group. In other words, have a series of pre-exposure examinations. Although you indicate the reasons for the variation of results obtained, I suggest that more emphasis be placed on this subject.

Page 23. I have made a few corrections in pencil on the margin.

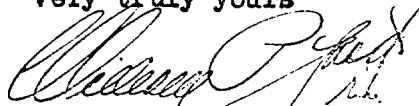
Pages 34 & 35. I have heard many discussions on the maximum allowable concentration of lead in the air. In general, the value of 1.5 mg. per 10 Cubic Meters of air is accepted by the majority of persons as representing the magnitude of concentration that has been found not to product any significant evidence of lead poisoning. However, the question always arises as to how the 1.5 shall be determined. Should this value be obtained by analysis using a representative sample that is later computed to 10 Cu. M. air basis or should it be based on several determinations whose results when considered with time of exposure would give a value representing the overall daily intake? In other words, a value obtained as the result of integration. Many persons fear that some inspector will take a sample at some particular instance or relative short period of the day and use that as a basis for determining the overall daily exposure. In other words, shall the 1.5 mg. be related to the overall daily intake or shall it be related to a sample taken at a particular period of the day and computed to a 10 Cu. M. air basis. It is my personal opinion that it should be related to the total intake. However, you have stated the opinion of the literature and I will not object if you do not change it.

It will be a real honor to present your report at the American Public Health Association meeting. However, as I stated in my telegram, I am chairman of one of the safety meetings of the National Safety Congress and will not be available on Thursday, October 10.

In regard to methods of air examination, I believe that the A.P.H.A. has a general committee on this subject headed by Dr. Hayhurst. The subcommittee members are Dr. Schrenk, Dr. Elkins, Dr. Smucker, Dr. Colman, Dr. Allan, and Dr. F. H. Goldman of the National Institute of Health as chairman. I am not sure about this being the complete membership.

This subcommittee had planned to report on methods for both CO and Lead this year. However, due to the lack of time they are dealing only with CO in their report. I understand, however, that the methods on Lead will be the program for next year. This is for your information, if you care to add it to your report.

Very truly yours



William P. Yant

Director of Research and Development

WPY-RL

P.S. Your telegram has been received and will be brought to Mr. Yant's attention upon his return to the office on Wednesday of this week.