

**PLAINTIFF'S
EXHIBIT**

ETCO-89

1962

Annual Report

Medical Department

Ethyl Corporation

April 1, 1963
Cincinnati, Ohio

E-00218

1. Introduction

During the year 1962, the Medical Department strived to provide the best possible medical surveillance of all personnel and operations of the Corporation at all its locations. Increasing effort was devoted to the development, organization and distribution of toxicological data concerning the company's products.

The physical presence of the Medical Department at The Kettering Laboratory in Cincinnati facilitates bringing together this increasingly necessary toxicological information as rapidly as possible. In addition, in this location it is practical for us to closely and continuously monitor and keep abreast of the investigative work that is being carried on for the Corporation.

With greater diversification of the Corporation's effort, all medical activities become more extensive and of greater importance. The increased interest of governmental agencies in the effects of chemicals and environmental health problems has required closer attention to the potential health effects of our products, both on the producers and the consumers.

Our interest in health effects is broad and varies from the immediate concern for good housekeeping and proper industrial hygiene practices at plant sites to the effect of public opinion, both customer and governmental, concerning the safe uses of the materials that are produced. All these

considerations require immediate contemporary attention to health agency attitudes and the possibilities of restrictive legislation. Consequently, the policy of the Medical Department has been to collaborate and cooperate actively with all properly constituted public and private groups whose health activities are advanced for the public good.

2. General

Several changes in personnel and organization occurred at the Central Medical Department during 1962. Dr. K. V. Kitzmiller, Medical Advisor, died on January 4, 1962. Dr. L. W. Sanders retired as Associate Medical Director and became a consultant to the Medical Department on July 1, 1962. Dr. Robert T. P. deTreville became Assistant Medical Director on July 1, 1962. Dr. Sidney Lerner was appointed Staff Physician on July 1, 1962.

Dr. deTreville was given the immediate and full responsibility for medical services in foreign countries and for off-shore distribution activities. Dr. Lerner assumed the responsibility for toxicological investigations, including distribution and coordination of research reports, for the Materials Manual, and for requests for toxicological information. Dr. Schradin continued to supervise all field medical services including the medical examinations of refinery blenders and Ethyl Corporation field personnel. Mr. Harry W.

Wheeler, as director of Industrial Hygiene Services, provided monitoring and audits of all plant operations.

The health centers of the manufacturing plants provided considerable medical attention for the employees of the Corporation. With increasing interest in the total health of our population, over 80% of their activity was devoted to non-occupational health problems. It is a tribute to the Corporation's policy of Preventive Medicine that no serious occupational injury and no cases of chemical intoxication occurred during 1962. Plant physicians provided many medical services to the employees and a continuing liaison with local medical societies and health authorities. The value of these activities has been self-evident.

During 1962, visits were made to more than two hundred twenty refineries, and workers were examined and approved for blending Ethyl antiknock compounds. Consistent with past policy, return visits were made when workmen were not available at the time of the initial examination. During the refinery visits, meetings were held with representatives of local management and the refinery physicians whenever they were available. These activities have all resulted in engendering goodwill and the mutual respect of community physicians.

Whenever possible, the Ethyl Corporation physician was accompanied by the Manager of the local Ethyl Testing Laboratory during refinery visits. This procedure makes

it possible to eliminate repetitive trips by the Ethyl Corporation Product Service Engineer while demonstrating the Corporation's serious interest in refinery safety procedures.

An active and intensive effort has been made to persuade individual refineries that these medical examinations should be carried out by their own medical staffs or physicians. Although there has been considerable acceptance of this concept, many refineries either have no medical service or have a physician in the community who works on a fee-for-service basis. In both these instances, management has been reluctant to assume the responsibility for the examination of blenders. Therefore, there remain many installations where medical examinations continue to be requested.

However, we feel that we have demonstrated conclusively that the blending operation is non-hazardous and that medical examinations are not required. A medical survey of the entire program and an analysis of the present medical status of blenders was initiated during the year. It is anticipated that this study will be completed and published in 1963. This publication should prove of great assistance in persuading refinery managements that it would be proper and advisable to abandon continued medical examinations of blenders. Ethyl Corporation's Medical Department will continue to provide advisory services and consultations for suspected intoxications whenever requested.

There has been continuing improvement in communications between the Medical Department and medical consultants in foreign countries. The use of the "Annual Medical Report" has been a valuable adjunct to our liaison. It is simple in form and yet supplies considerable information concerning industrial hygiene activities and requires correspondence even when no specific problems have occurred. It demonstrates to the foreign consultant that we are interested in the quality as well as the quantity of his work. When the reports are submitted, they usually supply additional information or ask questions that might otherwise never have been asked. This mutual understanding should continue to grow despite the fact that the varied nature of the service and differences in local conditions plus the distance and part-time nature of the activities militate against a close-working understanding.

There have been only a few mis-adventures in foreign countries. Two cases of tetraethyllead intoxication were reported from Mobil-Hellas and there was an unsubstantiated report that a refinery employee in Puerto Rico might have had lead intoxication. All other foreign activity reports suggest good industrial hygiene practices and no medical difficulties.

3. Industrial Hygiene

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During 1962, surveys were conducted at Baton Rouge, Pittsburg, Orangeburg, Edge Moor, Wilmington (California) and

Yonkers. When indicated, formal reports were made to the local management concerning plant conditions. Most problems were resolved routinely at a low supervisory level. There were no serious continuing deviations from good industrial hygiene practices.

Because of increased general public and governmental concern regarding the effects of industrial noise, sound surveys were conducted in all installations where applicable. This monitoring provides us with assurance that all our noise levels are within acceptable limits and the Corporation is not incurring a potential liability. The decibel and frequency levels have been made a matter of record and will be implemented routinely.

A visit to the Baton Rouge plant by the Louisiana Board of Health resulted in an official determination that our radiation control was excellent.

4. Projects

A continuing major interest of the Medical Department has been the health surveillance of all employees. Three areas have been of particular concern: (1) periodic medical examinations of all Ethyl Corporation employees, (2) an investigation into absenteeism and its causes, and (3) the need for a disability retirement examination policy.

1. Periodic medical examinations now have been made available at all installations to Ethyl Corporation

employees who desire them. The examination is voluntary except for employees who work in areas of potential hazard. These examinations are fairly comprehensive and include a medical history and review of systems, physical examination, electrocardiogram, chest x-ray, complete blood count, urinalysis and other laboratory examinations that may be indicated. All employees are examined either by salaried physicians employed by Ethyl Corporation or by local medical consultants appointed by Ethyl Corporation's Medical Department. The quality of these consultants and the character of their service are reviewed periodically by the Central Medical Department.

During 1962, influenza immunizations were administered to all employees who desired them. Not including the manufacturing plants, Detroit Laboratory or the New York office, approximately 50% of all employees in the field received these vaccinations.

2. The Detroit Laboratory showed the lowest absentee rate of all installations in 1962. The rate was 1.54%. This was below all other Corporation sites and much below the national average. Ten employees were responsible for one-third of this lost time. The Houston plant reported a rate of 3.2%, which was an increase over 1961 and the Baton Rouge plant a rate of 4.8%. At the Pittsburg plant, the rate fell from 3.62% in 1961 to 2.73% in 1962.

3. The Baton Rouge plant has had the greatest disability problem because of the presence of an aging plant population. During 1962, each case was adjudicated individually and processed with little difficulty. It is anticipated that thirty additional employees will be separated by disability retirement in 1963. This future experience will make it possible to establish a uniform policy with the necessary medical latitude.

5. Toxicology

The Medical Department has continued to cooperate closely with Product Service to provide toxicology data sheets on Ethyl Corporation products. Increasingly large numbers of these documents were prepared in 1962 and were distributed by Product Service. They have aided materially in advising customer companies concerning proper handling of Ethyl products and their correct physical and biological characteristics.

Criteria for safe handling of a number of compounds have been re-evaluated realistically and a continued effort was devoted to the preparation of proper labels both for customer containers and interstate commerce shipment.

An improved relationship was established with representatives of governmental regulatory agencies and our toxicological investigations are being designed and pursued following consultations with these agencies. This relationship

has proved fruitful during the current year and should be rewarding in the future.

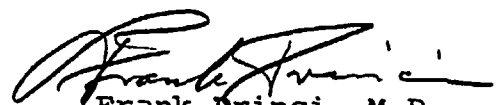
6. Air Pollution.

Considerable time and effort were devoted to medical aspects of air pollution during 1962. There was close participation in the work of various trade association committees, medical organizations and governmental agencies. Through participation of the "air pollution team," changes and developments in health attitudes and environmental disease problems have been brought to the attention of the Corporation. Through the medium of the American Petroleum Institute, the petroleum industry has been made aware of our interest in their problems and has recognized our leadership in environmental health problems.

7. Summary

The 1961 re-organization of the Medical Department has resulted in greater productivity and efficiency of operation during this year. All members of the Department, at whatever site, are recognized as medical authorities in industrial health problems and all the members of the staff have been active in community health affairs. These activities tend to increase the prestige of the Corporation as both plant and community health problems continue to increase. E-00227

4/1/63


Frank Princi, M.D.
Medical Director

APPENDIX A

PUBLICATIONS

The following reports were issued by The Kettering Laboratory in 1962, at the request of Ethyl Corporation:

The Immediate Toxicity of Ferrocene - 4/30/62

On the Potential Hazard Associated with the Introduction of Tetramethyllead as an Antiknock Agent into Commercial Motor Gasoline, with Respect to the Absorption of Lead by the Handlers of Such Gasoline - 7/10/62

The Acute Toxicity of Dibutyltin Sulfide to the Rat - 6/5/62

Metabolism of "Ethyl" Antioxidant Compound - Compound No. 702 - 10/2/62

The Immediate Oral Toxicity of 4,4'-Methylenebis(2,6-Di-Tert-Butylphenol) - 11/12/62

The Physiological Response of Rats and Rabbits to the Administration of a Motor Oil Containing 1,2-Dibromoethane - 9/19/62

The Physiological Responses of Rats and Rabbits to a Material Designated as Extreme Pressure Additive Number 1 (EPA-1 or COA -1) - 10/8/62

Other publications of interest were:

deTreville, Robert T. P., M.D.; Wheeler, H. W. and Sterling, T.: Occupational Exposure to Organic Lead Compounds. The relative degree of hazard in occupational exposure to air-borne tetraethyllead and tetramethyllead. AMA Archives of Environmental Health 5:532-536 (Dec.) 1962

Burdick, J. G.: Medical Certification of Absence from Work. Medical Records and Annals 40:18-19 (June) 1962

Burdick, J. G.: Industry Needs Our Active Support. Texas State Journal of Medicine 58:879-880 (Nov.) 1962

Altshuller, Lillis F., Halak, Delmar B., Landing, Benjamin H., and Kehoe, Robert A.: Deciduous Teeth as an Index of Body Burden of Lead. Journal of Pediatrics 60:224-229 (Feb.) 1962

Kehoe, Robert A.: Antiknock Compounds and Public Health.
Ethyl News pp. 6-9 (May-June) 1962

Kehoe, Robert A.: The Hygienic Aspects of the Production and Use of Lead Antiknock Compounds. Presented at the Fifty-fifth Annual Meeting of the Air Pollution Control Association, Chicago, Illinois, May 22, 1962, 15 pp.

Princi, Frank: Chemical Progress and the Public Interest.
Archives of Environmental Health 5:525-526 (Dec.) 1962

deTreville, Robert T. P., Wheeler, Harry W. and Sterling, Theodor: Occupational Exposure to Organic Lead Compounds. The Relative Degree of Hazard in Occupational Exposure to Air-Borne Tetraethyllead and Tetramethyllead. Archives of Environmental Health 5:532-536 (Dec.) 1962

Princi, Frank: Medical Perspective in Atmospheric Hygiene.
The Journal of the American Medical Association 182:650-655 (Nov. 10) 1962