Don G. Fowler, Director of Health and Safety

Since we last met, governmental agencies, particularly those in Washington and in the State of California have been intensifying their efforts in the investigation of air pollution in general and the contribution from automobile exhaust in particular. A scientist at the U. S. Geological Survey has discovered that lead comes out of auto exhaust tailpipes and she has documented this in a widely publicized report which gives the results of her tests on roadside vegetation. Add this to the multitudinous efforts of government agencies in cities, in towns, in states, in villages and in counties, to that effort which has gone before, and we have a truly staggering amount of time and effort spent on the problem. We estimate that government expenditures by means of grants to universities and others, and by direct expenditure, total in the millions of dollars on lead evaluation alone.

Sometimes I think that our relatively small expenditures on the problem are somewhat lost as far as overall effect is concerned. However, we are maintaining our efforts and keeping up, we think, even though the net effect may be one of running fast to stay where you are. Certainly none of our efforts has succeeded in expanding any market for lead in gasoline, but neither have we lost our market. What we are doing is to maintain a strictly scientific approach by sponsoring research programs aimed at factual portrayal of the situation as it exists, and investigations of the potential effect on the health of the population due to the existing situation.

STANFORD RESEARCH PROJECT

One of our research projects, which is located at the Stanford Research Institute in California, and which is jointly sponsored by the Ethyl Corporation, duPont Corporation, the American Petroleum Institute and ourselves through ERP is concerned with an investigation of particulate lead in the atmosphere of representative urban areas. Specifically, we are attempting to classify the fine particulate lead size fractions by amount, size and composition. The intent of this study is to ascertain how much of the lead which exists in the atmosphere derives from auto exhaust, or gasoline, and how much comes from other sources. We are also attempting to determine how much of the total lead which we find in the atmosphere is of a respirable size. For instance, we know that particles above a certain size range are not absorbed in the lungs and, therefore, are not of physiological significance. Therefore, we wish to know how many of these particles exist in our air with the ultimate intention of determining the total significance of lead as an atmospheric pollutant.

KETTERING LABORATORY PROJECT

This is where our other study, being conducted at the Kettering Laboratory under the joint sponsorship of the Ethyl Corporation, the duPont Corporation, the United States Public Health Service and ourselves through ERP, enters into the picture as a complement or other half of the Stanford Study. In the Kettering Study two human subjects are breathing amounts of finely-divided lead dispersed in atmospheric exposure chambers, and doing so for lengths of time which are calculated to simulate those exposures likely to occur in urban atmospheres. With the results of these studies available we expect to be able to advise those concerned with air

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pollution control as to potential exposures which are likely to occur and whether these exposures may be harmful and to whom. In the conduct of these studies we have obtained the advice and the active cooperation of representatives from the State of California Health Department and, as you have noted, we have the financial participation of the U. S. Public Health Service, a federal government agency. Our objective is a dual one, in that we are concerned with accumulating facts, and the distribution of these facts to those individuals and agencies who can use them in a logical and meaningful manner.

POTTERY STUDY

Another project with which work continues is that involved in the rather complicated and large-scale study of lead release from dinnerware glazes. The whole project is being carried on with the active and financial participation of the U. S. Potters Association. This project has proved to be of great interest and importance. The importance is due to the fact that very little such factual information is available in meaningful form to those people who are concerned with the problem potential. Thus far we have been able to develop a tentative test method which is practical, and significant, and capable of being performed in potteries as a control method, and in government laboratories as a policing method, if such is deemed necessary. The results of the work performed to date indicate that a problem exists only where poor techniques of manufacture occur and where supervision of the manufacturing process is lax. In other words, in our modern American potteries, there is no problem. We have, however, found in certain products from foreign countries and in certain American potteries room for improvement.

CHILDHOOD LEAD EXPOSURE

Every year we must mention at least the situation regarding poisonings in small children. This year there has been nothing radically new to report except for a slight increase in the numbers reported as having been poisoned by chewing old painted surfaces, and the great increase in the amount of adverse publicity that we have received. Much of our health and safety effort is spent in following and attempting to alleviate this problem. For example, we are cooperating with the National Paint, Varnish and Lacquer Association and the Brooklyn Health Department in repainting several apartments in a depressed area of that borough. This project is intended as an example of positive action.

KETTERING SYMPOSIUM

The Kettering Symposium on Lead which was jointly sponsored by the Ethyl Corporation, the duPont Corporation and ourselves, was held in February at Cincinnati and was attended by over one hundred representatives of private industry and government. This three-day meeting brought fourth a wealth of pertinent information on lead toxicology and control measures used in public and industrial health programs. The proceedings which will comprise the complete text of the 19 papers delivered at the symposium will be made available to our members and others upon publication.

ETHYL MUFFLER

I should like to mention at this time that one of our members, the Ethyl Corporation, has recently succeeded in developing an exhaust control muffler device designed for use on cars in the State of California. Let

me quote from the news release issued by the State of California on this occasion. "Los Angeles--California took another step toward ridding the State of automobile-created smog with the acceptance of a seventh exhaust device for official testing and the approval of study.

Dr. J. B. Askew of San Diego, Motor Vehicle Pollution Control Board Chairman, announced here today that a catalytic-type muffler developed by Ethyl Corp. will be road tested as soon as prototypes can be received.

'We welcome the scientific and industrial knowledge represented by Ethyl Corp. in California's efforts to find a satisfactory solution to the exhaust pollution problem,' Dr. Askew said. 'I believe the experience represented by Ethyl Corp. in the petroleum and automotive fields will be invaluable.'

Ethyl is the nation's largest manufacturer of anti-knock compounds and fuel additives. Its device is the result of several years' research and development."