D. R. JOHNS, M. D.
R. J. LIEHR, M. D.
SUITES 204-5-6 FIRST NAT'L BANK BLDG.
EAST CHICAGO, INDIANA

PHONES:
OFFICE 220
RES. 1030
RES. 3116

September 19th, 1935.

Dr. Robert Kehoe,
Kettering Laboratories,
University of Cincinnati,
Cincinnati, Ohio.

Dear Dr. Kehoe:-

I have come in contact with a condition where lead chloride was thrown off during a certain process of manufacture.

Knowing that it is more soluble and volatile than most other forms of lead, I wonder whether its toxicity is also more hazardous. I would be pleased to have your opinion in regards to its hazards, as to whether it might resemble somewhat the hazards of lead tetraethyl.

I wish to thank you at this time for the reprints which you were so kind as to send me, and the next time I get to Cincinnati, I will take the liberty of coming out to see you. With best wishes, I am

Very truly yours,

David R. Johns

DRJ:EO

David R. Johns. M.D.

September 21, 1935

Dr. David R. Johns
204 First National Bank Bldg.
East Chicago, Indiana

Dear Dr. Johns:

The type of exposure to lead mentioned in your letter does not seem to me off hand to be appreciably different in significance from that associated with other inorganic lead dusts. It is true that lead chloride is more soluble than some of the other lead compounds seen in the dusty lead trades, but in general I do not believe there is very much difference in the toxicity of inorganic lead compounds which are inhaled into the lungs. Lead chloride is not volatile at all except at very high temperatures, so that if in the process involved, the lead chloride is thrown off in the form of a dust at ordinary temperatures, there should be no question of volatility entering into the hazard. From what you have said I can not tell whether you are dealing with a situation in which high temperatures occur. If you are, the exact temperatures become an important factor in a decision. The size of the particles will also be a question of some consequence. In general, the smaller the particle up to a certain point, the greater is the danger of rapid lead absorption. If the particles are sufficiently large, they will also settle out of the air rapidly and so will produce less contamination in the atmosphere breathed. In the case of the inorganic lead compounds, it seems to be fairly well established both experimentally and in practice, that if the lead content of the atmosphere does not exceed 5 mgs. of lead per 10 cubic meters of air, the danger of poisoning is not very great. This, I believe, is a question not of the nature of the lead compound, but of the quantity.

As to the similarity of lead chloride to lead tetraethyl, you need have no anxiety. The physical and chemical properties of the two are so different that it is not to be expected that the mode of absorption or the manner of initial distribution of lead chloride would resemble that of lead tetraethyl.

Dr. David R. Johns

I trust this answers your question, but if you wish to give me any further details, I should be glad to amplify what I have said.

Very truly yours,

RAK:is

Robert A. Kehoe, M.D.