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ETHYL CORPORATION OF CANADA LIMITED

CORUNNA, ONTARIO

27 October 1960

Surgeon Rear Admiral T.B. McLean
Surgeon General, Canadian Forces
Department of National Defence
Ottawa, Ontario

Attention: Colonel R.D. Barron

Your Reference: HQ 5505-1 TD 0272
HQ 2-6200-2 (ASG 8)
4/3 October 1960

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Thank you, Colonel Barron, for your enquiry regarding tetraethyl lead (TEL) and tetramethyl lead (TML).

As you know, TEL has been successfully used in automotive fuel for many years and its handling has occasioned no difficulty provided accepted rules are followed.

Two booklets, entitled "Regulations For Handling And Mixing "Ethyl" Antiknock Compounds", and "Public Health Aspects Of Increasing Tetraethyl Lead Content In Motor Fuel", are enclosed for your information. These include the tried and proven handling instructions and other data which have been emphasized by our company for many years. We felt they might be of some interest inasmuch as they are also now the guides for the handling of TML.

The extent of the ultimate use of TML is, of course, not yet determined. One refining company in western Canada is now using this additive and others have been doing experimental work on which their decision will be made as to the future utilization. Experimental data thus far indicates that in some circumstances and type of fuel TML has certain definite advantages. It is unlikely that the material will replace TEL in any type of fuel. Its use, then, will probably be supplementary. In total amount, the additives will not be used in excess of the present limits of 4 mls. per U.S. gallon. Our program of preventive supervision is therefore being carried on in the same manner as for the past number of years.

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Att: Col. R.D. Barron

27 October 1960

Present information indicates that the potential hazards associated with the handling of gasolines containing TML are not significantly greater than those associated with the corresponding handling of gasolines containing TEL. As for the amount of lead discharged by automobile exhausts, there will be no difference between TEL and TML as long as they are used in the same concentration of metallic lead per gallon of gasoline.

Experimental observations of some duration are continuing at the Kettering Laboratory in Cincinnati, Ohio, and although final conclusions as to the toxicity of TML have not been reached, it seems that existing methods of health control will be able to ensure a wide measure of safety. Although TML is somewhat more volatile than TEL, this appears to have some advantage to balance any disadvantage. Practical experience thus far with studies of personnel involved in manufacturing the product have not indicated any significant variation in physiological response. Further data will no doubt be available in the future.

In the United States, because of the role of the U.S. Public Health Service, a preliminary report of an investigation into the potential hazards of TML was submitted to the Surgeon General's office. Because, based upon all available information and research, the use of TML in gasoline represents no difference in potential public health hazards as compared with TEL, the Surgeon General did not undertake to exercise any kind of regulatory power either for or against, but raised no objection to the commercial use of TML in gasoline.

In Canada we have informed provincial Departments of Health and the Department of National Health and Welfare of our intention to market this gasoline additive, and have provided data to these authorities as desired.

To summarize:

(1) Tetramethyl Lead will be used in Canada as a partial replacement for tetraethyl lead in certain instances.

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KE 0002914

Att: Col. R.D. Barron

27 October 1960

(2) The extent of the use of tetramethyl lead has not yet been determined.

(3) From a practical point of view, the toxicity of tetramethyl lead is not significantly different from that of tetraethyl lead.

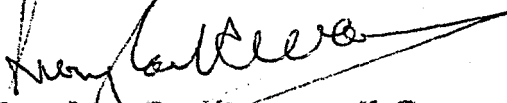
(4) Established principles of handling tetraethyl lead can be safely applied to the handling of tetramethyl lead.

(5) Total amount of the additives TEL and TML will not exceed existing levels, i.e. 4 mls. per U.S. gallon.

We hope this information may be of some assistance to you and will endeavour to provide any further information on request.

Yours sincerely

ETHYL CORPORATION OF CANADA LIMITED


Douglas R. Warren, M.D.
Medical Consultant

Enclosures (2)

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