

Before the
CALIFORNIA ASSEMBLY TRANSPORTATION COMMITTEE

April 2, 1970

My name is John L. Kimberley. As executive vice president of the Lead Industries Association, I am presenting this statement on behalf of our 61 member companies engaged in the mining, production, manufacturing and fabrication of lead and lead products.

With me is Dr. Jerome F. Cole, who is manager of environmental health for the International Lead Zinc Research Organization with primary activity in environmental health research. He is fully aware of the current status of pertinent research on lead in the environment.

The Lead Industries Association requested this appearance before the California Assembly Transportation Committee to discuss current proposals to regulate, reduce, and eventually to prohibit lead additives in gasoline. We commend and support California's determination to reduce harmful emissions into the air from automobiles and other sources.

We are, however, opposed to measures that would foreclose promising alternative courses of action for accomplishing cleaner air for California and perhaps the rest of the nation. Other states and the federal government will be strongly influenced by action taken in California, a bellwether in the battle against air pollution.

You are considering legislation that would put full reliance for auto emission control on the reduction of lead additives in gasoline now, and ban them completely within a few years. By passing such legislation, you would be shutting off the very real possibility that more complete emission control might be accomplished soon with present cars and gasoline. The banning of leaded gasoline now by law would leave only the unproved and undemonstrated alternative of improving emission controls with unleaded gasoline.

Furthermore, it is universally agreed that the public will have to absorb the higher cost of motor vehicle operation, and that the draw down of petroleum reserves may be increased by 6 to 8 percent per year.

This uncharted course will, however, seriously affect the petroleum and automobile industries and their customers, as well as the lead industry.

You have heard, or will hear, of the effect of such legislation on industries such as California's small independent petroleum refiners. The lead industry, a significant factor in the West, also would be adversely affected. In the past five years, the amount of lead used in gasoline additives has been equivalent to 55 to 75 percent of all lead mined in the U.S. Significant as this market is to the lead industry, I am authorized to say that we would withdraw our objections to the removal of lead from gasoline if we were convinced that this is necessary to solve the auto emission problems or if lead's removal were necessary to remove a known health hazard to the public.

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We are not convinced that the removal of lead will have all the benefits purported.

For these and other reasons which I will discuss, we urge you not to enact legislation that would at a definite future date ban the use of any and all leaded gasolines.

In support of our position, I offer these major points for consideration:

One: No proved benefits in emission control have been demonstrated to result from lead-free gasoline, despite speculation and assurances.

The Technical Advisory Board's recent report summarized certain devices including catalytic systems that are claimed to work better with non-leaded gasoline than with present fuels. But these have not been tried on a large-scale basis. There is no proof that assurances of their greater efficiency will in fact be substantiated.

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Two: Significant reduction in auto emissions has already been accomplished with present automobiles and present gasolines.

Further work on control devices and techniques show that some already exist that will function with leaded gasoline and with long-term effectiveness -- up to 100,000 miles. More advanced work on such methods would certainly be slowed or halted if legislation banning use of leaded gasoline were now enacted. These alternative avenues of control should not be blocked.

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Three: The knowns and unknowns about non-leaded gasoline do not at this point support the supposition that auto emissions will be improved by the removal of lead.

Your Technical Advisory Committee recognized this weakness by saying:¹

"There may be a tendency for petroleum companies to replace lead additives with aromatic fuel components in order to retain lead anti-knock quality. Because of evidence that increased reactivity in the atmosphere and a potential increase in carcinogenic compounds may result, aromatics should be limited to present levels."

There is no indication that the aromatics will be so limited.

In addition, I call your attention to research reported by the U.S. Department of Interior in 1969:²

"In the case of the premium fuels, Bureau of Mines reactivity data reveal that emissions produced using the non-leaded premium exhibit photochemical reactivity that is increased over that of the leaded fuel in both the exhaust and evaporative components.... It would appear clearly that the increased photochemical reactivity is attributable to the higher aromatic content of the non-leaded fuel."

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Four: The uncertainties about results of using non-leaded gasolines emphasize the need not to ban leaded gasolines now for the future.

This is emphasized by Herbert C. McKee of Southwest Research Institute and chairman of the Texas Air Control Board in a paper published in the March 1970 issue of Environmental Science and Technology:³

"Therefore cutting down on the lead content of motor fuel to reduce a suspected but unknown and unproved health hazard might increase another health hazard that is suspected but equally unknown and unproved. Trading one unknown hazard for another hardly seems appropriate, especially since lead additives have been used in motor fuels for over 40 years. After that period of time, and after all the experimental work performed, the hazard must not be too great if scientists still debate the question.... No urgency is evident which requires immediate action, and it would seem prudent to wait, in the hope that a better estimate can be obtained in the next year or two concerning the relative hazards of both lead and polynuclear aromatic compounds. Any necessary control measures could then be initiated and avoid the danger that action taken to reduce a presumed hazard might create a separate but possibly greater hazard."

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Five: Lead does not contribute to formation of photochemical smog -- one objectionable feature of California's air pollution.

Studies in California by Arie Haagen-Smit that showed the connection between auto exhausts and photochemical smog did not implicate lead emissions. In addition, a research study by the Midwest Research Institute in 1958 provided laboratory evidence on lead to this conclusion:⁴

"It is concluded that the addition of tetraethyl lead to gasoline does not contribute to the Los Angeles smog problem."

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Six: Lead in the atmosphere -- whether from auto exhausts or other sources -- has not been shown to present a health hazard to the public.

The California State Board of Health reported in 1967 that:⁵

"There have not been any cases of characteristic lead toxicity reported in the literature which could reasonably be ascribed to community air pollution." This sentence can be read only one way: "There's been no lead poisoning resulting from lead in the air."

The American Medical Association's Committee on Occupational Medicine in 1966 reported:⁶

"...significant, subtle, and unrecognized or 'unrecognizable' changes are not occurring in the general population as a result of its exposure to environmental lead. In fact, this

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vast clinical evidence, evaluated by a great number of clinically trained scientists, suggests that the general public is not now, nor in the immediate future, facing a lead hazard."

In 1969, the American Industrial Hygiene Foundation affirmed this:⁷

"Authorities are agreed that the possibility of acute exposure to large amounts of lead in the outdoor air is not real..."

Finally, I again cite Dr. McKee's paper in the March 1970 issue of Environmental Science and Technology:

"...there is no clear evidence that the present atmospheric lead levels are detrimental to human health."

Dr. Thomas Haley of the University of Hawaii School of Medicine commented in 1968 on the question of lead's toxicity:⁸

"One must be careful to state the exact conditions necessary for development of toxic symptoms. It is foolish to quote acute episodes (such as from paint) that occur in the population, particularly in children, because they have no direct bearing on the question of chronic exposure in the environment and only serve to confuse the issue..."

Dr. Haley succinctly stated in 1966 the situation with respect to air as follows:⁹

"Lead body burdens of the population have been maintained at the same level for the past 30 years regardless of the fact that there has been a 2.5-fold increase in the use of leaded gasoline. The bulk of the body burden of lead has been obtained via the food chain and not by inhalation from the environment. Although lead is present in the ambient air, only a small percentage of the inhaled lead is in the correct particle size for pulmonary retention and even that fraction contributes only an extremely small amount to the body lead burden.... The supposed chronic intoxication from environmental contamination is a myth, not a fact."

We have raised these points in our conviction that unless it can be satisfactorily demonstrated that lead's removal from gasoline will greatly facilitate the control of noxious emissions, there is not urgent reason for aiming legislation at lead today. This is particularly true since there will apparently be no additional control devices on new cars for at least two more model years.

The lead industry pioneered in research on occupational and other hazards from overexposure to certain lead compounds. We continue to support and press for expertly planned and executed studies on health aspects of lead in the environment, including the atmosphere. Such studies are being carried forward now, by the International Lead Zinc Research Organization alone or cooperatively with the U.S. Public Health Service, the American Petroleum Institute and others.

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The findings I have cited and other research have convinced the lead industry that there is no present health hazard from lead in the atmosphere. If such should be shown, the lead industry would cease to press its case for continued use of lead additives in gasoline.

Before final decisions on lead in gasoline, we urge further careful study and development of:

I. Existing methods for reducing undesirable gaseous automobile emissions with devices that are known to work with present gasolines.

II. Techniques and devices that will reduce all particulate emissions from gasoline, including lead.

III. Polluting effects including adverse health effects if automobiles are made to use non-leaded gasoline.

In view of all these uncertainties, we feel no action should be taken to restrict or ban use of lead additives until there are proved benefits or a demonstrated need far more definite than it is today.

It may be that the California legislature will decide to enact laws to compel the introduction and at least partial use of low-lead gasoline. This would provide a locally massive test of emission controls with such fuels and determine whether emission control devices now proposed will really work.

It should be realized that if the legislature decides to ban leaded fuels in the future, and this decision prevails nationally, the inevitable result will be the immediate reduction and perhaps cessation of research for improved methods of emission control on present automobiles and gasolines. Should the non-leaded gasoline experiment fail, we may find ourselves in greater control problems than presently exist, and years of development on control of emissions from leaded fuels will have been lost.

We urge you not to close out any alternatives that may furnish the solution to abatement of air pollution.

Thank you for giving us this hearing.

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REFERENCE DOCUMENTS

1. "A Rational Program For Control Of Lead In Gasoline," a report of the Technical Advisory Committee to the California State Air Resources Board, March 12, 1970.
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3. "Characterization of Particulate Lead In Vehicle Exhaust: Experimental Techniques," Southwest Research Institute, Environmental Science & Technology, March 1970.
4. "Smog Chamber Studies of Unleaded vs. Leaded Fuels," F. V. Morriss, C. Bolze, J. T. Goodwin, Jr., Midwest Research Institute, Industrial and Engineering Chemistry, April 1958.
5. "Lead in the Environment and its Effects on Humans," California Department of Health, March 1967.
6. "Comment," Committee on Occupational Toxicology of Council on Occupational Health, American Medical Association, Archives of Environmental Health, February 1966.
7. "Community Air Quality Guide," American Industrial Hygiene Foundation, 1969.
8. "Symposium on Air Quality Criteria-Lead," T. J. Haley, University of Hawaii, School of Medicine, Journal of Occupational Medicine, September 1968.
9. "Chronic Lead Intoxication from Environmental Contamination: Myth of Fact?" T. J. Haley, Archives of Environmental Health, June 1966.

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