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INDUSTRIAL

HYGIENE

FOUNDATION

activities

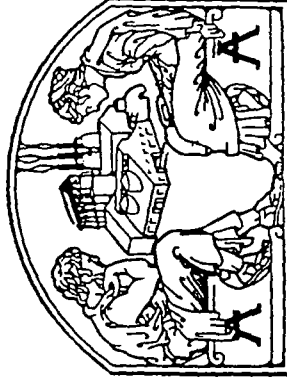
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MELLON INSTITUTE  
4400 FIFTH AVENUE • PITTSBURGH 13, PA.

# Industrial Hygiene Foundation Activities



NIELSON INSTITUTE • 4400 FIFTH AVENUE  
PITTSBURGH 13, PA.

# INDUSTRIAL HYGIENE FOUNDATION

## What it is

INDUSTRIAL HYGIENE FOUNDATION is a nonprofit research association of industries for advancing occupational health, improving working conditions and bettering human relations.

Organized in 1935 at Mellon Institute to assist in solving the silicosis problem, the Foundation has since had wide experience in the whole domain of occupational health. It has grown from a nucleus of 20 member companies to more than 400 supporting companies and trade associations representing leading industries of the nation.

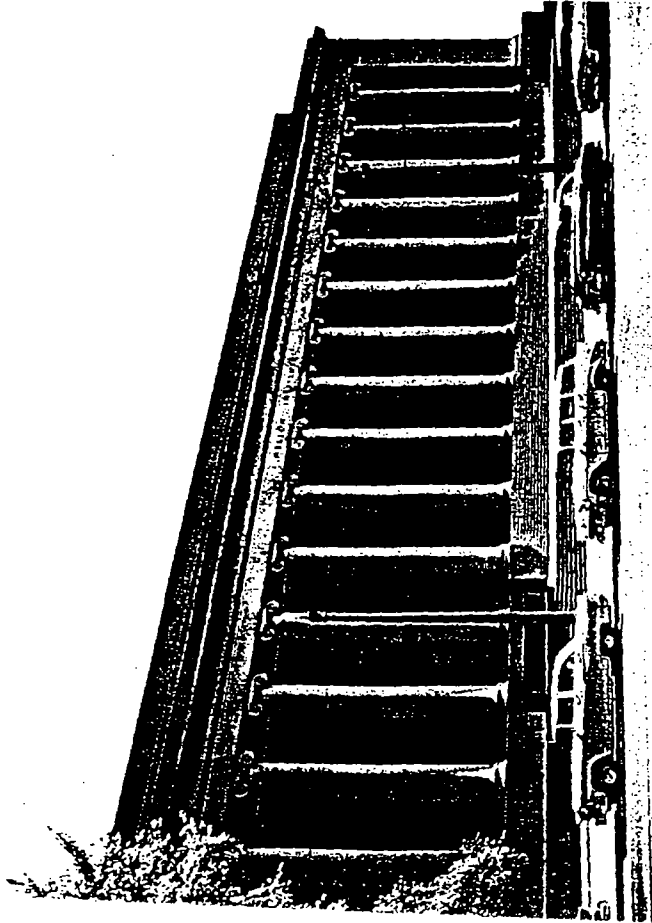
Companies and associations affiliated with the Foundation are entitled to the services of its industrial health team, plus the technical facilities of Mellon Institute, where the Foundation has its headquarters and laboratories.

## The I-H-F Staff and Associates

Physicians, chemists, engineers, industrial hygienists, biochemists and research technicians—all specialists in occupational health problems.

Five professional committees—medical, preventive engineering, legal, chemical-toxicological, and air pollution control—whose members supplement the staff in supplying facts and counsel.

A Board of Trustees comprised of top echelon leaders in technology, science, and education, who administer the Foundation's affairs in general.



*Mellon Institute  
Headquarters of Industrial Hygiene Foundation*

## **Services to Member Companies**

- Study and solution of specific industrial health problems
- Environmental surveys
- Control of hazards
- Development of health and medical programs tailored to individual company requirements
- Basic research in physiology, toxicology and biochemistry and in the field of air pollution
- Specific toxicological studies
- All types of air-pollution investigations
- Collaboration in operations researches
- Reports on legal developments in industrial health
- Technical information service
- Publications
- Annual meeting and technical conferences

*Annual Meeting of I-H-F in Mellon Institute Auditorium*



## **FOUNDATION ACTIVITIES**

### **Medical Services**

GENERAL INFORMATION is available from the Foundation on all matters pertaining to health maintenance services and to specific industrial medical problems.



CONSULTATION is provided dealing with the establishment, expansion and conduct of medical programs in industry.

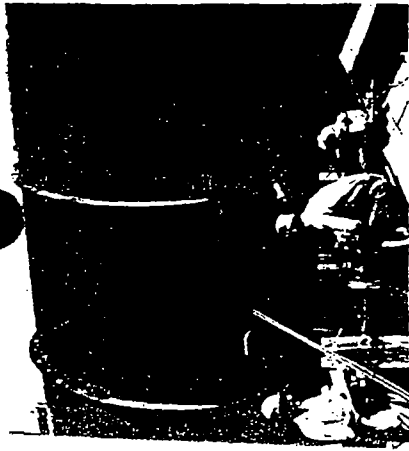


MEDICAL EVALUATIONS made by the Foundation for member companies serve to determine what is adequate for the health maintenance needs of an organization and its component plants, and to assure that the greatest amount of efficient, proper service is obtained for a given outlay of money.

Such audits include studies of organizational and administrative practices in industrial health services, inspection of medical facilities, interview of personnel in all areas relating to medical services and thorough examination of records of employment, illness and injury, with tabulation of costs where possible. Potential hazards are evaluated and physical examinations are designed with these and other pertinent factors in mind. In every instance recommendations are made with respect to a medical program suited to the needs of the company.



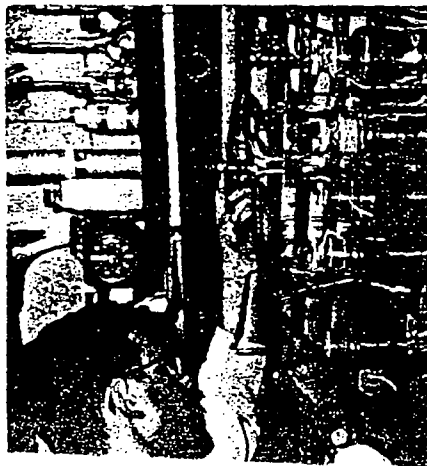
EPIDEMIOLOGICAL STUDIES are conducted to determine the relationship of certain diseases to occupation. Incidence rates of those diseases are related to possible causes by statistical methods.



*ensuring air flow in a duct*



*Determining radiant heat*



*Separating respirable dust  
into size fractions*



*Collecting metal fumes with  
electrostatic precipitator*

## **Industrial Hygiene Services**

ENVIRONMENTAL SURVEYS—many on an industry-wide scale—are conducted for members, as are plant studies on specific phases of industrial health problems. The nature and magnitude of hazardous exposures and the effectiveness of control measures are appraised.

I-H-F industrial hygienists and chemists measure and analyze dusts, fumes, gases, vapors and odors, noise and radiant heat; and, together with the medical staff, evaluate the hazards involved.

The engineering division is equipped to advise on control requirements for specific operations and on modifications in process to minimize, or, whenever possible, to eliminate environmental hazards.

The Foundation's industrial health specialists are called on to:

Give specialized advice on new plant design and construction and reconstruction in existing plants in order to make health protection an integral part of operations.

Conduct field tests of new control measures.

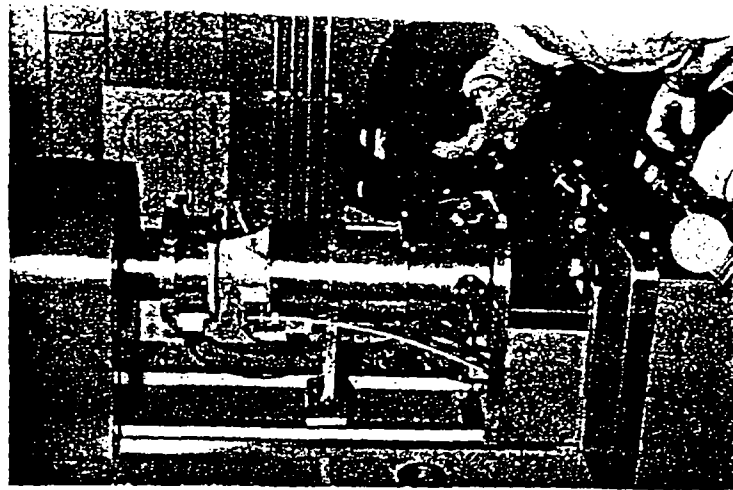
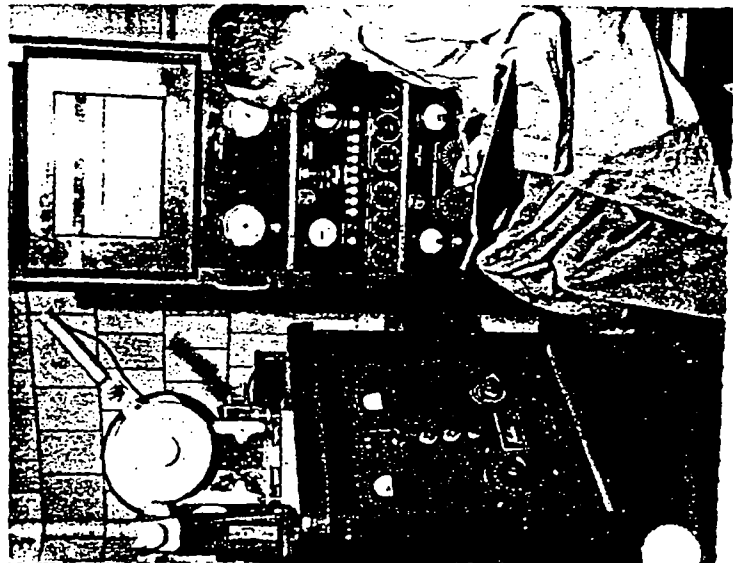
Review plans for ventilating systems, as to design, capacity, etc.

Advise on special air-cleaning problems.

Develop new data and design procedures for exhaust hoods.

Provide information and advice on toxicity of chemical and physical agents; on hazards of particular processes; and on sampling and analytical procedures, choice and availability of equipment.

Conduct basic research in the field of industrial hygiene to develop new sampling and analytical methods and techniques.

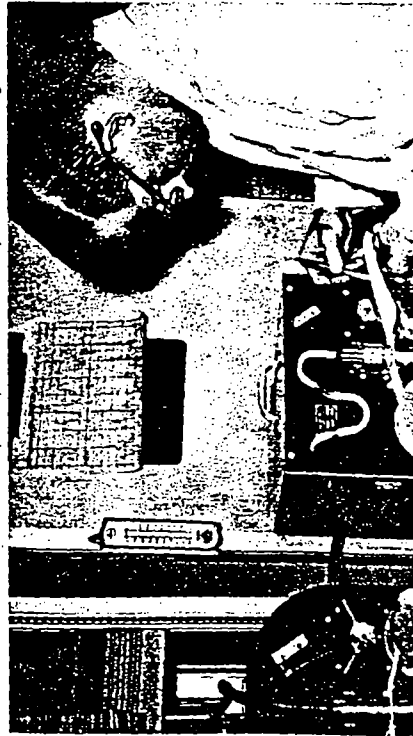


## **Air Pollution Investigations**

Closely allied with the industrial hygiene and engineering activities of the Foundation are its investigations into industrial air-pollution problems. Important parts of this activity are:

- City, community and regional surveys.
- Advice on specific problems—investigational procedures and criteria.
- Development of methods, apparatus and techniques for collecting and measuring air pollutants.
- Investigation of air pollution potentials of plants—measurement of stack dusts, fumes, gases and odors. Estimation of neighborhood effects.
- Assistance in engineering measures for controlling excessive stack emissions. Study of particle size and other characteristics of stack dusts and their relation to appropriate dust collectors.

*I-11-F automatic sampler for use in air pollution surveys*



*Mobile laboratory for field studies*



*Studying biological responses to air contaminants*

## **Toxicological Research**

The Foundation's toxicological laboratory makes studies in the physiology, toxicology, and biochemistry of physical and chemical agents, their mode of entrance into the body, and their subsequent possible toxic action. The findings serve as a basis for evolving proper control measures to protect the health of workers.

Short- and long-term toxicity studies on new chemicals to indicate nature of problems which may be encountered in manufacture and use are carried on in the laboratory.

Range-finding toxicity tests are made on new compounds



## Legal Assistance

The Foundation, through its General Counsel and its Legal Committee, keeps in contact with legislative activities pertaining to occupational diseases and compensation. Specific information desired by members is obtained.

Summaries of new compensation laws, revisions and additions are prepared.

New codes pertaining to health hazards and related problems are analyzed for members.

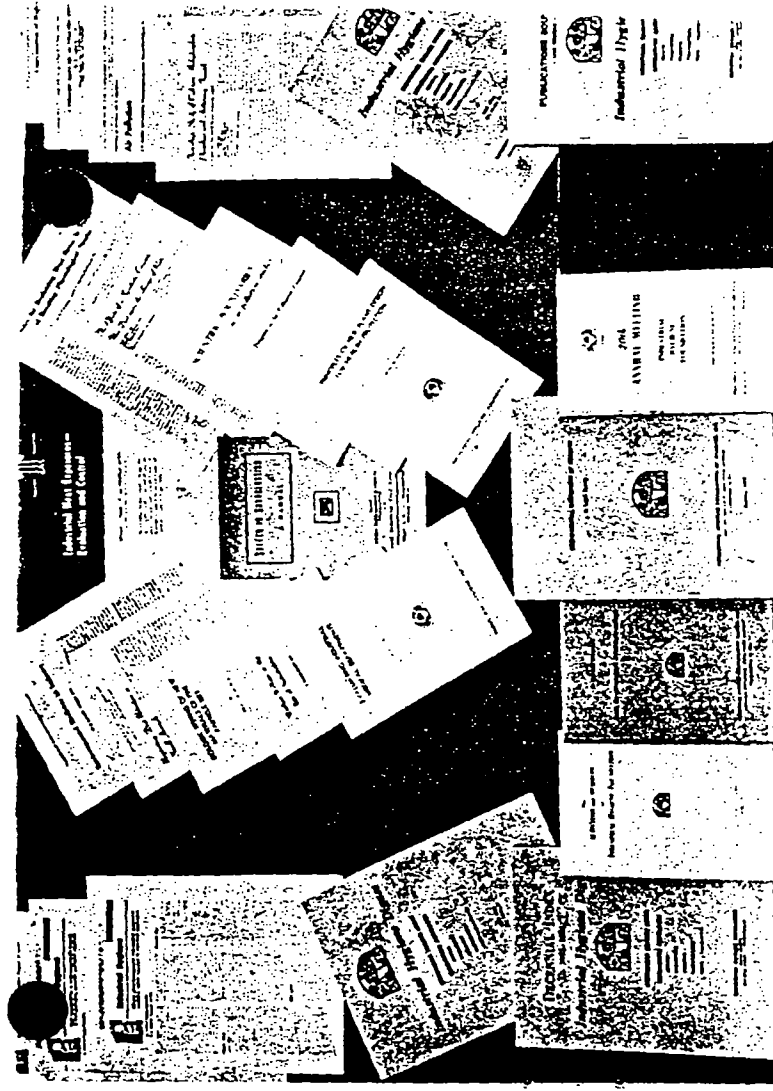
## Technical Information Service

Member companies are invited to tap the rich source of accumulated knowledge and experience represented by the Foundation's executive staff. A letter, telephone call or visit to the I-H-F offices will turn up an elusive bit of technical information or get to the roots of a perplexing problem.

The staff aids members in securing desired literature, prepares bibliographies, conducts literature searches, and secures information from other sources, as, for example, companies having related problems. Available reprints are supplied where they pertain to the information sought.

## Annual Meeting and Technical Conferences

Each year at its annual meeting the Foundation brings together at Mellon Institute nearly 700 executives, physicians, attorneys, engineers, chemists and industrial health specialists. This convention affords an opportunity to exchange valuable information on the year's achievements, trends and needs in the industrial health field, particularly at the Foundation's Medical, Legal, Engineering, and Chemical-Toxicological Conferences. The main session, which is intended for management, encompasses the broader objectives respecting human relations, socio-economic considerations and administrative policies in industrial health.



*Publications of I-H-F are available to members free of charge*

## Publications

*Industrial Hygiene Digest*, published monthly, carries abstracts of the current world's literature on all phases of industrial health, including the legal aspects.



Special bulletins and pamphlets on subjects of current interest.



Technical papers by staff members and other pertinent articles.



Transactions of annual meeting.

## Representative Publications

### Medical

"Evaluating Industrial Medical Departments," Daniel C. Braun, *Transactions of 20th Annual Meeting of Industrial Hygiene Foundation* (1955).

### Toxicology, Physiology and Biochemistry

"Importance of Biological Research in Industrial Medicine," Paul Gross, C. Richard Walmer and H. H. Schrenk, *Journal of the American Medical Association* (June 16, 1956).

"Chemical Analysis and Instrumentation in Industrial Hygiene," H. H. Schrenk, *Industrial and Engineering Chemistry* (August 1956).

"Action of Formulations Consisting of Detergents in White Oil, upon Corneal Epithelium of Rabbits," A. M. A. *Archives of Industrial Health* (August 1956).

"Respiratory Dust Retention in Small Animals," Paul Palm, James McNeerney and Theodore Hatch, A. M. A. *Archives of Industrial Health* (April 1956).

"Toxicologic Study of Calcium Halophosphate Phosphors and Antimony Trioxide," Paul Gross, J. H. U. Brown, Marian L. Westrick, Raymond P. Srsic, Nancy L. Butler and Theodore Hatch, A. M. A. *Archives of Industrial Health* (June 1955).

"Permeability of Lung Parenchyma to Particulate Matter," Paul Gross and Marian L. Westrick, *Year Book of Pathology and Clinical Pathology for 1954-55*.

"Partitional Respirometry," Theodore Hatch and Kenneth M. Cook, A. M. A. *Archives of Industrial Health* (March 1955).

"Biologic Testing of New Materials of Fine Particle Size," Paul Gross, *Transactions of 19th Annual Meeting of Industrial Hygiene Foundation* (1954).

### Air Pollution

"Pitfalls in Using Maximum Allowable Concentrations in Air Pollution," H. H. Schrenk, *American Industrial Hygiene Association Quarterly* (September 1955).

"Developments in the Sampling of Air-Borne Dust," Theodore Hatch, A. M. A. *Archives of Industrial Health* (March 1955).

"Permissible Dustiness," Theodore Hatch, *American Industrial Hygiene Association Quarterly* (March 1955).

### Engineering

"Proposed Program in Ergonomics . . . Human Engineering," Theodore Hatch, *Mechanical Engineering* (May 1955).

"Index for Evaluating Heat Stress in Terms of Resulting Physiological Strains," by H. S. Belding and Theodore Hatch, *Heating, Piping & Air Conditioning* (August 1955).

### Noise

Annotated Bibliography on Noise, Its Measurement, Effects and Control, 364 pages, 2,336 references, published by Industrial Hygiene Foundation (1955).

Occupational Impairment of Hearing—A Legal Survey, Theodore C. Waters, General Counsel for I-H-F, published by Industrial Hygiene Foundation (1955).

### Automation

"Worker Welfare in the Era of Automation," C. Richard Walmer, published in *Keeping Pace with Automation, Practical Guides for the Company Executive*, Special Report No. 7 of the American Management Association (1955).

"Medical Aspects of Automation," C. Richard Walmer, *Industrial Medicine and Surgery* (May 1955).

## Types of Membership in I-H-F

**COMPANY:** Membership in Industrial Hygiene Foundation is available to industrial organizations. Where a company has a number of plants, all of them share in the benefits of membership. Dues are scaled to the number of employees. The Foundation's membership roster represents more than 3,000,000 industrial workers.

**ASSOCIATION:** An association of employer firms or corporations may affiliate either through an *association membership*, which entitles that organization to all the publications, general advice and attendance at annual meetings; or by a *multiple membership*, which extends all the benefits of membership to each company belonging to that association.

**SUBSCRIPTIONS:** Subscriptions to Foundation publications are restricted to governmental agencies and to medical, health, research and educational institutions.

NAME

is a Member of

**INDUSTRIAL HYGIENE FOUNDATION**

A Research Association of Industries for  
Advancing Industrial Health and  
Improving Working Conditions

1959

*John H. Wilson*  
President, I.H.F.

## MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION

### -A-

Abingdon Potteries, Inc.  
Abrasive Grain Association  
Abrasive & Metal Products Company  
Peninsular Grinding Wheel Division  
Abrasive Products Company  
Acme Abrasive Company  
Aircraft-Marine Products, Inc.  
Allegheny Ludlum Steel Corporation  
Allegheny Pittsburgh Coal Company  
Allied Chemical & Dye Corporation  
Allis-Chalmers Manufacturing Company  
Aluminum Company of America  
American Abrasive Company  
American Air Filter Company, Inc.  
American Brake Shoe Company  
American Can Company  
American Emery Wheel Works  
American Foundrymen's Society  
American Iron & Steel Institute  
American Mining Congress  
American Optical Company  
American Radiator & Standard  
Sanitary Corporation  
American Smelting & Refining Company  
American Zinc Institute  
American Zinc, Lead & Smelting Company  
Anaconda Company  
Asbestos Corporation Limited  
Assn. of Casualty & Surety Companies\*  
Assn. of American Railroads  
Assn. of American Soap & Glycerine  
Producers, Inc.  
Atlas Powder Company  
Automobile Manufacturers Association

### -B-

Ball Brothers Company  
Bartlett-Collins Company  
Baugh Chemical Company  
Buy State Abrasive Products Company  
Beryllium Corporation  
Bethlehem Steel Company, Inc.  
Bird & Son, Inc.  
Bituminous Casualty Corporation  
Boeing Airplane Company  
Brush Beryllium Company  
George H. Bullard Company  
Bunker Hill & Sullivan Mining & Concentrating Company

### -C-

Can Manufacturers Institute, Inc.  
Carborundum Company  
Celanese Corporation of America  
Central Silica Company  
Chicago Wheel & Manufacturing Company  
Chromium Mining & Smelting Corp., Ltd.  
Cincinnati Milling Machine Company  
Cincinnati Milling Products Division  
Cleveland-Cliffs Iron Company  
Cleveland Graphite Bronze Company  
Robert F. Coleman, Inc.  
Colonial Abrasive Products Company  
Commonwealth Sanitation Company  
Consolidated Mining & Smelting Company of Canada, Ltd.  
Continental Can Company, Inc.  
Cooper-Bessemer Corporation  
Copperweld Steel Company  
Corhart Refractories Company, Inc.  
Corn Products Refining Company  
Cortland Grinding Wheels Corporation  
Crown Zellerbach Corporation  
Crucible Steel Company of America

### -D-

Deckers Creek Sand Company  
Deere & Company  
A. P. de Sanno & Son, Inc.  
Diamond Alkali Company  
Dow Chemical Company  
Dow Corning Corporation  
B. F. Drakenfeld & Company, Inc.  
Dravo Corporation

### -E-

Eagle-Picher Company  
Elasco Services, Inc.  
Electric Storage Battery Company  
Electro Refractories & Abrasives Corporation  
Elex S. A.  
Eljer Company  
Equitable Life Assurance Society of the United States  
Esso Research and Engineering Company  
Ethyl Corporation  
Exolon Company

\*Multiple Membership

## MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION

### -F-

Fairchild Corporation  
Fairchild Steel Company  
Fairchild Incorporated  
Fairchild Corporation  
Fairchild Mineral Company  
Fairchild Motor Company  
Fairchild Glass Company  
Fairchild Facings Manufacturers Assn.  
Fairchild Merriam Company  
Fairchild Company

### -G-

General Machine Company  
General Abrasive Company, Inc.  
General Ceramics Corporation  
General Electric Company  
General Grinding Wheel Corporation  
General Mills, Inc.  
General Motors Corporation  
General Refractories Company  
Georgia Kaolin Company  
Glenshaw Glass Company, Inc.  
V. R. Grace & Company  
Grinding Wheel Institute  
Gulf Oil Corporation

### -H-

Hall China Company  
Hamilton Emery & Corundum Company  
Hampton Grinding Wheel Company  
Hazel-Atlas Glass Company  
Hercules Powder Company  
Hoerner Boxes, Inc.  
Houssake Mining Company  
O. Hommel Company

### -I-

Industrial Indemnity Company  
Industrial Silica Corporation  
Inland Steel Company  
International Business Machines Corporation  
International Nickel Company, Inc.

### -J-

Jeffrey Manufacturing Company  
Johns-Manville Corporation  
Johnson & Johnson  
Jones & Laughlin  
Joy Manufacturing Company

### -K-

Kearney & Mattison Company  
Kennametal, Inc.  
Kennecott Copper Corporation  
Keystone Abrasive Wheel Company  
Kirk & Blum Manufacturing Company  
Edwin M. Knowles China Company  
Koppers Company, Inc.

### -L-

Lanier Laughlin China Company  
Lava Crucible-Refractories Company  
E. J. Lavino and Company  
Lead Industries Association

### -M-

Macklin Company  
Magna Copper Company  
Maryland Self-Insurers' Association  
Mayer China Company  
J. S. McCormick Company  
Mechanical Industries, Inc.  
Metropolitan Life Insurance Company  
Mexico Refractories Company  
Mid-West Abrasive Company  
Mine Safety Appliances Company  
Minneapolis-Honeywell Regulator Company  
Jesse S. Morie & Son, Inc.

### -N-

National Association of Mutual Casualty Companies  
National Crushed Stone Association, Inc.  
National Grinding Wheel Company, Inc.  
National Industrial Sand Association  
National Lead Company  
National Pulverizing Company  
National Sand & Gravel Association  
National Slag Association  
National Steel Corporation  
Neville Chemical Company  
New Jersey Pulverizing Company  
New Jersey Zinc Company

### -O-

Olin Mathieson Chemical Corporation  
Ottawa Silica Company  
Owens-Corning Fiberglas Corporation  
Owens-Illinois Glass Company

## MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION

### -P-

Pabst Brewing Company  
Pacific Grinding Wheel Company  
G. H. Packwood Manufacturing Company  
Paughorn Corporation  
Penn-Rifton Company  
Pennsylvania Glass Sand Corporation  
Pennsylvania Manufacturers' Association  
Casualty Insurance Company  
Pennsylvania Railroad Company  
Phelps Dodge Corporation  
Philadelphia Quartz Company  
Phillips Petroleum Company  
Pittsburgh Coke & Chemical Company  
Pittsburgh Consolidation Coal Company  
Pittsburgh Plate Glass Company  
Pittsburgh Steel Company  
Portland Cement Association  
Precision Grinding Wheel Company, Inc.  
Pullman Incorporated  
Pyrene Metal Finishers, Inc.

### -R-

Radio Corporation of America  
Raybestos-Manhattan, Inc.,  
Manhattan Rubber Division  
United States Asbestos Division  
Red Hill Grinding Wheel Corporation  
Refractories Institute  
Rem-Cru Titanium, Inc.  
Republic Steel Corporation  
Revere Copper and Brass Incorporated  
H. H. Robertson Company  
Robertson Manufacturing Company  
Rome Cable Corporation

### -S-

Safety First Supply Company  
St. Joseph Lead Company  
St. Regis Paper Company  
Sand Products Corporation  
Sandia Corporation  
Sauerstein Cements Company  
Claude B. Schneible Company  
Scott Aviation Corporation  
Sharon Steel Corporation  
Shenango Furnace Company  
Simonds Abrasive Company  
Simonds Worden White Company  
Socony Mobil Oil Company, Inc.

### -T-

Tata Industries Limited  
Taylor, Smith & Taylor Company  
Tennessee Copper Company  
Texas Company  
Texas Gulf Sulphur Company  
Titan Abrasives Company  
Trenton Potteries Company  
Trion, Inc.

### -U-

Union Carbide & Carbon Corporation  
United States Pottery Association  
United States Rubber Company  
Abrasive Division  
United States Smelting Refining & Mining Company  
United States Steel Corporation  
Universal-Rundle Corporation

### -V-

Valley Mould & Iron Corporation  
Vesuvius Crucible Company  
Vitrified Wheel Company

### -W-

Wald Industries Inc.  
Walham Grinding Wheel Company  
Washington Mills Abrasive Company  
Wedron Silica Company  
Western Maryland Railway  
Western Precipitation Corporation  
Westfield Grinding Wheel Company  
Westinghouse Air Brake Company  
Westinghouse Electric Corporation  
Wheelabrator Corporation  
Whitehead Brothers Company  
Willson Products, Inc.  
Wyandotte Chemicals Company  
Wyckoff Steel Company

### -Y-

Youngstown Sheet and Tube Company



## COMMITTEES

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|                                        |                                                               |
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| SANDEN, M.D., <i>Chairman</i> .....    | Marguerite University, School of Medicine                     |
| KAMMER, M.D., <i>Co-Chairman</i> ..... | University of Pittsburgh,<br>Graduate School of Public Health |
| BRAUN, M.D., <i>Secretary</i> .....    | Industrial Hygiene Foundation                                 |
| HANLIN, M.D. ....                      | American Brake Shoe Company                                   |
| KETTER, M.D. ....                      | University of Cincinnati, Kettering Laboratory                |
| KLINE, M.D. ....                       | General Electric Company                                      |
| LOWAND MARCY, M.D. ....                | Tuberculosis League of Pittsburgh                             |
| MCGEE, M.D. ....                       | Hercules Powder Company                                       |
| NEWQUIST, M.D. ....                    | The Texas Company                                             |
| ROBERTS, M.D. ....                     | Standard Oil Company (N. J.)                                  |
| SECURY, M.D. ....                      | University of Michigan, School of Public Health               |
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| W. SMITH, M.D. ....                    | Johns-Manville Corporation                                    |

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| R. OVATT.....                            | Union Carbide & Carbon Corporation                |
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| IVAN SAMONIN.....                        | Quebec Asbestos Mining Association                |
| DOUGLAS SOUTAR.....                      | American Smelting & Refining Company              |
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| G. A. WELLS.....                         | Ronne Cable Corporation                           |
| W. F. ZIMMERMAN.....                     | Sun Oil Company                                   |

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| R. T. PINE.....                              | Wheelabrator Corporation                    |
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| F. C. PLATT.....                              | Hazel-Atlas Glass Company             |
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| E. D. SALLER.....                             | American Can Company                  |
| H. F. SAYRE, JR., Ph.D. ....                  | Metbon Institute                      |
| H. E. STOKINGEN, Ph.D. ....                   | U. S. Public Health Service           |

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|                                               |                                       |
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| G. M. SAUNDERS, M.D. ....                     | Socomey Mobil Oil Company, Inc.       |

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|----------------------------------------------|----------------------------------------------------|
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| egheny Ludlum Steel Corporation              | A. C. HARRIS                                       |
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| neral Manager and Treasurer                  | HARVEY B. JORDAN                                   |
| ic Hall China Company                        | Executive Vice President                           |
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| ities & Stockbridge                          | B. E. KUCERA                                       |
| P. AUBURN                                    | Vice President                                     |
| ecutive Secretary                            | Employers Mutual Liability Insurance Company       |
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| H. K. CLARK                                  | President                                          |
| Director                                     | Esso Research and Engineering Company              |
| The Carborundum Company                      | ALAN M. SCAIFE                                     |
| I. DEXTER DOWSETT                            | Vice President                                     |
| General Manager                              | T. MEDLIN & SONS                                   |
| Association of Casualty and Surety Companies | H. C. TAYLOR                                       |
| THOMAS DUNNEN                                | Executive Vice President                           |
| Professor of Industrial Hygiene              | American Can Company                               |
| Harvard School of Public Health              | C. RICHARD WALSHEN                                 |
| A. R. FISHER                                 | Managing Director                                  |
| President                                    | Industrial Hygiene Foundation                      |
| Johns-Manville Corporation                   | W. P. YAST                                         |
| A. D. ROSS FRASER                            | Director, Research and Development                 |
| President                                    | Mine Safety Appliances Company                     |
| Rome Cable Corporation                       |                                                    |
| WILLIAM B. GIV                               |                                                    |
| Board Chairman                               |                                                    |
| Executive, Beal's Shoe Company               |                                                    |

## SCIENTIFIC STAFF

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