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<b>INDUSTRIAL HYGIENE</b>		
Current News of Official Industrial Hygiene Activities		
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SERVICES TO PRIVATELY OWNED WAR INDUSTRIES

The Safety and Security Branch, Office of the Chief of Ordnance, Chicago (in a directive dated March 16, 1943, sent to all Ordnance District Offices), outlined the procedure for the inspection of private facilities doing war work for Ordnance by the U. S. Public Health Service, through the cooperation of the State units. This directive brings out the point that industrial hygiene surveys conducted in Government-owned Ordnance establishments during the past two years by trained teams of physicians, industrial hygiene engineers, and chemists from the Office of the Surgeon General, U. S. Army, and from the U. S. Public Health Service have been of value in calling attention to practices that impair the health and efficiency of employees, and in suggesting methods for their control.

Consequently, the Office of the Chief of Ordnance desires to extend the benefits of these surveys to commercial establishments for which the Safety and Security Branch of Ordnance has continuing protection responsibility. Commercial plants in each District will be canvassed by Ordnance inspectors to ascertain if each plant is receiving current industrial hygiene services from the proper State agency. If not, the plant management will be advised regarding the value of such services, and the necessary arrangements will be made with the U. S. Public Health Service to make these services available to each plant.

To motivate this program, the Division of Industrial Hygiene of the National Institute of Health, U. S. Public Health Service, has adopted the following procedure with regard to such requests:

1. Notification of a request for investigation will be made by the industrial hygiene unit of the Safety and Security Branch of Ordnance in Chicago to the States Relations Section of the Division of Industrial Hygiene, and will include the name of the establishment and the person therein to contact.
2. The Division of Industrial Hygiene will request the State or local industrial hygiene unit involved to communicate directly with the Safety and Security Branch of Ordnance for the purpose of certifying the names of those who will make the inspection and the dates for which clearance should be obtained.

3. The State or local industrial hygiene unit in turn will send the report of its findings directly to the Office of the Chief of Ordnance.

The assistance of the U. S. Public Health Service is available to those States receiving such requests which do not have industrial hygiene units.

#### WAR DEPARTMENT DIRECTIVE ON NITROGEN OXIDES POISONING

As a result of the conference of medical directors from Ordnance establishments where the hazard of nitrogen oxides poisoning exists, held at Cincinnati, Ohio, January 28, 1943 (see Industrial Hygiene news letter, February 1943), the Office of the Chief of Ordnance has issued Industrial Hygiene Information Circular #11: Nitrogen Oxides Poisoning. A consensus on the etiology, symptoms, prevention, and treatment of poisoning from the oxides of nitrogen is presented. The following directives are given for the treatment of cases with significant exposure:

1. Prevention of exposure is most important. It should be accomplished through proper engineering control and through safety education.
2. Keep warm and at absolute bed rest for at least 24 hours. Disturb as little as possible
3. Obtain careful history and attempt to evaluate the exposure. Lean over backward in case of doubt.
4. Obtain frequent recordings of pulse and respiratory rates, blood pressure, and periodic blood counts of hemoglobin estimation.
5. Venesection, 300-600 cc may be indicated if pulmonary edema develops, unless patient is in shock.
6. Blood plasma may be of value to combat blood concentration.
7. Continuous oxygen therapy, preferably by mask, or catheter, or tent. The use of slight positive pressure (1 to 6 cm of water) by mask during exhalation may be useful.
8. Liquid diet as tolerated.
9. Keep sedation at a minimum because of depressant action on respiration. Morphine is dangerous, and should not be used.
10. Complete and permanent records must be kept of the case, to furnish evidence on the matter of possible late sequelae for both scientific and medico-legal purposes. Follow-up observation is important.

## TRAINING COURSES IN SAFETY AND INDUSTRIAL HEALTH

Dr. Herbert J. Stack, Director, informs us that the Center for Safety Education, New York University, located at 8 Fifth Avenue, New York City, is offering an additional course for industrial health personnel this year, "Hygiene and Accident Prevention for Industrial Nurses." Other courses given in this field are "Industrial Accident Prevention" (one basic, and one advanced), "Psychology of Industrial Safety," and "Industrial Hygiene and Occupational Diseases."

The Center offers consultation services to safety supervisors and engineers in industry as well as to various agencies concerned with wartime safety problems.

## DETROIT CONFERENCE

Medical Directors J. G. Townsend and Louis Schwartz, and Sanitary Engineer J. J. Bloomfield were among the speakers who participated in the joint session of the Post-Graduate Industrial Medical and Surgical Conference sponsored by the Committee on Industrial Health of the Michigan State Medical Society and the Michigan Industrial Hygiene Society, and the War Conference of General Motors Medical Directors, which was held at the Rockham Memorial Building, Detroit, Michigan, on April 8, 1943. They also participated in an extension of the War Conference of General Motors Medical Directors held at the Book-Cadillac Hotel, Detroit, on April 9, where the principal subjects being most pertinent and important to General Motors own industrial hygiene program were discussed.

## TUBERCULOSIS CASE FINDING FACILITIES EXTENDED TO MEDIUM SIZED PLANTS

According to information received from the War Production Board, few, if any, industrial plant hospitals will be able to purchase new high milliamperage X-ray units for their clinic work. Quoting from a memorandum received from the Hospital Section, Government Division, WPB, ". . . we do not have a sufficient number of high milliamperage power units to equip even 5 percent of the industrial plants in this country employing 2,500 or more persons at one plant."

The depleted supply of high milliamperage X-ray units suitable for photofluorography will probably be allocated to State industrial hygiene and tuberculosis units for the purpose of making State-wide surveys, in order to get the maximum benefit out of this limited number of units. The WPB feels that a mobile unit of 30 ma. is all that an industrial plant needs for emergency work in its clinic.

Surveys of workers for chest conditions in plants unable to obtain the high milliamperage equipment are available through the portable case finding units in many of the States and through the Office of Tuberculosis Control, U. S. Public Health Service.

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## STATE ACTIVITIES

### CALIFORNIA: Industrial Hygiene for Nurses

University of California extension courses in industrial hygiene, which were begun during January and February 1943, are meeting with enthusiastic response among the present and prospective industrial nurses throughout the State. Courses consisting of fifteen 2-hour sessions are now being taught in Berkeley, San Jose, Los Angeles, and San Diego, with a total enrollment of 200 nurses, and plans are being made to give a similar course in Long Beach for approximately 90 industrial nurses who live and work in the vicinity. A course on "Surgical Dressings and Procedures for Nurses in Industry," which was recently given by a leading industrial surgeon of Los Angeles, was attended by 105 nurses.

One of the courses is given during the day so that nurses who work on the night shift can attend. All of the courses emphasize industrial toxicology in which the nurses have shown great interest. The lectures are adapted to the particular needs of the nurses attending. Thus, in the San Jose course, detailed attention is given to dermatitis and to respiratory affections due to temperature changes because most of the nurses enrolled serve fruit and vegetable canning plants.

The courses in Berkeley and San Jose are being taught by Miss Ella Mae Barkley, industrial hygiene nursing consultant, and Dr. Francis E. Ballard, medical officer, of the State Bureau of Industrial Health; the course in Los Angeles by Dr. E. E. Dart, director of the Los Angeles City Division of Industrial Hygiene, and Miss Olive Whitlock, former public health nursing consultant of the Division of Industrial Hygiene, U. S. Public Health Service; and the course in San Diego by Dr. Saul Ruby, assistant director of the San Diego City and County Health Department.

### CALIFORNIA: Bay Area Nutrition in Industry

A Nutrition in Industry Committee, which has as its objective the improvement of nutrition of war industry workers in the San Francisco Bay Area, has been organized by the San Francisco, Alameda, Contra Costa, San Mateo, and Marin County Tuberculosis Associations, the nutrition committees in these counties, and the California Department of Public Health. The Committee is financed by the County Tuberculosis Associations, and recently has employed a full-time nutritionist and a secretary. Because Bay Area workers frequently work in one county but live in another, plans are being made to coordinate industrial nutrition activities of all Bay Area nutrition committees.

The first project of the Bay Area Nutrition in Industry Committee will be the presentation of food demonstrations and nutrition classes for the wives of workers in the various communities and Federal housing developments surrounding the shipyards. A second

project, in cooperation with the Alameda County Nutrition Committee, is the analysis of lunches brought or bought by the workers employed by two of the large shipyards in the area, to be followed by publication of the results of the analysis in the employees' magazines. The report would include recommendations for improvements in the lunches. A third project, which is being considered, is a number of one-day institutes on nutrition for industrialists in the Bay Area, to be held in cooperation with the University of California Extension Division and with management and manufacturers' organizations.

#### GEORGIA: Atlanta War Production Conference

A War Production Conference was held in Atlanta, Georgia, on April 14, 1943, under the sponsorship of the Georgia Engineering Society and the Industrial Bureau of the Atlanta Chamber of Commerce. Following a dinner meeting, panel discussions were held on the following subjects:

1. Training Within Industry.
2. Heat Treating.
3. Welding.
4. Machine Shop Problems, Die Making, and Press Operations.
5. Wood Working.

Personnel from the Georgia Industrial Hygiene Service presented health aspects of the various operations at each of the panel discussions. A total of about 450 men attended the various panels.

#### ILLINOIS: Medical Societies Plan Programs

Dr. Frederick W. Slobe, Chairman of the Committee on Industrial Health of the Illinois State Medical Society, reports that the State Medical Society and local medical societies in Illinois are developing programs on industrial hygiene for their meetings. These started with a Conference on Industrial Health in Chicago on January 13, following the American Medical Association conference. Governor Green of Illinois was one of the speakers at the evening banquet meeting attended by over 400.

The 15 branch societies of the Chicago Medical Society will devote their April and May meetings to industrial health. Industrial health committees of other county medical societies are being organized. The Kane County Medical Society held an Industrial Health Conference in Aurora on March 10.

The Annual Convention of the Illinois State Medical Society will include an Industrial Health Program under the auspices of the Central States Society of Industrial Medicine.

NEW JERSEY: Joint Labor-Management Committees

The Industrial Hygiene Service of the New Jersey State Department of Health has prepared a plan and materials to assist each New Jersey plant to form a "Victory Committee for Health and Safety." It is recommended that this committee should have a representative membership of the workers on the hourly pay roll and of management. If a joint Labor-Management War Production Drive Committee is already functioning, it is urged that the new health and safety organization should be a subcommittee of the War Production Drive Committee.

The objectives outlined for these committees are:

1. To help set up an organization through which workers can attack their own health problems and share responsibility with management for--
  - a. Control of absenteeism.
  - b. Checkup of physical working conditions, with suggestions, where needed, for improvement.
  - c. Explanation of health policies and practices to fellow workers--education.
2. To provide a mouthpiece through which factory workers can voice their own opinions as to health conditions--the man in the shop is closer to the job and its hazards than anyone else.
3. To serve as a group, representative of the workers, with whom the State Health Department can deal at the same time that it communicates with plant management on health matters.
4. To provide an additional channel through which other official agencies, such as State Labor Department, WPB, WMC, ODEWS, NCCMWI, and the like, can deliver their services directly to the plant people.

The plan for organization has been described in a printed pamphlet which is made available to management, to labor unions, to industrial physicians, and to all others interested. The 3-point program outlined in this pamphlet includes recommendations to: (1) Keep records on the number of personnel absent each day, and find out the reasons for each individual not being "on the job--EVERY DAY"; (2) "To make periodic plant checkups once a week to help spot jobs and conditions that might be harmful to health"; (3) To keep an educational program rolling.

TENNESSEE: New Periodical

The Industrial Hygiene Service of the Tennessee Department of Public Health has initiated the publication of a quarterly bulletin called "Tennessee Industrial Hygiene News." The first issue, published in March, has a foreword on the general problem, and a statement of services of the Tennessee Department of Public Health available to industry, prepared by Dr. W. C. Williams, State Health Commissioner. This issue features Industrial Hygiene Nursing. "Succeeding issues will contain a feature article on a particular phase of industrial hygiene together with comment of a general nature."

UTAH: Special Industrial Hygiene Issue of "Your Health"

The Utah State Department of Health made the March issue of its monthly bulletin, "Your Health," an Industrial Hygiene Unit.

It forcefully states the importance and need of industrial hygiene programs today, and specifically lists the disease hazards most likely to be encountered by Utah industrial workers. A description is given of an ideal plan for providing an adequate health service to workers, and the benefits to be expected. The facilities of the Division of Industrial Hygiene of the State Department of Health and the services of other agencies available to Utah industries are described.

A chart showing the relationships of Federal, State, and local agencies whose services are being integrated in the "Cooperative Industrial Hygiene Program in Utah" is included in the bulletin.

VIRGINIA: Nutrition Pamphlet

The Director of the Bureau of Industrial Hygiene, Virginia State Department of Health, reports that the Department has a nutritionist now working entirely in industry. The Department has prepared a pamphlet entitled "Food for Men," which gives requirements and many suggestions for food suitable for lunch boxes.

VIRGINIA: Industrial Dermatoses Lectures

At the request of Dr. F. J. Wampler, of the Medical College of Virginia, Dr. John E. Dunn presented a series of five lectures on industrial dermatoses at the Institute on Industrial Medicine held during the week of March 22, under the auspices of the Committee on Industrial Health of the Medical Society of Virginia.

PERSONNEL NOTES

Passed Assistant Dental Surgeon (R) Leland H. Evans was assigned to the Michigan State Department of Health on March 15, 1943, to assist in the promotion of dental programs in industry.

Assistant Chemical Engineer C. R. Jones completed his in-service training in industrial hygiene and reported for duty on March 17, 1943, with the Mississippi Division of Industrial Hygiene.

Assistant Sanitary Engineer (R) Lester V. Cralley was assigned to the Ohio Department of Health on April 5, 1943. Dr. Cralley's assignment completes the commitment of the U. S. Public Health Service to the Ohio State Department of Health for the assignment of medical, engineering, and chemical personnel for industrial hygiene duty.

Surgeon (R) Harry Heimann and Associate Public Health Nursing Consultant Margaret J. Nichols reported for duty with the Division of Industrial Hygiene of the New York Department of Labor, for assignment to the Syracuse Branch Office of that Division, during the first week of April, 1943.

Mr. H. B. Pollach, Jr., Explosive Chemist at the Kansas Ordnance Plant, spent several days at the Division of Industrial Hygiene, National Institute of Health, studying the field and laboratory technics used by this Division for sampling and determining physiologically significant atmospheric concentrations of TNT and tetryl.

Mr. A. P. Bell, Sanitary Engineer, District of Columbia Health Department, has spent several weeks with the Division of Industrial Hygiene in order to familiarize himself with field and laboratory procedures. Mr. Bell will be in charge of the administration of the industrial hygiene program in the District of Columbia.

#### NEW BOOKS

"Micrometrics: The Technology of Fine Particles" is the title of a new book by J. M. DallaValle, published by the Pitman Publishing Corporation of New York at a price of \$8.50. The word "micrometrics" was coined by the author to denote the science of fine particles. The book evaluates the various properties of dust as it constitutes a health hazard, and also discusses dust's behavior in motion, arrangement on packing, transport in a fluid stream, and many other properties. Dr. DallaValle has made a valuable contribution to the science of particulate matter which should be of interest to a wide variety of industries, as well as to the industrial hygiene and sanitary engineer.

Dr. Alice Hamilton has written a book entitled "Exploring the Dangerous Trades." Though primarily an autobiography of the medical social worker who became a pioneer in industrial medicine, it is of special interest for its picture of the early development of industrial hygiene in the United States. It is an Atlantic Monthly Press book, published by Little, Brown & Co., Boston; price \$3.



## NEW PUBLICATIONS

(Supplement to Publications List of Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, April 1943)

MANUAL OF INDUSTRIAL HYGIENE AND MEDICAL SERVICE IN WAR INDUSTRIES, issued under the auspices of the Committee on Industrial Medicine of the Division of Medical Sciences of the National Research Council, prepared by the Division of Industrial Hygiene, National Institute of Health, United States Public Health Service. W. M. Gafafer, ed. Philadelphia: W. B. Saunders Co. (1943). xi + 508 pp. Price \$3.00.

### Part I—Organization and operation of facilities.

War's influence on industrial hygiene. J. J. Bloomfield.  
Plant medical facilities. O. F. Hedley.  
Medical services. O. F. Hedley.  
Nursing services. C. M. Whitlock.  
Dental services. L. D. Heacock.  
Organization of plant emergency medical service and integration with that of the community. R. F. Sievers.  
Available services in industrial hygiene. J. J. Bloomfield.

### Part II—Prevention and control of disease in industry.

The problem of occupational disease. W. C. Dreessen.  
Occupational dermatoses. Louis Schwartz.  
Engineering control of air contamination of the working environment. A. D. Brandt.  
Medical control of respiratory diseases. W. C. Dreessen.  
Venereal disease control. O. L. Anderson.  
Industrial psychiatry. L. G. Giberson.  
Health education. E. G. Pritchard.  
Industrial fatigue: Causes and control. R. H. Flinn.  
Nutrition in industry. R. F. Sievers.  
Community sanitation. R. T. Page.  
Plant sanitation. A. D. Brandt.  
Illumination, noise, and radiant energy. A. D. Brandt and H. E. Seifert.  
Heating, ventilating, and air conditioning. A. D. Brandt.

### Part III—The manpower problem.

Maximum use of manpower. R. H. Flinn.  
Women in industry. E. P. Brinton.  
Absenteeism. W. M. Gafafer.

SAFE LIMITS ON MERCURY AND CHROMATES IN AIR WORK PLACES: PROTECTION OF WORKERS AGAINST DISEASE AND ACCIDENT KEEPS WAR PRODUCTION MOVING. P. A. Neal and F. H. Goldman. Ind. Standardization, 14, 79-80 (Mar. 1943).

Standards for allowable concentrations of chromic acid and chromates (Z37.7-1943) and mercury (Z37.8-1943) are now available from the American Standards Association, 29 West 39th Street, New York, N. Y., at a price of 20 cents each.

The standard for mercury applies only to mercury vapor, setting a maximal allowable concentration at 1 mg. per 10 cubic meters of air for exposures not exceeding a total of 8 hours daily. Two simple sampling methods are described.

With regard to chromium, the standard provides for a maximal allowable concentration of the substance as chromate or dichromate dust, or as chromic acid mist, of 1 mg. of chromic acid anhydride in 10 cubic meters of air for exposures not exceeding 8 hours daily.

INDUSTRIAL MANGANESE POISONING. L. T. Fairhall and P. A. Neal. Natl. Inst. Health Bull. No. 182 (1943).

This summary of the literature on industrial manganese poisoning emphasizes the etiology and pathology of the disease. As there seems to be no effective treatment, it is important that it be recognized at an early stage. At that time, spontaneous recovery is possible in a dust-free environment.

The maximum permissible concentration of manganese has not yet been determined, but has been placed tentatively at 60 mg. per 10 cubic meters of air.

Preventive measures are briefly described.

HEALTH OF LEAD-EXPOSED STORAGE BATTERY WORKERS. W. C. Dreessen. J. Ind. Hyg. Toxicol., 25, 60-70 (1943).

This paper, presented at the joint meeting of the American Association of Industrial Physicians and Surgeons and the American Industrial Hygiene Association in April 1942, constitutes a brief summary of the environmental and medical findings of a study of the lead storage battery industry which were described in Public Health Bulletin No. 262, "The Control of the Lead Hazard in the Storage Battery Industry," by W. C. Dreessen and others.

VENTILATION FOR CONTROL OF SOLVENT EXPOSURES IN FABRICATING RUBBER MILITARY EQUIPMENT. T. R. Thomas and B. D. Tebbens. Heating, Piping and Air Conditioning, 15, 122-126 (March 1943).

After a reconnaissance survey made in four plants manufacturing natural and synthetic military equipment, five types of manufacture were found to expose large numbers of workers to hazards from solvents: (1) Fabric coating, (2) balloon fabrication, (3) airplane fuel tank fabrication, (4) rubber boat and pontoon fabrication, (5) synthetic rubber production. This report explains briefly the procedures followed in manufacturing, and summarizes the data collected in the surveys relative to existing exposures and methods of control, analyses of air samples, and measurements of air flow in ventilating systems. Observations of typical control measures are outlined, and those ventilating installations which appeared to be particularly effective are presented in detail.

GOVERNMENT'S OBLIGATION IN INDUSTRIAL HEALTH. W. F. Draper. New Engl. J. Med., 228, 177-179 (Feb. 11, 1943).

"Perhaps the most far-reaching obligation of the Public Health Service is to co-ordinate the health-conservation activities of industry, labor, medicine and interested government agencies."

INDUSTRIAL HYGIENE ACTIVITIES IN THE PUBLIC HEALTH SERVICE. J. G. Townsend. Am. J. Pub. Health, 33, 324-329 (Apr. 1943).

Summarizing the work of the U. S. Public Health Service, Dr. Townsend presents a comprehensive picture of the place of governmental industrial hygiene, National, State, and local, in this war period. He discusses briefly the scope of National activity, including recruitment and training of personnel, service to industry and labor, investigations into optimum hours of work, research in aviation medicine and toxicology of explosives, studies on ventilation for control of benzol and toxic solvent exposures, studies of plant medical facilities, the survey of the duties of nurses in industry, the program of X-ray examinations for the detection of tuberculosis in industry, publications which have been issued or are in preparation, and other problems and programs.

DENTAL PROGRAMS IN WAR INDUSTRIES. L. D. Heacock. Dental Health, 2, 3-4, 22 (Feb. 1943).

The health of the worker has an important bearing on the speed and efficiency with which war materials are produced. Dental disorders, directly or indirectly, cause the loss of working time that cannot be spared if maximum production is to be maintained. Therefore, the present emergency demands that workers in war industries be assured of good oral hygiene and freedom from pain and infection through a well-planned and systematic dental program.

OPTIMUM HOURS OF WORK. J. G. Townsend. Abstract of a speech presented at the Fifth Annual Congress on Industrial Health, Chicago, Jan. 11-13, 1943; J. Am. Med. Assoc., 121, 853 (March 13, 1943).

This paper discusses the work of an advisory committee of government officials, which, together with industrial labor, has made recommendations on hours of work, and has prepared a check-list of questions which plants may ask themselves in order to determine whether their working hours are the optimum hours for their particular type of work. The check-list is designed to bring out the relationship between hours of work and accidents, absenteeism, labor turnover, disciplinary cases, grievances, output per worker, quality of work, rate of spoilage, rejects, etc.

PROGRAM OF IMMUNIZATION FOR INDUSTRIAL WORKERS. 1. VACCINES AND SERUMS: INDICATIONS AND PROCEDURE. J. P. Leake. Abstract of a speech presented at the Fifth Annual Congress on Industrial Health, Chicago, Jan. 11-13, 1943: J. Am. Med. Assoc., 121, 852 (March 13, 1943).

Preemployment or early postemployment vaccination is for industry the most desirable form of protection against smallpox and should be required where the population is shifting. Active tetanus immunization with the fluid toxoid or alum precipitate is being used by the Army and Navy, and is considered good, though further education in its technique may be necessary.

SKIN HAZARDS IN THE MANUFACTURE OF GLASS WOOL AND THREAD. Louis Schwartz and Isadore Botvinick. Ind. Med., 12, 142-144 (March 1943).

Observations were made of the operations carried on in fabricating and processing glass wool for insulation, glass thread and glass textiles, in order to determine possible causes of dermatitis. Details of the hazards are given, and wherever necessary, preventive and protective methods for each process are recommended.

THE FRAUDULENT USE OF DIGITALIS TO SIMULATE HEART DISEASE. O. F. Hedley. Ann. Int. Med., 18, 154-163 (Feb. 1943).

Following exposure of a criminal racket based on attempts to obtain payments on disability insurance by feigning heart disease, heart examinations were made of the suspected claimants. Electrocardiograms of the suspects under normal conditions and after administration of digitalis are reproduced and discussed.

"OUTLINE" REPRINTED. The "Outline of An Industrial Hygiene Program," prepared by the Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, has been reprinted and is now available as U. S. Public Health Reports Supplement No. 171.

"AN OUTBREAK OF MICROSPORON LANGSUI INFECTION FROM A KISSTEEI," by Isadore Botvinick, S. M. Peck and Louis Schwartz, has been reprinted as U. S. Public Health Reports Reprint No. 2451.