



INDUSTRIAL HYGIENE

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Investigation of Health Hazards in Industrial Plants Operated
by the War Department

Medical and engineering studies of environmental health hazards have virtually been completed in the thirty industrial military establishments certified by the War Department for investigation. As soon as reports on these studies have been completed, similar studies will be made in Government-owned but privately operated defense plants. Work in the contract-operated plants is scheduled to begin the latter part of October.

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Inspection of Industrial Hygiene Activities in the Far Western States

Dr. J. G. Townsend, Chief of the Division of Industrial Hygiene, National Institute of Health, and Mr. J. J. Bloomfield, Chief of the States' Relations Section, recently visited Montana, Idaho, California, Utah, and Colorado in order to (1) obtain first-hand information on the industrial hygiene problems confronting the management of key defense industries in these States, (2) on the basis of such information, to appraise the present facilities of the State and local industrial hygiene bureaus for providing the necessary services, and (3) to determine to what extent the Division of Industrial Hygiene, National Institute of Health, could assist by augmenting the State personnel and equipment.

Representative defense industries were visited in each State, and each State's program, budget, and personnel was discussed with the director of its industrial hygiene unit and with the U. S. Public Health Service District Directors. Arrangements were made to lend additional personnel and equipment to several of the industrial hygiene bureaus.

At each plant visited, Dr. Townsend and Mr. Bloomfield made a detailed inspection of the medical and engineering methods of controlling environmental health hazards and of the medical services provided for employees. The best control measures and medical services, in general, were those observed in aircraft plants. On the whole, the management

of every plant visited was well aware of the importance and value of providing adequate medical and engineering control of environmental conditions hazardous to health.

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Los Angeles County Establishes Industrial Hygiene Bureau

An industrial hygiene bureau recently was established in the health department of Los Angeles County, California. Dr. Hugh Dierker, physician, and Mr. Frank Stead, engineer, both of whom have received training in industrial hygiene, now constitute the bureau's staff. A chemist will be lent to the bureau by the Division of Industrial Hygiene, National Institute of Health.

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Increased Employment in Defense Industries

Federal Security Administrator Paul V. McNutt recently announced that a survey of the labor requirements of 9,305 employers in industries vital to national defense revealed that a minimum of 487,400 additional workers would be needed by October 1.

Mr. McNutt explained that these data were based on expected hirings during the six-month period ending October 1, as estimated by employers in May. The State Employment Services throughout the country, he said, visit selected defense employers regularly in order to obtain estimates of their labor requirements for the six months ahead. On the basis of this information, he said, the Bureau of Employment Security of the Social Security Board is able to make advance plans for recruiting and, where necessary, training the number and kinds of workers required. The information is also made available to defense training and housing officials, as well as a number of other defense agencies.

The greatest relative increase in employment, Mr. McNutt said, was expected in the ship and boatbuilding and repairing industry. The 195 such establishments surveyed expected to add 98,000 workers by October 1, an increase of 64 percent over their employment in May. The aircraft industry reported the next largest relative increase; 135 aircraft establishments employing 312,600 workers in May expected to increase their labor forces by 107,600, or 34 percent.

Other industries in which a large number of hirings were anticipated for the six-month period included: iron and steel; non-electrical machinery; automobile and automobile equipment; electrical machinery; and railroad equipment. All but 34,800 of the scheduled hirings were reported in 15 States, with the largest numbers expected to occur in California, Michigan, Pennsylvania, Ohio, New York, and Connecticut.

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Colorado Industrial Hygiene Unit Now a Division

The Colorado industrial hygiene unit formerly a section of the Division of Sanitary Engineering, has now been established as a separate division of the State Board of Health. Mr. R. J. Owens, Industrial Hygienist, is director of the new division. The staff of the division now consists of two bedding inspectors and a secretary, but will be expanded to include a physician from the Division of Industrial Hygiene, National Institute of Health, and a chemist to be employed by the State Board of Health.

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Twenty Industrial Hygiene Bureaus Report on Activities in Defense Industries During July

Twenty industrial hygiene bureaus in State and local health departments submitted reports of their activities during July to the Division of Industrial Hygiene, National Institute of Health. This is the largest number of bureaus ever to submit monthly reports.

An analysis of the reports showed that during July, investigations of various types were made in 604 plants involving 189,679 workers. Engineering or medical studies were conducted in 72 plants employing 32,370 workers; surveys or inspections were made in 469 plants employing 143,286 workers; and follow-up visits were made to 63 plants employing 14,023 workers. Recommendations affecting 44,563 workers were made; recommendations affecting 10,338 workers were accomplished; and 20,042 workers were employed in plants in which no recommendations were made. Approximately two-thirds of all the workers involved in the investigations are employed in plants producing defense materials.

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Changes in Michigan Personnel

The Michigan Bureau of Industrial Hygiene has recently lost the services of two industrial hygiene engineers who have been called to active duty in the U. S. Army. Mr. E. D. King, attached to the central office in Lansing, has assumed active duty at the Aberdeen Proving Ground, Aberdeen, Maryland, and Mr. Melvin First has been called to active duty at Fort Bliss, Texas. Mr. Theodore E. Jung, of the central office, has been transferred temporarily to the Saginaw district to replace Mr. First.

Mr. Frank E. Macauley is now associated with the central office in Lansing as industrial hygiene engineer, and Mr. J. Brennen Gisclard as analytical chemist.

Personnel on loan to the Michigan Bureau from the U. S. Public Health Service include: Dr. Victor C. Myers, Assistant Surgeon (R); Mr. George E. Tubich, Assistant Sanitary Engineer (R); and Mr. Leslie Lowen, Junior Public Health Engineer.

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Work on Standards Progresses

The Division of Industrial Hygiene, National Institute of Health, in cooperation with the American Standards Association, is continuing its work on the development of standards establishing the maximum concentrations of toxic gases, dusts, and vapors which may be permitted in the air of workplaces without harm to workers.

In addition to the regular procedure for the preparation and adoption of standards, a new procedure for quick action in developing emergency standards for defense purposes is being utilized by the American Standards Association. All of the emergency standards are to be issued in a distinctive format, with the words "defense emergency" appearing in the title. The newly adopted procedure provides that, following the emergency, the emergency standards will be reviewed by the appropriate committee, and approved, amended, or withdrawn through the regular procedures of the Association.

Materials on which standards are being prepared by the Division of Industrial Hygiene in accordance with the regular procedure include carbon tetrachloride, chromic acid, lead, mercury, and arsenic. Materials on which the Division is preparing defense emergency standards include cadmium, manganese, antimony, and xylol.

The Division is also preparing supplemental information on these materials, similar to that which was published on the carbon monoxide, benzol, carbon disulfide, and hydrogen sulfide standards. The supplements will be published in the Public Health Reports immediately following the publication of the standards by the American Standards Association.

A small building to house an experimental chamber is being constructed for the Division of Industrial Hygiene's research on the toxicity of dusts and fumes of such explosives as trinitrotoluene and tetryl.

California State Board of Health to Prohibit Use of Mercury in Hatting Industry

At the July meeting of the California State Board of Health, a resolution was adopted prohibiting the use of mercurial carroting compounds in California hatters' fur cutting and fur felt hat manufacturing plants after December 1, 1941. This action is a direct result of the conference held on May 19, 1941 by the Surgeon General of the United States Public Health Service at which proposed State regulations governing the use of hatters' mercurial carroting solutions were unanimously approved in principle by representatives of The Hat Institute, Inc., The Hatters' Fur Cutters Association, and health and labor officials from a number of States.

Other States which have adopted similar regulations are Delaware, Rhode Island, Kentucky, Vermont, Connecticut, and Michigan.

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Control of Communicable Diseases in a Defense Area

The influx of large numbers of workers into areas where new defense industries have been constructed or old industries expanded has tended to aggravate the problem of communicable disease control. In order to show how a State or local industrial hygiene bureau can help to solve the problem, a procedure now being used in Baltimore, Maryland is described.

Large numbers of industrial workers have been coming to Baltimore from sections of the country where smallpox vaccination, typhoid inoculation, and the use of diphtheria toxoid are not commonly practiced. The city health department therefore was confronted with the problem of reaching these new residents in order to urge upon them the importance of preventive measures for individual and community health protection. The best point of contact obviously was the employment offices of defense industries, and the industrial hygienists in the city health department were best acquainted with the persons in charge of such offices. Return postcards, providing space for name, address, and number of children, were printed, and the industrial hygienists took supplies of these cards to personnel managers and arranged to have them filled out and mailed to the Bureau of Communicable Diseases. The State Employment Office was also contacted.

The completed cards are turned over to the Bureau of Public Health Nursing, and visits are made by members of this bureau to the home of each newcomer to the city. Up to September 1, nearly 18,000 cards had

been distributed to 35 firms. The distribution is being continued, and completed cards are being returned in increasing numbers.

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Perlèche

Recently the New Hampshire Industrial Hygiene Unit investigated a case of perlèche which occurred at a Government housing project in Portsmouth, New Hampshire. The investigation revealed that the employees were drinking from a common dipper and a pail of water distributed among them by water boys. The water was trucked to the project from the Portsmouth city supply.

The use of paper cups is apt to be impractical on such a project. However, portable drinking fountains with approved types of bubblers should solve the problem.

Regulations for the prevention of perlèche have been issued by the Construction Division of the Quartermaster Corps.

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Air Hygiene Foundation, Inc., Changes Name

The Board of Trustees of Air Hygiene Foundation of America, Inc. has announced the change of the organization's name to Industrial Hygiene Foundation of America, Inc. Foundation members voted almost 4 to 1 in favor of the name change in a poll conducted some months ago.

When the Foundation was first organized in 1935, emphasis was placed on silicosis, one of the most pressing industrial health problems at that time. With the rapid advances of industrial hygiene and the multiplication of new occupational health problems, the Foundation's work has steadily broadened. Reason for the name change is to more clearly describe the Foundation's expanding activities and membership services for the protection of employee health.

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Women Qualified for Many Defense Jobs

In an effort to promote employment of women workers in defense plants where shortages of male labor are becoming apparent, Federal Security Administrator Paul V. McNutt recently announced that a study of 1,894 different occupations required in 21 key defense industries, revealed that a large majority are jobs in which women could be successfully employed, although they are not at present being hired for such work.

Only 331 of the nearly 1,900 kinds of jobs analyzed were found to be definitely unsuitable for women. The study, prepared by the Bureau of Employment Security of the Social Security Board, included the vital airplane, shipbuilding, and machinery industries, where widespread shortages have already occurred, as well as a number of other heavy production industries. An additional 47 occupations in these fields are already customarily filled by women exclusively or by either men or women.

The remaining 1,185—almost two-thirds of the total—were occupations in which the degree of physical strength required and the conditions under which the work is performed present no barrier to the employment of women. Moreover, 654 of the occupations in this group were of a kind in which women could be placed immediately, only a brief period of preparatory training, if any, being necessary.

Even in the case of the other 531 occupations, for which considerable training is required, the Administrator pointed out that breaking up some of the jobs into their single-skill component parts would make possible the immediate employment of women. Down-processing of complex jobs to permit the employment and training, on-the-job, of semi-skilled workers has already been widely adopted by defense employers as a means of meeting skilled labor shortages.

Some of the occupations mentioned by the Administrator in which women could be employed were a wide variety of jobs in the manufacture and assembly of parts for motors, radios, recording instruments, and airplane gauges. He also stated that the development of new machinery now made possible the employment of women even in the manufacture of heavy shells and other types of munitions, whereas the method formerly used made it necessary to employ men only. A large majority of the operations in the manufacture of automobiles, trucks, and tanks, even final body assembly, could also be performed by women, since heavy parts are moved by machinery.

A numerous list of occupations in the manufacture of parts for electrical equipment and in the operation of boring, shelving, welding, anodizing, cutting, drawing, sawing, stamping, and other types of automatic machinery used in the manufacture of machines and machine tools were also included in the list of acceptable jobs for woman. In the ship and boatbuilding industry, women were listed as acceptable for employment as boilermakers helpers, draftsmen, machinists helpers, blueprint machine operators, flash welders, and a large list of other occupations.

Even in foundry work, it was found that women could be employed as casting cleaners, finishers, and polishers, as machine core makers, facing mixers, and in many other jobs. In the manufacture and servicing of aircraft, it was stated that women are competent in such work as metal fabrication, bench and stainless steel assembly, painting, covering, heat treating, anodizing, fuselage assembly, welding, and many other operations.

The industries covered by the survey were manufacture of aircraft and parts, air transportation and service, aluminum products, munitions manufacture, automobile, motorcycle, truck and tank manufacture, and equipment, communications, electrical machinery, firearms, industrial chemicals, iron and steel and their products, machine tools, machine models and patterns, foundries, professional and scientific instruments, railroad equipment, shipbuilding and repairing, utilities, and petroleum production and refining.

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Hydrogen Sulfide Poisoning from Thread Grinding Oil

The Indiana Bureau of Industrial Hygiene has reported the results of a study of an epidemic of hydrogen sulfide poisoning in a plant which manufactures precision tools.

The plant is a new, air-conditioned, "blackout" type of plant and employs 150 persons all of whom are skilled workers. Nine months ago, the management installed a new thread grinder and two months ago, two more. When the three machines were put into operation, the operators of the machines, and other persons working in rooms served by the same air-conditioning system as that of the room in which the thread grinders were located, became ill. The workers affected complained of nausea and vomiting, and of a bad odor from the machines. The odor was not characteristic because it was contaminated with a strong creosote odor from the newly installed floor.

On investigation, the Indiana Bureau learned that a particular brand of thread grinding oil is specified for cooling the fast moving carborundum wheels of the machines. This oil is composed of mineral oil, sperm oil, and sulfur. As it comes to the purchasers, the oil contains large volumes of hydrogen sulfide in solution.

According to the records of the plant's nurse, 16 workers were affected, 4 violently so and 12 only mildly. Most of these men reported to the nurse on two particular days. It was discovered that 5 gallons of oil had been added to the machines on the day preceding the first day on which men reported to the nurse, and that 15 gallons had been added on the second day on which men reported. Tests of the atmosphere when the machines were not in operation did not show any free hydrogen sulfide.

It was therefore concluded that when the oil was added in 15 gallon lots, hydrogen sulfide was liberated as the oil was circulated and aerated over the cutting wheels. The Indiana Bureau recommended that

the oil be aerated outside before addition to the machines, and that small amounts be added as needed. The oil is now aerated by forcing air through the container. Since the recommendations have been put into effect, there has been no further trouble.

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Tellurium Poisoning

In the May issue of the news letter it was reported that the Illinois Division of Industrial Hygiene had observed tellurium poisoning in a worker employed in the chilled car wheel industry. The Indiana Bureau of Industrial Hygiene has reported that it also has observed mild cases of tellurium poisoning among workers employed in a plant manufacturing railroad car wheels and is now making a study of the problem. Symptoms thus far observed are: pronounced garlic odor to breath, metallic taste in mouth, dryness of mouth, and lymphocytosis.

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Cover Glass for the Dunn Dust Counting Cell

The Dunn dust counting cell is used rather extensively by industrial hygiene workers, many of whom apparently experience considerable difficulty in obtaining a suitable cover glass for the cell.

The middle section of the Dunn dust counting cell is approximately 20 millimeters in diameter, and most blood cell cover glasses are usually not more than 22 millimeters in width. Therefore, they are unsatisfactory for use with the Dunn cell because a proper seal is not obtained between the two sections.

Through correspondence with several scientific equipment companies regarding this problem, Mr. Herbert T. Walworth, Chief Engineer of the Montana Division of Industrial Hygiene, has learned that a larger cover glass can be obtained from one of the companies. This particular cover glass is 28 x 25 millimeters, octagonal in shape, and 0.4 to 0.6 millimeters thick. Being 25 millimeters in their narrowest dimension, these glasses leave ample space for a proper seal over the 20 millimeter hole of the center section of the Dunn cell.

The Montana Division of Industrial Hygiene has used these cover glasses for the past 6 months and has found them very satisfactory for use with the Dunn cell. Information as to where the cover glasses may be obtained and their cost can be obtained from: Mr. Herbert T. Walworth, Chief Engineer, Division of Industrial Hygiene, Montana State Board of Health, Helena, Montana.

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Special Course in Industrial Hygiene Offered at
University of Pennsylvania

A 12-week course in industrial hygiene, which will run from October 27, 1941, to January 17, 1942, is being offered by the University of Pennsylvania. The course will be given under the auspices of the Engineering, Science, and Management Defense Training Program of the U. S. Office of Education and is open to graduates in engineering, chemistry, or allied sciences.

Subjects to be covered in the course include: Principles of industrial hygiene, industrial hygiene laboratory methods, industrial ventilation, safety engineering, administration of industrial health services, industrial psychology, and statistical methods.

Further information can be obtained from: Theodore Hatch, Associate Professor of Industrial Hygiene, Department of Public Health and Preventive Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

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Washington University Announces New Course

A new course in industrial health engineering and safety is being offered by the Department of Chemical Engineering, Washington University, St. Louis, Missouri. The course will be given during the 1941 fall semester. There are no prerequisites.

Subjects to be covered in the course include: Basic principles and techniques of industrial accident and disease prevention; causes and incidence of injuries; the organization and promotion of preventive and corrective procedures; industrial and compensation laws; insurance; plant layout; illumination; housekeeping and sanitation; educational methods; and employee psychology.

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Two Special Courses in Industrial Health and Accident Prevention
To Be Conducted by New York University Center for Safety Education

Two special courses for insurance and industrial engineers, industrial nurses, inspectors, and other interested persons will be conducted during the 1941 fall term by the New York University Center for Safety Education.

A course in "Industrial Hygiene and Occupational Diseases," dealing with modern methods and techniques of industrial hygiene, accident prevention, and health education, will be given Mondays beginning

October 6. A second course, entitled "Industrial Hygiene and Accident Prevention for Nurses" and designed to aid the industrial nurse in improving and protecting the health of workers, will be conducted Tuesdays beginning October 7. Each course will consist of fifteen 2-hour lecture-discussion and demonstration periods. There are no formal entrance requirements for the courses.

Further information on the courses can be obtained from: Dr. Herbert J. Stack; Director, Center for Safety Education, New York University, Washington Square, New York, N. Y.

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American Conference on Industrial Health to Hold Second Annual Meeting

Under the auspices of the American Association of Industrial Physicians and Surgeons, the American Conference on Industrial Health will hold its second annual meeting on November 5 and 6, 1941, at Chicago Towers, Chicago, Illinois. The program will include symposia on the technical problems, the economics, and the social implications of industrial health. The sessions will close with a schedule of plant medical department inspections, by special arrangements with local industries.

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Iowa Institute on Industrial Health

The second series of special institutes on industrial health, sponsored by the Speaker's Bureau and the Committee on Industrial Health, of the Iowa State Medical Society, and the Iowa State Department of Health, was held in three Iowa cities on September 22-24, 1941. The institutes, which are held for practicing physicians, industrial physicians, and industrial managers, have now been conducted in eight different cities, similar institutes having been held in five cities last June.

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Virginia Symposium on Industrial Health

On September 11 and 12, 1941, a symposium on industrial health took place at the Medical College of Virginia, Richmond, Virginia. The symposium was sponsored by the Bureau of Industrial Hygiene, Virginia State Health Department; the Committee on Industrial Health, Medical Society of Virginia; and the Richmond Academy of Medicine, with the cooperation of the Virginia Manufacturers Association and the Richmond Chamber of Commerce.

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Public Health Conferences Held in Indiana

The fifth annual conference of full-time public health personnel in Indiana was held August 19 and 20, 1941, at Mitchell, Indiana. A discussion of industrial hygiene for district sanitarians was included on the program.

On September 18-20, 1941, the Indiana State Board of Health held a conference in Indianapolis on industrial health for general public health nursing consultants and supervisors. The purpose of the conference was to further the integration of industrial nursing with the public health nursing program in the State. Subjects discussed included the various aspects of the industrial hygiene problem, the objectives and functions of industrial nurses, and the assistance which State and district nursing consultants can give to industrial nurses. Miss Olive M. Whitlock, Public Health Nursing Consultant, Division of Industrial Hygiene, National Institute of Health, was among the speakers who participated in the program.

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Bedding Inspector Assigned to South Carolina Division
of Industrial Health

During the 1941 session of the South Carolina General Assembly, a bedding act was passed, and responsibility for enforcement of the act was placed upon the State Board of Health. The bedding inspector employed by the board of health was assigned to the Division of Industrial Health. Although his duties are supervised by the Division, the work is supported entirely from revenue derived under the provisions of the bedding act itself.

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Acknowledgment

Dr. Robert B. Aiken, of the Vermont Division of Tuberculosis and Industrial Hygiene, has requested that acknowledgment be given to "Safety Engineering" for permitting him to use one of their cuts in designing his dust poster, which was described in the last issue of this news letter. We are pleased to make such acknowledgment.

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Correction

In the last issue of the news letter, it was stated that Mr. Charles L. Pool, formerly of the Rhode Island Department of Public Health, is now a lieutenant commander in the Civil Engineering Corps of the U. S. Navy and stationed at Newport, Rhode Island. Mr. Pool's correct address is: Civil Engineering Corps, U. S. Naval Reserve, Marine Barracks, New River, North Carolina.

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New Publications

Skin Hazards in Airplane Manufacture. Louis Schwartz and J. P. Russell. Pub. Health Repts. 56, 1581-1593 (1941).

This article reports the results of studies of skin hazards in nine airplane factories located in various parts of the United States, employing over 100,000 workers, and making various types of aircraft. The principal hazards are those from cutting oils, thinners, and solvents used in paints and "dopes," plating and rust-proofing of metals, fluxes used in welding, and solvents used for cleaning and degreasing. Preventive measures are described.

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Industrial Hygiene in the National Defense Program. J. J. Bloomfield. Ann. Internal Med. 15, 165-171 (1941).

The effect of industrial mobilization on industrial health problems and the effect of industrial disability on production are discussed. The organization and program for protecting the health of workers in defense industries are described, and the responsibility of the medical profession in the program is defined.

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Ventilation of Plating Tanks. A. D. Brandt. Heating, Piping & Air Conditioning 13, 434-438 (1941).

The results of a study to determine the air flow characteristics of plating tanks provided with lateral exhaust ventilation are presented. Equations defining the ventilation characteristics of plating tanks with one hood and of tanks with two hoods are developed. The data presented essentially substantiate those presented by Battista, Hatch, and Greenburg.

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Hazard of Mercury Vapor in Scientific Laboratories. Martin Shepherd and Shuford Schuhmann, and R. H. Flinn, J. W. Hough, and P. A. Neal. J. Research Natl. Bur. Standards 26, 357-375 (1941). Research Paper RPL323.

The first part of this paper reports the determination of the amounts of mercury vapor found in the air of various ventilated and unventilated laboratories at the National Bureau of Standards and elsewhere. The second part reports the results of extensive medical and psychological examinations of 38 laboratory men who were exposed to the various concentrations of mercury vapor noted in part 1.

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The Deposition and Removal of Lead in the Soft Tissues (Liver, Kidneys, and Spleen). L. T. Fairhall and J. W. Miller. Pub. Health Repts. 56, 1641-1650 (1941).

This article reports the results of a study to determine the chemical and pathologic changes associated with the deposition of lead in the soft tissues, the extent to which a change in the lead content of the soft tissues occurs after the ingestion of lead has ceased, and the relationship between the reduction of lead in the soft tissues to the repair of injury produced by the lead.

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Disabling Sickness Among 2,000 White Male Glass Workers. W. M. Gafafer. Pub. Health Repts. 56, 1791-1798 (1941).

This report deals with sickness and nonindustrial injuries causing disability lasting 8 calendar days or longer among approximately 2,000 white male workers in the glass industry during the 5 years, 1930-34.

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A New Industrial Skin Cleanser. Louis Schwartz. Pub. Health Repts. 56, 1788-1790 (1941).

A skin cleanser which does not defat the skin is described. The cleanser is intended for use by industrial workers who handle chemicals which are difficult to remove from the skin, and who thereby incur the risk of occupational dermatitis from harsh skin cleansers.

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Transactions of the Fourth Annual Meeting of the National Conference of Governmental Industrial Hygienists, Joint Meeting with the Subcommittee on Industrial Health and Medicine, Health and Medical Committee, Federal Security Agency, Washington, D. C., February 17 and 18, 1941. Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, Federal Security Agency (1941). 205 pp. Multilithed.

Contents indicated by title. The various aspects of industrial hygiene problems in the national defense program, the defense activities of State and local industrial hygiene bureaus, and a proposed industrial hygiene program are discussed.

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U. S. Public Health Service Districts Reorganized

The United States Public Health Service Districts, into which the United States and its Territories are divided, have been reorganized recently so that there are now eight Districts instead of six. The new Districts and their directors are:

District No. 1

Medical Director C. C. Pierce
District Director
U. S. Public Health Service District No. 1
Sub-Treasury Building
15 Pine Street
New York, New York

Connecticut, Delaware,
Maine, Massachusetts, New
Hampshire, New Jersey, New
York, Pennsylvania, Rhode
Island, Vermont

District No. 2

Senior Surgeon M. V. Ziegler
District Director
U. S. Public Health Service District No. 2
25th & E Streets, N. W.
Washington, D. C.

District of Columbia, Mary-
land, North Carolina, Vir-
ginia, West Virginia

District No. 3

Medical Director Lon O. Weldon
District Director
U. S. Public Health Service District No. 3
Room 855 New Custom House
Chicago, Illinois

Illinois, Indiana, Kentucky,
Michigan, Ohio, Wisconsin

District No. 4

Medical Director C. L. Williams
District Director
U. S. Public Health Service District No. 4
210 State Street
New Orleans, Louisiana

Alabama, Florida, Georgia,
Louisiana, Mississippi,
South Carolina, Tennessee

Sub-District No. 4

Dr. K. E. Miller
San Antonio

New Mexico, Texas

District No. 5

Medical Director R. H. Creel
District Director
U. S. Public Health Service District No. 5
Room 112, Federal Office Building
San Francisco, California

California, Nevada, Oregon,
Washington
Alaska, Hawaii

District No. 6

Senior Surgeon T. H. D. Griffiths
District Director
U. S. Public Health Service District No. 6
San Juan, Puerto Rico

Puerto Rico, Virgin Islands

District No. 7

Senior Surgeon Calvin C. Applewhite
District Director
U. S. Public Health Service District No. 7
Rooms 601-612 Business Men's Assurance Co.
Building
215 West Pershing Road
Kansas City, Missouri

Arkansas, Iowa, Kansas,
Minnesota, Missouri, Nebraska,
North Dakota, Oklahoma, South
Dakota

District No. 8

Senior Surgeon L. A. Fullerton
District Director
U. S. Public Health Service District No. 8
Rooms 617-622 Colorado Building
Denver, Colorado

Arizona, Colorado, Idaho,
Montana, Utah, Wyoming

News items for publication in **INDUSTRIAL HYGIENE** should be submitted to
Sanitary Engineer J. J. Bloomfield, Division of Industrial Hygiene,
National Institute of Health, Bethesda, Maryland
