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Chief Medical Officer

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OUR REF. MU/K.1.

YOUR REF.

July 25, 1957.

Dear Dr. Kehoe,

I feel sure you will not be surprised that I should write to you with regard to AK-33X. Numerous enquiries on the toxicological aspect of this manganese compound have been directed at me and I have absolutely no source of reference even for analogous critique in respect of organic manganese.

Bearing in mind the effects of metallic manganese, one might well assume that a volatile organic manganese would in fact display a toxicological form somewhat on the lines of organic lead.

The immediate needs at this moment are:

1. Literature references to this or other organic compounds of manganese.
2. Any private sources of toxicological information, with experimental data.
3. Particular information as to the practical significance toxicologically between the addition of organic manganese compound, in analogous proportion, and that of the 4th c.c. of organic lead to the gallon of gasoline.

My own first reaction is that a probability exists that the answer to No. 3 would be that since both metals in this state would result, on exposure, to serious central nervous intoxication, the addition of organic manganese to anti-knock compound would have just about the same effect as the addition of more organic lead in terms of human exposure to blended gasoline. One might further consider that anti-knock compound

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in undiluted form containing both lead and manganese would probably be more toxic than tetraethyl lead compound alone, while in terms of automobile exhaust gases the best one could hope for is that no more significant air pollution would result from the combination of these two organo-metals, than exists already.

I should be most grateful for your comments on this subject.

With kindest regards,

Yours sincerely,

Philip

*B. Mr. Keenan has received a full report from Allyn Corp.,
so the subject is that much "open"! B*

PRB/jmr

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