

The
ACTIVITIES and MEMBERS
of
INDUSTRIAL HYGIENE FOUNDATION



MELLON INSTITUTE, 4400 FIFTH AVENUE
PITTSBURGH 13, PA.

1954

RC963

.I4 ac.

INDUSTRIAL HYGIENE FOUNDATION

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

The Foundation's staff includes physicians, chemists, engineers, industrial hygienists and medical technicians—all specialists in health problems arising in manufacturing and mining. Through affiliation with INDUSTRIAL HYGIENE FOUNDATION, companies are entitled to the services of these specialists, plus the technical facilities of Mellon Institute, the Foundation's headquarters.

FOUNDATION ACTIVITIES

The activities of I-H-F fall into three major categories:

- (1) To give direct professional assistance to member companies in the study and solution of industrial health problems.
- (2) To assist companies in the development of health and medical programs as essential parts of industrial organizations.
- (3) To contribute to the scientific advancement of industrial medicine and hygiene, through research, surveys and allied activities.

The broad scope of questions and problems that come to the Foundation for consideration is shown by the following tabulation of activities, classified under eight major headings: (1) medical, (2) chemistry, toxicology and industrial hygiene, (3) engineering, (4) air pollution, (5) noise, (6) research, (7) legal, and (8) general advancement of industrial health.

(1) Medical

- (a) General information and advice on organization and administrative practices in industrial health services, cost finding and analysis, plans for physical layouts, personnel needs and training, interdepartmental relations, systems of record keeping, directives for medical personnel and nurse service standards, etc.

INDUSTRIAL HYGIENE FOUNDATION

A Research Association of Industries for

Advancing Industrial Health and

Improving Working Conditions

(b) Surveys of health problems, and comprehensive company-wide medical audits to appraise existing organizations and to recommend further needs.

(c) Information on specific industrial medical problems and experience.

(2) Chemistry, Toxicology and Industrial Hygiene

(a) Industrial hygiene field studies are conducted—appraisals of nature and magnitude of hazardous exposures and effectiveness of control measures. These may be on a plant basis or on an industry-wide scale.

(b) Information on toxicity of chemical and physical agents, and on hazards of particular processes; preparation of bibliographies, literature searches, and securing of information from other sources, as, for example, companies having related problems.

(c) Information and advice on sampling and analytical procedures, choice and availability of equipment.

(d) Preliminary training of industrial hygiene personnel in laboratory procedures, sources of information, organization of laboratory, record keeping, etc.

(e) Studies and development of new sampling and analytical methods and techniques.

(3) Engineering

(a) Information on engineering practices in control of hazardous processes, and on design procedures, data and sources of information. Advice on control requirements for specific operations.

(b) Specialized advice on new plant design, reconstruction in existing plants and changes in process to minimize or eliminate hazards.

(c) Review of plans for ventilating systems, as to design, capacity, etc. Advice on special air-cleaning problems.

(d) Advancement of engineering design practices and organization of engineering design programs; development of new data and design procedures for exhaust hoods. Assistance in field tests of new control measures.

(4) Air Pollution

(a) Advice on industrial air pollution problems—investigational procedures and criteria.

(b) Development of methods, apparatus and techniques for collecting and measuring air pollutants.

(c) Investigations of air pollution potentials of plants—measurement of stack dusts, fumes, gases and odors. Estimation of neighborhood effects.

(d) Measurement and appraisal of pollution effects within adjoining community. Ascertaining sources of communal pollution.

(e) Assistance in engineering measures for controlling excessive stack emissions. Measurement of stack dust particle size and its relation to appropriate dust collectors.

(5) Noise

(a) Information on measurement of noise—sound level, frequency, magnetic tape recordings, availability of equipment, calibration and data record sheets.

(b) Comprehensive physical measurement of noise levels in industrial plants.

(c) Information on physiological response to noise—measurement of hearing impairment, permanent loss vs. fatigue aspects, treatment, susceptibility and placement.

(d) Information on control measures—accumulation of industrial practices that have proved satisfactory.

(e) Information on legal aspects—assembly of facts on laws and regulations relating to compensation for hearing loss.

(6) Research

(a) Short- and long-term toxicity studies on new chemicals to indicate nature of problems which may be encountered in manufacture and use.

(b) Research on nature and mechanism of action of hazardous dusts, fumes, vapors and gases, with special reference to actual conditions of plant exposure.

(c) Basic studies in physiology, toxicology and biochemistry of physical and chemical agents, their mode of entrance into the body in relation to physical and chemical state in the atmosphere, and their subsequent toxic action on the body.

(7) Legal

- (a) Summaries of legislative activities pertaining to occupational diseases, compensation, and other proposed legislation pertaining to industrial health; analysis of trends.
- (b) Review of new compensation laws, revisions and additions, and analysis of decisions of compensation boards that are of special significance.
- (c) Analysis of new codes pertaining to health hazards and related problems.

(8) General Advancement of Industrial Health

- (a) Meetings: (1) annual meeting of members—discussion of broad objectives, policies and trends in industrial health and human resources; (2) conferences of professional specialists from member companies, (i) medical, (ii) engineering, (iii) chemistry and toxicology, (iv) legal; (3) special conferences on selected subjects or for discussion of common problems in particular industrial groups.
- (b) Publications: (1) transactions of annual meeting; (2) monthly *Industrial Hygiene Digest*; (3) special bulletins prepared under the sponsorship of the several advisory committees; (4) informative letters and pamphlets on subjects of current interest; (5) technical papers by staff members.
- (c) Special surveys and studies are undertaken on an industry-wide scale, as, for example, for an association or similar organization to develop fundamental information which will be of benefit to an entire industry in appraising and controlling occupational disease hazards.

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION

—A—

Abingdon Potteries, Inc.
Abrasive Grain Association
Abrasive Products Company
Allegheny Ludlum Steel Corporation
Allegheny Pittsburgh Coal Company
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 Wheelabrator & Equipment Corporation
American Zinc Institute
American Zinc, Lead & Smelting Company
Anaconda Copper Mining Company
Anthracite Institute
Arrow Mutual Liability Insurance Company
Asbestos Corporation Limited
Assn. of Casualty & Surety Companies*
Atlas Powder Company
Automobile Manufacturers Association

—B—

Ball Brothers Company
Bartlett-Collins Company
Bay State Abrasive Products Company
Bethlehem Steel Company, Inc.
Bird & Son, Inc.
Bituminous Casualty Corporation
Brush Beryllium Company
George H. Bullard Company
Bunker Hill & Sullivan Mining & Concentrating Company
A. M. Byers Company

—C—

Can Manufacturers Institute, Inc.
Carborundum Company
Celanese Corporation of America
Central Silica Company
Chicago Wheel & Manufacturing Company

—C—

Chromium Mining & Smelting Corp., Ltd
Cincinnati Milling and Grinding Machine, Inc., Cincinnati Products Division
Cleveland-Cliffs Iron Company
Cleveland Quarries Company
Sterling Grinding Wheel Division
Cobalt Chemicals Ltd.
Robert F. Coleman, Inc.
Colonial Abrasive Products Company
Commercial Solvents Corporation
Commonwealth Sanitation Company
Consolidated Mining & Smelting Company of Canada, Ltd.
Continental Can Company, Inc.
Cooper-Bessemer Corporation
Copperweld Steel Company
Corhart Refractories Company, Inc.
Corning Glass Works
Cortland Grinding Wheels Corporation
Crucible Steel Company of America

—D—

Davison Chemical Corporation
Deere & Company
A. P. DeSanno & Son, Inc.
Diamond Alkali Company
Doehler-Jarvis Corporation
Dow Chemical Company
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
Ethyl Corporation
Eureka Flint & Spar Company, Inc.
Exolon Company

—F—

Falk Corporation
Ferro Corporation
H. E. Fletcher Company
Foot Mineral Company
Ford Motor Company
Fostoria Glass Company
Foundry Facings Manufacturers Assn.
Fuller Merriam Company
Funkhouser Company

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION, Cont'd.

— G —

Garco Products, Inc.
Gardner 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
General Steel Castings Corporation
Georgia Kaolin Company
Glenshaw Glass Company, Inc.
Grinding Wheel Institute
Gulf Oil Corporation

— H —

Hall China Company
Hamilton Emery & Corundum Company
Hampden Grinding Wheel Company
Hazel-Atlas Glass Company
Hercules Powder Company
John W. Higman Company
Homestake Mining Company
O. Hommel Company

— I —

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

— J —

Jamison Coal & Coke Company
Jeffrey Manufacturing Company
Johns-Manville Corporation
Johnson & Johnson
Jones & Laughlin Steel Corporation
Joy Manufacturing Company

— K —

Keasbey & Mattison Company
Kennametal, Inc.
Kennecott Copper Corporation
Keystone Abrasive Wheel Company
Keystone Emery Mills
Kirk & Manufacturing Company
Edwin Knowles China Company
Koppers Company, Inc.

— L —

Homer Laughlin China Company
Lava Refractories Company
E. J. Lavino and Company
Lead Industries Association
Lion Grinding Wheels Ltd.

— M —

Mackintosh-Hemphill Company
Macklin Company
Magma Copper Company
Maryland Self-Insurers' Association
Mayer China Company
J. S. McCormick Company
McLain Fire Brick Company,
Division of H. K. Porter Company, Inc.
McLean Manufacturing Company
Metropolitan Life Insurance Company
Mexico Refractories Company
Mid-West Abrasive Company
Mine Safety Appliances Company
Monsanto Chemical Company
Mutual Chemical Company of America

— N —

National Association of Fan Manufacturers
National Association of Mutual Casualty Companies*
National Crushed Stone Association, Inc.
National Grinding Wheel Company
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
Norton Company
Norton Pike Company

— O —

Oriental Abrasive Company
Ottawa Silica Company
Owens-Corning Fiberglas Corp.
Owens-Illinois Glass Company

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION, Cont'd.

— P —

Pabst Brewing Company
Pacific Grinding Wheel Company
G. H. Packwood Manufacturing Company
Pangborn Corporation
Peninsular Grinding Wheel Company
Penn-Riltton Company
Pennsylvania Glass Sand Corporation
The Pennsylvania Railroad Company
Phelps Dodge Corporation
Philadelphia Quartz Company
Phillips Petroleum Company
Pittsburgh Coke & Chemical Company
Pittsburgh Consolidation Coal Company
Pittsburgh Plate Glass Company
Portland Cement Association
Precision Grinding Wheel Company, Inc.
Prismo Safety Corporation
Pullman-Standard Car Manufacturing Company
Pyrene Manufacturing Company

— R —

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

— S —

Safety First Supply Company
St. Joseph Lead Company
St. Regis Paper Company
Sand Products Corporation
Sandia Corporation
Seafie Company
Claude B. Schneible Company
Scott Aviation Corporation
Sharon Steel Corporation
Shenango Furnace Company
Simonds Abrasive Company
Simonds Worden White Company
Socony-Vacuum Oil Company, Inc.
South West Box Company

— S —

Standard Lime & Stone Company
Standard Oil Development Company
Standard Ultramarine and Color Company
Sugar Beet Products Company
Sun Oil Company
Sylvania Electric Products Inc.

— T —

Tata Industries, Ltd.
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 —

Waltham Grinding Wheel Company
Warner Company
Washington Mills Abrasive Company
Wedron Silica Company
West Virginia Manufacturers Association
Western Electrochemical Company
Western Precipitation Corporation
Westfield Grinding Wheel Company
Westinghouse Air Brake Company
Westinghouse Electric Corporation
Whitehead Brothers Company
Willson Products, Inc.
Wyckoff Steel Company

Youngstown Sheet and Tube Company

SPECIAL SUBSCRIBERS

UNITED STATES GOVERNMENT

Armed Forces
Armed Forces Medical Library
Army Environmental Health Laboratory
Bureau of Medicine & Surgery, Navy Dept.
Naval Air Station, Alameda, Calif.
Naval Air Station, Norfolk, Virginia
Naval Air Station, Pensacola, Florida
Naval Gun Factory, Washington, D.C.
Naval Radiological Defense Laboratory
Naval Office of the Surgeon General
Naval Shipyard, Bremerton, Wash.
Naval Shipyard, Brooklyn, N.Y.
Naval Shipyard, Portsmouth, N.H.
Naval Shipyard, Portsmouth, Va.
Naval Shipyard, San Francisco, Calif.
Naval Shipyard, FPO, San Francisco, Calif.
Naval Shipyard, Vallejo, Calif.
Office of Industrial Relations, Navy Dept.

Other Federal Agencies

Public Health Education
Social Security Administration
Tennessee Valley Authority
U.S. Atomic Energy Commission
Idaho Falls
Washington, D.C.
U.S. Bureau of Mines
U.S. Civil Service Commission
U.S. Department of Labor
U.S. Public Health Service
Salt Lake City
Washington, D.C.

STATE DEPARTMENTS OF HEALTH

California
Connecticut
Georgia
Idaho
Indiana
Iowa
Kansas
Kentucky
Maryland
Michigan
Missouri
New Hampshire
New Jersey
North Carolina
Ohio
Oregon
Pennsylvania
Tennessee
Texas
Utah
Vermont
West Virginia
Wisconsin

Other State Agencies

California Department Industrial Relations
New Jersey Department of Labor
New York Department of Labor
New York State Library
New York Workmen's Compensation Board
Ohio Industrial Commission

CITY DEPARTMENTS OF HEALTH

Baltimore
Detroit
St. Louis

COUNTY DEPARTMENTS OF HEALTH

Los Angeles

SPECIALISTS

Mr. T. J. Barry
Mr. J. H. Holden
Dr. E. L. Belknap
Dr. R. T. Johnstone
Dr. E. E. Dart
Dr. Hedwig Kuhn
Dr. J. W. G. Hannon
Dr. M. M.

SPECIAL SUBSCRIBERS, Cont'd.

INSTITUTIONS AND OTHER ORGANIZATIONS

American Association of Industrial Nurses, Inc.
American Medical Association
Argonne National Laboratory
Carnegie Library of Pittsburgh
College of Physicians of Philadelphia
Columbia University
Cornell University
Harvard University
Health Institute of the UAW-CIO
Industrial Medical Association
Jefferson Medical College
Johns Hopkins University
Massachusetts Institute of Technology
Milwaukee Public Library
New York Academy of Medicine
New York Hotel Trades Council & Hotel Association Health Center, Inc.
New York University
Ohio State University
University of California
Biomedical Library
General Library
Los Alamos Scientific Laboratory
University of Colorado
University of Michigan
University of North Carolina
University of Pennsylvania
University of Texas
University of Washington
Yale University

FOREIGN ORGANIZATIONS

Australia
University of Sydney, Sydney
Brazil
Faculdade de Higiene Saude Publica, São Paulo
Canada
Department of Health, Montreal
Department National Health & Welfare, Ottawa
Workmen's Compensation Board, Quebec
University of Toronto, Toronto
University of British Columbia, Vancouver

FOREIGN ORGANIZATIONS (Cont'

Canada
Workmen's Compensation Board, Vancouver
Department of Health & Welfare, Victoria
Department of Health & Welfare, Winnipeg
Denmark
Arbejds- og Fabrikstilsynets Bibliotek, Copenhagen
England
Industrial Health Research Board, London
Ministry of Labour & National Service, London
Holland
Instituut voor Sociale geneeskunde der Rijks-Universiteit, Utrecht
Koninklijke Nederlandsche Hoogovens en Staalfabrieken N.V., IJmuiden
Japan
University of Tokyo, Tokyo
New Zealand
District Industrial Medical Officer Auckland
District Industrial Medical Officer Dunedin
Health Department, Wellington
Norway
Marinens Hovedverft, Horten
Eidanger Salpeterfabriker, Porsgrunn
Puerto Rico
Bureau of Industrial Safety and Accident Prevention, San Juan
South Africa
Government Mining Engineer, Johannesburg
National Development Foundation Johannesburg
Bureau of Standards, Pretoria
Sweden
Caroline Hospital, Stockholm
Statens Institut for Folkhalsan Biblioteket, Tomtebodavägen
Swedish Employer's Confederation, Stockholm
Switzerland
International Labor neva

BOARD OF TRUSTEES

ANDREW FLETCHER, *Chairman*
President, St. Joseph Lead Company, New York, N. Y.

V. P. AHEARN, *Secretary*
Executive Secretary, National Industrial Sand Association, Washington, D. C.

M. W. THOMPSON, *Treasurer*
Treasurer and General Manager, The Hail China Company, East Liverpool, Ohio

T. C. WATERS, *General Counsel*
Miles & Stockbridge, Baltimore, Md.

H. W. ANDERSON
Vice President, General Motors Corporation, Detroit, Mich.

H. K. CLARK
Director, The Carborundum Company, Niagara Falls, N. Y.

J. DEWEY DORSETT
General Manager, Association of Casualty & Surety Companies, New York, N. Y.

PHILIP DRINKER, Sc.D.
School of Public Health, Harvard University, Boston, Mass.

A. R. FISHER
President, Johns-Manville Corporation, New York, N. Y.

A. D. ROSS FRASER
President, Rome Cable Corporation, Rome, N. Y.

W. B. GIVEN, JR.
Board Chairman, American Brake Shoe Company, New York, N. Y.

C. S. GOLDEN
Graduate School of Business Administration, Harvard University, Boston, Mass.

A. C. HIRTH
Owens-Illinois Glass Company, Toledo, Ohio

B. E. KUECHLE
Vice President, Employers Mutual Liability Insurance Company, Wausau, Wis.

A. J. LANZA, M.D.
Chairman, Institute of Industrial Medicine, New York University, New York, N. Y.

GEORGE MIXTER
Director, U. S. Smelting Refining & Mining Company, Boston, Mass.

E. V. MURPHREE, Sc.D.
President, Standard Oil Development Company, New York, N. Y.

C. B. POLLOCK
Vice President, Allegheny Ludlum Steel Corporation, Pittsburgh, Pa.

A. M. SCAIFFE
Vice President, T. Mellon & Sons, Pittsburgh, Pa.

R. C. TAYLOR
Executive Vice President, American Can Company, New York, N. Y.

C. RICHARD WALMER, M.D.
Managing Director, Industrial Hygiene Foundation, Pittsburgh, Pa.

W. P. YANT, Sc.D.
Director, Research & Development, Mine Safety Appliances Company, Pittsburgh, Pa.

EXECUTIVE STAFF

C. Richard Walmer, M.D.	Managing Director
H. H. Schrenk, Ph.D.	Research Director
Theodore Hatch, S.M.	Research Adviser
W. C. L. Hemeon, S.M.	Engineering Director
D. C. Braun, M.D.	Medical Director
Paul Gross, M.D.	Research Pathologist
J. F. Osterritter, M.D.	Medical Associate
J. F. Morgan	Head Chemical Hygienist
F. F. Rupert, Ph.D.	Head Chemical Analyst
G. F. Haines, Jr.	Chemical Engineer
S. D. Puntureri, M.S.	Chemical Engineer
Lee Schreiber, Jr., M.P.H.	Industrial Hygiene Engineer
J. Deane Sensenbaugh, M.S.	Chemist
Marian Westrick, Ph.D.	Research Toxicologist
J. M. Mc Nerney, M.S.	Research Associate
H. M. Ide	Bacteriologist
T. David Truan, M.A.	Biostatistician
Michael Cerreta	Chemist
R. K. Dumbauld	Research Assistant
Ellen C. Diamond	Office Manager
Vivian M. Colonna	Editor

RESEARCH ADVISORY COUNCIL

Theodore Hatch, S.M., <i>Secretary</i>	Graduate School of Public Health, University of Pittsburgh, and Industrial Hygiene Foundation
W. A. Hamor, Sc.D.	Mellon Institute, Pittsburgh
T. Lyle Hazlett, M.D.	University of Pittsburgh, Pittsburgh
A. J. Lanza, M.D.	New York University, New York
Willard Machle, M.D.	National Research Council, Washington, D.C.
W. P. Yant, Sc.D.	Mine Safety Appliances Company, Pittsburgh
R. E. Zimmerman, Sc.D.	U.S. Steel Corporation, New York

COMMITTEES

MEDICAL COMMITTEE

O. A. Sander, M.D., *Chairman* Marquette University, Milwaukee
 A. G. Kammer, M.D., *Co-Chairman* University of Pittsburgh, Pittsburgh
 D. C. Braun, M.D., *Secretary* Industrial Hygiene Foundation, Pittsburgh
 E. H. Carleton, M.D. Inland Steel Company, East Chicago, Ind.
 L. E. Hamlin, M.D. American Brake Shoe Co., Chicago
 R. A. Kehoe, M.D. University of Cincinnati, Cincinnati
 E. M. Kline, M.D. General Electric Company, Cleveland
 C. Howard Marcy, M.D. Tuberculosis League of Pittsburgh, Pittsburgh
 L. C. McGee, M.D. Hercules Powder Company, Wilmington, Del.
 C. M. Peterson, M.D. Council on Industrial Health, AMA, Chicago
 C. D. Selby, M.D. University of Michigan, Ann Arbor, Mich.
 W. P. Shepard, M.D. Metropolitan Life Insurance Co., New York
 J. F. Shrouts, M.D. General Mills, Inc., Minneapolis

LEGAL COMMITTEE

T. C. Waters, *Chairman* Miles & Stockbridge, Baltimore
 Vandiver Brown Attorney-at-Law, Waco, Texas
 A. J. Gentholts Republic Steel Corporation, Cleveland
 Theodore Hetzler, Jr. National Association of Mutual Casualty Companies, New York
 A. C. Hirth Owens-Illinois Glass Company, Toledo, Ohio
 Andrew Kalmykow Association Casualty & Surety Companies, New York
 C. R. Oviatt Union Carbide & Carbon Corporation, New York
 Ivan Sabourin Quebec Asbestos Producers Association, Montreal, Canada
 J. J. Regan The Self-Insurers Association, New York
 R. Worth Vaughan American Smelting & Refining Company, New York
 W. E. Zimmerman Sun Oil Company, Philadelphia

PREVENTIVE ENGINEERING COMMITTEE

Philip Drinker, Sc.D., *Chairman* School of Public Health, Harvard University
 W. C. L. Hemeon, *Secretary* Industrial Hygiene Foundation, Pittsburgh
 A. D. Brandt, Sc.D. Bethlehem Steel Co., Bethlehem, Pa.
 J. M. Kane American Air Filter Company, Louisville, Ky.
 C. F. McElwain International Business Machines Corp., Endicott, N.Y.
 R. T. Pring American Wheelabrator & Equipment Corp., Mishawaka, Ind.
 C. W. Schwenzefer, Jr. Brush Beryllium Company, Luckey, Ohio
 K. F. Spence The Funkhouser Company, Hagerstown, Md.
 F. E. T₂ American Brake Shoe Company, De
 W. H. Thoma₂s Pittsburgh Coke and Chemical Company, Pittsbu

COMMITTEES

CHEMICAL-TOXICOLOGICAL COMMITTEE

Anna M. Baetjer, Sc.D., *Chairman* Johns Hopkins University, Baltimore
 J. F. Morgan, *Secretary* Industrial Hygiene Foundation, Pittsburgh
 E. C. Barnes Westinghouse Electric Corporation, Pittsburgh
 W. A. Cook University of Michigan, Ann Arbor, Mich
 F. C. Flint Hazel-Atlas Glass Company, Wheeling, W.V.
 N. V. Hendricks Standard Oil Development Company, Linden, N.J.
 D. D. Irish, Ph.D. Dow Chemical Company, Midland, Mich
 F. S. Mallette American Society Mechanical Engineers, New York
 F. A. Patty General Motors Corporation, Detroit
 H. F. Smyth, Jr., Ph.D. Mellon Institute, Pittsburgh
 H. E. Stokinger, Ph.D. U.S. Public Health Service, Cincinnati
 W. P. Yant, Sc.D. Mine Safety Appliances Company, Pittsburgh

AIR-POLLUTION CONTROL COMMITTEE

W. C. L. Hemeon, *Chairman* Industrial Hygiene Foundation, Pittsburgh
 H. H. Schrenk, Ph.D., *Secretary* Industrial Hygiene Foundation, Pittsburgh
 W. F. Davidson Consolidated Edison Company of New York, New York
 H. F. Hebley Pittsburgh Consolidation Coal Company, Pittsburgh
 W. L. Latshaw U.S. Smelting Refining & Mining Company, Salt Lake City
 L. C. McCabe, Ph.D. U.S. Bureau of Mines, Washington D.C.

The
ACTIVITIES and MEMBERS
of
INDUSTRIAL HYGIENE FOUNDATION



MELLON INSTITUTE, 4400 FIFTH AVENUE
PITTSBURGH 13, PA.

1954

RC963
.I4ae

Noted: This material is in the public domain
by copyright law (U.S. Code).

INDUSTRIAL HYGIENE FOUNDATION
*A Research Association of Industries for
Advancing Industrial Health and
Improving Working Conditions*

INDUSTRIAL HYGIENE FOUNDATION

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

The Foundation's staff includes physicians, chemists, engineers, industrial hygienists and medical technicians—all specialists in health problems arising in manufacturing and mining. Through affiliation with INDUSTRIAL HYGIENE FOUNDATION, companies are entitled to the services of these specialists, plus the technical facilities of Mellon Institute, the Foundation's headquarters.

FOUNDATION ACTIVITIES

The activities of I-H-F fall into three major categories:

- (1) To give direct professional assistance to member companies in the study and solution of industrial health problems.
- (2) To assist companies in the development of health and medical programs as essential parts of industrial organizations.
- (3) To contribute to the scientific advancement of industrial medicine and hygiene, through research, surveys and allied activities.

The broad scope of questions and problems that come to the Foundation for consideration is shown by the following tabulation of activities, classified under eight major headings: (1) medical, (2) chemistry, toxicology and industrial hygiene, (3) engineering, (4) air pollution, (5) noise, (6) research, (7) legal, and (8) general advancement of industrial health.

(1) Medical

- (a) General information and advice on organization and administrative practices in industrial health services, cost finding and analysis, plans for physical layouts, personnel needs and training, interdepartmental relations, systems of record keeping, directives for medical personnel and registered nurse service standards, etc.

- (b) Surveys of health problems, and comprehensive company-wide medical audits to appraise existing organizations and to recommend further needs.
- (c) Information on specific industrial medical problems and experience.

(2) Chemistry, Toxicology and Industrial Hygiene

- (a) Industrial hygiene field studies are conducted—appraisals of nature and magnitude of hazardous exposures and effectiveness of control measures. These may be on a plant basis or on an industry-wide scale.
- (b) Information on toxicity of chemical and physical agents, and on hazards of particular processes; preparation of bibliographies, literature searches, and securing of information from other sources, as, for example, companies having related problems.
- (c) Information and advice on sampling and analytical procedures, choice and availability of equipment.
- (d) Preliminary training of industrial hygiene personnel in laboratory procedures, sources of information, organization of laboratory, record keeping, etc.
- (e) Studies and development of new sampling and analytical methods and techniques.

(3) Engineering

- (a) Information on engineering practices in control of hazardous processes, and on design procedures, data and sources of information. Advice on control requirements for specific operations.
- (b) Specialized advice on new plant design, reconstruction in existing plants and changes in process to minimize or eliminate hazards.
- (c) Review of plans for ventilating systems, as to design, capacity, etc. Advice on special air-cleaning problems.
- (d) Advancement of engineering design practices and organization of engineering design programs; development of new data and design procedures for exhaust hoods. Assistance in field tests of new control measures.

(4) Air Pollution

- (a) Advice on industrial air pollution problems—investigational procedures and criteria.
- (b) Development of methods, apparatus and techniques for collecting and measuring air pollutants.
- (c) Investigations of air pollution potentials of plants—measurement of stack dusts, fumes, gases and odors. Estimation of neighborhood effects.
- (d) Measurement and appraisal of pollution effects within adjoining community. Ascertaining sources of communal pollution.
- (e) Assistance in engineering measures for controlling excessive stack emissions. Measurement of stack dust particle size and its relation to appropriate dust collectors.

(5) Noise

- (a) Information on measurement of noise—sound level, frequency, magnetic tape recordings, availability of equipment, calibration and data record sheets.
- (b) Comprehensive physical measurement of noise levels in industrial plants.
- (c) Information on physiological response to noise—measurement of hearing impairment, permanent loss vs. fatigue aspects, treatment, susceptibility and placement.
- (d) Information on control measures—accumulation of industrial practices that have proved satisfactory.
- (e) Information on legal aspects—assembly of facts on laws and regulations relating to compensation for hearing loss.

(6) Research

- (a) Short- and long-term toxicity studies on new chemicals to indicate nature of problems which may be encountered in manufacture and use.
- (b) Research on nature and mechanism of action of hazardous dusts, fumes, vapors and gases, with special reference to actual conditions of plant exposure.
- (c) Basic studies in physiology, toxicology and biochemistry of physical and chemical agents, their mode of entrance into the body in relation to physical and chemical state in the atmosphere, and their subsequent toxic action in the body.

(7) Legal

- (a) Summaries of legislative activities pertaining to occupational diseases, compensation, and other proposed legislation pertaining to industrial health; analysis of trends.
- (b) Review of new compensation laws, revisions and additions, and analysis of decisions of compensation boards that are of special significance.
- (c) Analysis of new codes pertaining to health hazards and related problems.

(8) General Advancement of Industrial Health

- (a) Meetings: (1) annual meeting of members—discussion of broad objectives, policies and trends in industrial health and human resources; (2) conferences of professional specialists from member companies, (i) medical, (ii) engineering, (iii) chemistry and toxicology, (iv) legal; (3) special conferences on selected subjects or for discussion of common problems in particular industrial groups.
- (b) Publications: (1) transactions of annual meetings; (2) monthly *Industrial Hygiene Digest*; (3) special bulletins prepared under the sponsorship of the several advisory committees; (4) informative letters and pamphlets on subjects of current interest; (5) technical papers by staff members.
- (c) Special surveys and studies are undertaken on an industry-wide scale, as, for example, for an association or similar organization to develop fundamental information which will be of benefit to an entire industry in appraising and controlling occupational disease hazards.

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION

—A—	
Abington Potteries, Inc.	Chromium Mining & Smelting Corp., Ltd
Abrasive Grain Association	Cincinnati Milling and Grinding Machines
Abrasive Products Company	Inc., Cincinnati Products Division
Allegheny Ludlum Steel Corporation	Cleveland-Cliffs Iron Company
Allegheny Pittsburgh Coal Company	Cleveland Quarries Company,
Allis-Chalmers Manufacturing Company	Sterling Grinding Wheel Division
Aluminum Company of America	Cobalt Chemicals Ltd.
American Abrasive Company	Robert F. Coleman, Inc.
American Air Filter Company, Inc.	Colonial Abrasive Products Company
American Brake Shoe Company	Commercial Solvents Corporation
American Can Company	Commonwealth Sanitation Company
American Emery Wheel Works	Consolidated Mining & Smelting Company
American Foundrymen's Society	of Canada, Ltd.
American Iron & Steel Institute	Continental Can Company, Inc.
American Mining Congress	Cooper-Bessemer Corporation
American Optical Company	Copperweld Steel Company
American Radiator & Standard	Corhart Refractories Company, Inc.
Sanitary Corporation	Corning Glass Works
American Smelting & Refining Company	Cortland Grinding Wheels Corporation
American Wheelabrator & Equipment	Crucible Steel Company of America
Corporation	
—B—	
American Zinc Institute	Davison Chemical Corporation
American Zinc, Lead & Smelting Company	Deere & Company
Anaconda Copper Mining Company	A. P. DeSanno & Son, Inc.
Anthraxite Institute	Diamond Alkali Company
Arrow Mutual Liability Insurance Company	Doehler-Jarvis Corporation
Asbestos Corporation Limited	Dow Chemical Company
Asn. of Casualty & Surety Companies*	B. F. Drakenfeld & Company, Inc.
Atlas Powder Company	Dravo Corporation
Automobile Manufacturers Association	
—C—	
Ball Brothers Company	Eagle-Picher Company
Bartlett-Collins Company	Ebasco Services, Inc.
Bay State Abrasive Products Company	Electric Storage Battery Company
Bethlehem Steel Company, Inc.	Electro Refractories & Abrasives
Bird & Son, Inc.	Corporation
Bituminous Casualty Corporation	Elex S. A.
Brush Beryllium Company	Eljer Company
George H. Bullard Company	Ethyl Corporation
Bunker Hill & Sullivan Mining &	Eureka Flint & Spar Company, Inc.
Concentrating Company	Exolon Company
A. M. Byers Company	
—D—	
Can Manufacturers Institute, Inc.	Falk Corporation
Carborundum Company	Ferro Corporation
Celanese Corporation of America	H. E. Fletcher Company
Central Silica Company	Footo Mineral Company
Chicago Wheel & Manufacturing Company	Ford Motor Company
	Fostoria Glass Company
	Foundry Facings Manufacturers Assn.
	Fuller Merriam Company
	Funkhouser Company
—E—	
—F—	

* Multiple Membership

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION, Cont'd.

— G —

Garco Products, Inc.
Gardner 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
General Steel Castings Corporation
Georgia Kaolin Company
Glenshaw Glass Company, Inc.
Grinding Wheel Institute
Gulf Oil Corporation

— H —

Hall China Company
Hamilton Emery & Corundum Company
Hampden Grinding Wheel Company
Hazel-Atlas Glass Company
Hercules Powder Company
John W. Hignman Company
Homestake Mining Company
O. Hommel Company

— I —

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

— J —

Jamison Coal & Coke Company
Jeffrey Manufacturing Company
Johns-Manville Corporation
Johnson & Johnson
Jones & Laughlin Steel Corporation
Joy Manufacturing Company

— K —

Keasbey & Mattison Company
Kennametal, Inc.
Kennecott Copper Corporation
Keystone Abrasive Wheel Company
Keystone Emery Mills
Kirk & Blum Manufacturing Company
Edwin J. Koppers
Koppers Company, Inc.

— L —

Homer Laughlin China Company
Lava Crucible Refractories Company
E. J. Lavino and Company
Lead Industries Association
Lion Grinding Wheels Ltd.

— M —

Mackintosh-Hemphill Company
Macklin Company
Magma Copper Company
Maryland Self-Insurers' Association
Mayer China Company
J. S. McCormick Company
McLain Fire Brick Company,
Division of H. K. Porter Company, Inc.
McLean Manufacturing Company
Metropolitan Life Insurance Company
Mexico Refractories Company
Mid-West Abrasive Company
Mine Safety Appliances Company
Monsanto Chemical Company
Mutual Chemical Company of America

— N —

National Association of Fan Manufacturers
National Association of Mutual Casualty Companies*
National Crushed Stone Association, Inc.
National Grinding Wheel Company
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
Norton Company
Norton Pike Company

— O —

Oriental Abrasive Company
Ottawa Silica Company
Owens-Corning Fiberglass Corporation
Owens-Illinois Glass Company

MEMBERS OF INDUSTRIAL HYGIENE FOUNDATION, Cont'd.

— P —

Pabst Brewing Company
Pacific Grinding Wheel Company
G. H. Packwood Manufacturing Company
Pangborn Corporation
Peninsular Grinding Wheel Company
Penn-Rilkton Company
Pennsylvania Glass Sand Corporation
The Pennsylvania Railroad Company
Phelps Dodge Corporation
Philadelphia Quartz Company
Phillips Petroleum Company
Pittsburgh Coke & Chemical Company
Pittsburgh Consolidation Coal Company
Pittsburgh Plate Glass Company
Portland Cement Association
Precision Grinding Wheel Company, Inc.
Prismo Safety Corporation
Pullman-Standard Car Manufacturing Company
Pyrene Manufacturing Company

— R —

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

— S —

Safety First Supply Company
St. Joseph Lead Company
St. Regis Paper Company
Sand Products Corporation
Sandia Corporation
Scaife Company
Claude B. Schneible Company
Scott Aviation Corporation
Sharon Steel Corporation
Shenango Furnace Company
Simonds Abrasive Company
Simonds Worden White Company
Socony-Vacuum Oil Company, Inc.
South West Box Company

— S —

Standard Lime & Stone Company
Standard Oil Development Company
Standard Ultramarine and Color Company
Sugar Beet Products Company
Sun Oil Company
Sylvania Electric Products Inc.

— T —

Tata Industries, Ltd.
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 —

Waltham Grinding Wheel Company
Warner Company
Washington Mills Abrasive Company
Wedron Silica Company
West Virginia Manufacturers Association
Western Electrochemical Company
Western Precipitation Corporation
Westfield Grinding Wheel Company
Westinghouse Air Brake Company
Westinghouse Electric Corporation
Whitehead Brothers Company
Willson Products, Inc.
Wyckoff Steel Company

— Y —

Youngstown Sheet and Tube Company

* Multiple Membership

SPECIAL SUBSCRIBERS

UNITED STATES GOVERNMENT

Armed Forces
 Armed Forces Medical Library
 Army Environmental Health Laboratory
 Bureau of Medicine & Surgery, Navy Dept.
 Naval Air Station, Alameda, Calif.
 Naval Air Station, Norfolk, Virginia
 Naval Air Station, Pensacola, Florida
 Naval Gun Factory, Washington, D.C.
 Naval Radiological Defense Laboratory
 Naval Office of the Surgeon General
 Naval Shipyard, Bremerton, Wash.
 Naval Shipyard, Brooklyn, N.Y.
 Naval Shipyard, Portsmouth, N.H.
 Naval Shipyard, Portsmouth, Va.
 Naval Shipyard, San Francisco, Calif.
 Naval Shipyard, FPO, San Francisco, Calif.
 Naval Shipyard, Vallejo, Calif.
 Office of Industrial Relations, Navy Dept.

STATE DEPARTMENTS OF HEALTH

California
 Connecticut
 Georgia
 Idaho
 Indiana
 Iowa
 Kansas
 Kentucky
 Maryland
 Michigan
 Missouri
 New Hampshire
 New Jersey
 North Carolina
 Ohio
 Oregon
 Pennsylvania
 Tennessee
 Texas
 Utah
 Vermont
 West Virginia
 Wisconsin
 Other State Agencies
 California Department Industrial Relations
 New Jersey Department of Labor
 New York Department of Labor
 New York State Library
 New York Workmen's Compensation Board
 Ohio Industrial Commission

Other Federal Agencies

Public Health Education
 Social Security Administration
 Tennessee Valley Authority
 U.S. Atomic Energy Commission
 Idaho Falls
 Washington, D.C.
 U.S. Bureau of Mines
 U.S. Civil Service Commission
 U.S. Department of Labor
 U.S. Public Health Service
 Cincinnati
 Salt Lake City
 Washington, D.C.

SPECIALISTS

Mr. T. J. Barry
 Dr. E. L. Belknap
 Dr. E. E. Dart
 Dr. J. W. G. Hannon
 Mr. J. H. Holden
 Dr. R. T. Johnstone
 Dr. Hedwig Kuhn
 Dr. M. M.

CITY DEPARTMENTS OF HEALTH

Baltimore
 St. Louis
 Detroit

COUNTY DEPARTMENTS OF HEALTH

Los Angeles

SPECIAL SUBSCRIBERS, Cont'd.

INSTITUTIONS AND OTHER ORGANIZATIONS

American Association of Industrial Nurses, Inc.
 American Medical Association
 Argonne National Laboratory
 Carnegie Library of Pittsburgh
 College of Physicians of Philadelphia
 Columbia University
 Cornell University
 Harvard University
 Health Institute of the UAW-CIO
 Industrial Medical Association
 Jefferson Medical College
 Johns Hopkins University
 Massachusetts Institute of Technology
 Milwaukee Public Library
 New York Academy of Medicine
 New York Hotel Trades Council & Hotel Association Health Center, Inc.
 New York University
 Ohio State University
 University of California
 Biomedical Library
 General Library
 Los Alamos Scientific Laboratory
 University of Colorado
 University of Michigan
 University of North Carolina
 University of Pennsylvania
 University of Texas
 University of Washington
 Yale University

FOREIGN ORGANIZATIONS

Australia
 University of Sydney, Sydney
 Brazil
 Faculdade de Higiene Saude Publica, São Paulo
 Canada
 Department of Health, Montreal
 Department National Health & Welfare, Ottawa
 Workmen's Compensation Board, Quebec
 University of Toronto, Toronto
 University of British Columbia, Vancouver

FOREIGN ORGANIZATIONS (Cont'd)

Canada
 Workmen's Compensation Board, Vancouver
 Department of Health & Welfare, Victoria
 Department of Health & Welfare, Winnipeg
 Denmark
 Arbejds- og Fabrikstilsynets Bibliotek, Copenhagen
 England
 Industrial Health Research Board, London
 Ministry of Labour & National Service, London
 Holland
 Instituut voor Sociale geneeskunde der Rijks-Universiteit, Utrecht
 Koninklijke Nederlandsche Hoogovens en Staalfabrieken N.V., IJmuiden
 Japan
 University of Tokyo, Tokyo
 New Zealand
 District Industrial Medical Officer Auckland
 District Industrial Medical Officer Dunedin
 Health Department, Wellington
 Norway
 Marinens Hovedverft, Horten
 Eidanger Salpeterfabriker, Porsgrunn
 Puerto Rico
 Bureau of Industrial Safety and Accident Prevention, San Juan
 South Africa
 Government Mining Engineer, Johannesburg
 National Development Foundation Johannesburg
 Bureau of Standards, Pretoria
 Sweden
 Caroline Hospital, Stockholm
 Statens Institut for Folkhalsan Biblioteket, Tomtebodavägen
 Swedish Employer's Confederation, Stockholm
 Switzerland
 International Labor (eva)

BOARD OF TRUSTEES

ANDREW FLETCHER, Chairman
President, St. Joseph Lead Company, New York, N.Y.

V. P. AHEARN, Secretary
Executive Secretary, National Industrial Sand Association, Washington, D.C.

M. W. THOMPSON, Treasurer
Treasurer and General Manager, The Hail China Company, East Liverpool, Ohio

T. C. WATERS, General Counsel
Miles & Stockbridge, Baltimore, Md.

H. W. ANDERSON
Vice President, General Motors Corporation, Detroit, Mich.

H. K. CLARK
Director, The Carborundum Company, Niagara Falls, N.Y.

J. DEWEY DORSETT
General Manager, Association of Casualty & Surety Companies, New York, N.Y.

PHILIP DRINKER, Sc.D.
School of Public Health, Harvard University, Boston, Mass.

A. R. FISHER
President, Johns-Manville Corporation, New York, N.Y.

A. D. ROSS FRASER
President, Rome Cable Corporation, Rome, N.Y.

W. B. GIVEN, JR.
Board Chairman, American Brake Shoe Company, New York, N.Y.

C. S. GOLDEN
Graduate School of Business Administration, Harvard University, Boston, Mass.

A. C. HIRTH
Owens-Illinois Glass Company, Toledo, Ohio

B. E. KUECHLE
Vice President, Employers Mutual Liability Insurance Company, Wausau, Wis.

A. J. LANZA, M.D.
Chairman, Institute of Industrial Medicine, New York University, New York, N.Y.

GEORGE MIXTER
Director, U.S. Smelting Refining & Mining Company, Boston, Mass.

E. V. MURPHREE, Sc.D.
President, Standard Oil Development Company, New York, N.Y.

C. B. POLLOCK
Vice President, Allegheny Ludlum Steel Corporation, Pittsburgh, Pa.

A. M. SCAIFE
Vice President, T. Mellon & Sons, Pittsburgh, Pa.

R. C. TAYLOR
Executive Vice President, American Can Company, New York, N.Y.

C. RICHARD WALMER, M.D.
Managing Director, Industrial Hygiene Foundation, Pittsburgh, Pa.

W. P. YANT, Sc.D.
Director, Research & Development, Mine Safety Appliances Company, Pittsburgh, Pa.

EXECUTIVE STAFF

C. Richard Walmer, M.D.	Managing Director
H. H. Schrenk, Ph.D.	Research Director
Theodore Hatch, S.M.	Research Adviser
W. C. L. Hemeon, S.M.	Engineering Director
D. C. Braun, M.D.	Medical Director
Paul Gross, M.D.	Research Pathologist
J. F. Osterritter, M.D.	Medical Associate
J. F. Morgan	Head Chemical Hygienist
F. F. Rupert, Ph.D.	Head Chemical Analyst
G. F. Haines, Jr.	Chemical Engineer
S. D. Puntureri, M.S.	Chemical Engineer
Lee Schreibeis, Jr., M.P.H.	Industrial Hygiene Engineer
J. Deane Sensenbaugh, M.S.	Chemist
Marian Westrick, Ph. D.	Research Toxicologist
J. M. Mc Nerney, M.S.	Research Associate
H. M. Ide	Bacteriologist
T. David Truan, M.A.	Biostatistician
Michael Cerreta	Chemist
R. K. Dumbauld	Research Assistant
Ellen C. Diamond	Office Manager
Vivian M. Colonna	Editor

RESEARCH ADVISORY COUNCIL

Theodore Hatch, S.M., Secretary	Graduate School of Public Health, University of Pittsburgh, and Industrial Hygiene Foundation
W. A. Hamor, Sc.D.	Mellon Institute, Pittsburgh
T. Lyle Hazlett, M.D.	University of Pittsburgh, Pittsburgh
A. J. Lanza, M.D.	New York University, New York
Willard Machle, M.D.	National Research Council, Washington, D.C.
W. P. Yant, Sc.D.	Mine Safety Appliances Company, Pittsburgh
R. E. Zimmerman, Sc.D.	U.S. Steel Corporation, New York

COMMITTEES

MEDICAL COMMITTEE

O. A. Sander, M.D., *Chairman* Marquette University, Milwaukee
A. G. Kammer, M.D., *Co-Chairman* University of Pittsburgh, Pittsburgh
D. C. Braun, M.D., *Secretary* Industrial Hygiene Foundation, Pittsburgh
E. H. Carleton, M.D. Inland Steel Company, East Chicago, Ind.
L. E. Hamlin, M.D. American Brake Shoe Co., Chicago
R. A. Kehoe, M.D. University of Cincinnati, Cincinnati
E. M. Kline, M.D. General Electric Company, Cleveland
C. Howard Macy, M.D. Tuberculosis League of Pittsburgh, Pittsburgh
L. C. McGee, M.D. Hercules Powder Company, Wilmington, Del.
C. M. Peterson, M.D. Council on Industrial Health, AMA, Chicago
C. D. Selby, M.D. University of Michigan, Ann Arbor, Mich.
W. P. Shepard, M.D. Metropolitan Life Insurance Co., New York
J. F. Shrouts, M.D. General Mills, Inc., Minneapolis

LEGAL COMMITTEE

T. C. Waters, *Chairman* Miles & Stockbridge, Baltimore
Vandiver Brown Attorney-at-Law, Waco, Texas
A. J. Gentholtz Republic Steel Corporation, Cleveland
Theodore Hetzler, Jr. National Association of Mutual Casualty Companies, New York
A. C. Hirth Owens-Illinois Glass Company, Toledo, Ohio
Andrew Kalmykow Association Casualty & Surety Companies, New York
C. R. Oviatt Union Carbide & Carbon Corporation, New York
Ivan Sabourin Quebec Asbestos Producers Association, Montreal, Canada
J. J. Regan The Self-Insurers Association, New York
R. Worth Vaughan American Smelting & Refining Company, New York
W. E. Zimmerman Sun Oil Company, Philadelphia

PREVENTIVE ENGINEERING COMMITTEE

Philip Drinker, Sc.D., *Chairman* School of Public Health, Harvard University
W. C. L. Hemeon, *Secretary* Industrial Hygiene Foundation, Pittsburgh
A. D. Brandt, Sc.D. Bethlehem Steel Co., Bethlehem, Pa.
J. M. Kane American Air Filter Company, Louisville, Ky.
C. F. McElwain International Business Machines Corp., Endicott, N.Y.
R. T. Pring American Wheelabrator & Equipment Corp., Mishawaka, Ind.
C. W. Schwenzfeier, Jr. Brush Beryllium Company, Luckey, Ohio
K. F. Spence The Funkhouser Company, Hagerstown, Md.
F. E. Tay American Brake Shoe Company, Det
W. H. Thoh Pittsburgh Coke and Chemical Company, Pittsbu.

COMMITTEES

CHEMICAL-TOXICOLOGICAL COMMITTEE

Anna M. Baetjer, Sc.D., *Chairman* Johns Hopkins University, Baltimore
J. F. Morgan, *Secretary* Industrial Hygiene Foundation, Pittsburgh
E. C. Barnes Westinghouse Electric Corporation, Pittsburgh
W. A. Cook University of Michigan, Ann Arbor, Mich.
F. C. Flint Hazel-Atlas Glass Company, Wheeling, W.V.
N. V. Hendricks Standard Oil Development Company, Linden, N.J.
D. D. Irish, Ph.D. Dow Chemical Company, Midland, Mich.
F. S. Mallette American Society Mechanical Engineers, New York
F. A. Patty General Motors Corporation, Detroit
H. F. Smyth, Jr., Ph.D. Mellon Institute, Pittsburgh
H. E. Stokinger, Ph.D. U.S. Public Health Service, Cincinnati
W. P. Yant, Sc.D. Mine Safety Appliances Company, Pittsburgh

AIR-POLLUTION CONTROL COMMITTEE

W. C. L. Hemeon, *Chairman* Industrial Hygiene Foundation, Pittsburgh
H. H. Schrenk, Ph.D., *Secretary* Industrial Hygiene Foundation, Pittsburgh
W. F. Davidson Consolidated Edison Company of New York, New York
H. F. Hebley Pittsburgh Consolidation Coal Company, Pittsburgh
W. L. Latshaw U.S. Smelting Refining & Mining Company, Salt Lake City
L. C. McCabe, Ph.D. U.S. Bureau of Mines, Washington D.C.