

## INDUSTRIAL HYGIENE

Current News of Official Industrial Hygiene Activities

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The Sixth Annual Meeting of the National Conference of Governmental Industrial Hygienists will be held Monday, May 24, at Rochester, New York, followed by meetings of the American Industrial Hygiene Association and the American Association of Industrial Physicians and Surgeons on May 25, 26, and 27. These meetings were originally scheduled for May 17-20, but due to a conflict with other conferences, the dates were changed.

Official headquarters will be located at the Hotel Seneca. Other hotels in Rochester are the Sagamore and the Rochester. Delegates: Make your reservations at once by writing directly to these hotels.

On Wednesday evening, May 26, a joint session of the three associations plus the New York State Associated Industries will be held at the Eastman Theatre. It is planned to have several nationally known speakers at this session.

### DERMATITIS INVESTIGATION IN SEATTLE SHIPYARDS

The chloracne among electricians in Seattle shipyards which caused considerable alarm and a threatened strike, was due to the type of cable used and the fact that the electricians handled it continuously, reported Dr. Louis Schwartz, who made the investigation. Only one shipyard had cases of chloracne. The 3 remaining yards used another type of cable and electricians spent only part of their time stripping.

The alarm and the threatened strike in the Seattle shipyards followed newspaper reports of a dermatitis outbreak and 3 deaths of acute yellow atrophy of the liver among workers at the Anaconda Copper Company, Hastings-on-the Hudson, New York. The Seattle electricians were handling wire made by the Anaconda Copper Company and some of them had developed a dermatitis which they attributed to handling the wire. They were finally persuaded to remain at work until someone from the U. S. Public Health Service could arrive and make an investigation. Dr. Louis

Schwartz immediately flew to Seattle where he examined workers in the 4 shipyards who had the so-called "cable rash" to determine if it was a chloracne.

The cable which caused the acne was found to be the Anaconda cable in which asbestos impregnated with chlorinated compounds is loosely packed and flakes off during stripping operations. Precautions recommended by Dr. Schwartz for handling this special Anaconda cable with the loose insulation are:

1. Workers engaged in stripping cable containing either chlorinated naphthalene, chlorinated diphenyl, or chlorinated diphenyl oxide should be supplied with hood respirators. It is preferable to have these hood respirators made from a transparent synthetic resin such as pliofilm or vinylite, or perhaps a fire-proof cellophane. The eye piece should be a large flat plate of lucite rather than the conventional double lenses. The respirator should be closely fitted to the nose and contain such filters as will efficiently remove dust and wax.

2. Workers should be supplied with clean overalls daily, the overalls to be laundered at the plant.

3. Workers should wear long underclothes and change them daily.

4. Workers should be required to take a shower before going home, and they should be furnished with toilet soap for this purpose.

If the hood respirator cannot be obtained or used, protective ointments of the type that coat the skin with a dry film and prevent the halowax from touching the skin should be applied to the face, neck, and ears. Two such ointments are the tetryl protective cream developed by the U. S. Public Health Service, obtainable from the West Disinfectant Company, and a preparation called "Sav Skin #2," obtainable from the Doak Company, Cleveland, Ohio. These ointments should be applied before going to work, washed off before going to lunch, reapplied after lunch, and washed off before going home.

At the end of the investigation, a meeting of the dermatologists in Seattle was called and 4 cases of chloracne were presented before them to acquaint them with the diagnosis of chloracne and the recommended treatment methods. For a detailed discussion of chlorinated naphthalenes and diphenyls hazard, see the January issue of this news letter.

DESIRABLE INDUSTRIAL NURSING PRACTICES FORMULATED

The Advisory Group of the Committee to Study the Duties of Nurses in Industry met on January 30 and 31, 1943, in Cleveland, Ohio. Data secured from the Survey of the Duties of Nurses in Industry were reviewed and recommendations made regarding desirable industrial nursing practices. The following topics were studied:

- (1) Standing orders.
- (2) Assistance with medical examinations.
- (3) Participation in health education program.
- (4) Assistance with safety education and accident prevention.
- (5) Assistance with plant sanitation.
- (6) Participation in welfare activities.
- (7) Records and reports.
- (8) Professional supervision of nurses in industry.
- (9) Special technical services.
- (10) Non-professional clinic assistants.
- (11) Home nursing service.
- (12) Duties outside the medical department.
- (13) American Red Cross home nursing and first aid classes.
- (14) Plant protection plans.
- (15) Qualifications.
- (16) Membership in professional organizations.
- (17) Salary.
- (18) Relation of medical department to other departments.
- (19) Number of nurses per unit of employees.
- (20) Distribution of nursing services.
- (21) Part-time nursing services for small industries.
- (22) Source of supply.

A statement of the recommendations made and a report of the meeting will appear in all professional nursing journals in the near future.

The Advisory Group, the members of which are also consultants of the Division of Industrial Hygiene, National Institute of Health, U. S. Public Health Service, consists of the following nurses:

- Miss Polly Acton, New York Times, New York City.
- Miss Loretta Cloney, Southwestern Bell Telephone Company, Houston, Texas.
- Mrs. Isabel Comstock, Boeing Aircraft Company, Seattle, Wash.
- Miss Catherine R. Dempsey, Simplex Wire and Cable Company, Cambridge, Massachusetts.
- Miss Yvonne du Bois, Maryland Casualty Company, Baltimore, Md.
- Mrs. Helen Lindsay Elrod, Caterpillar Tractor Company, San Leandro, California.
- Miss Winifred Hardiman, The Terry Steam Turbine Company, Hartford, Connecticut.
- Mrs. Nan Cox Hare, Tennessee Valley Authority, Chattanooga, Tennessee.

Miss Marion S. Hitchcock, Westinghouse Electric and Manufacturing Company, Springfield, Massachusetts.  
Miss Pauline Kuehler, Standard Oil Company, Whiting, Indiana.  
Mrs. Amy W. Lamar, Donnelly Garment Company, Kansas City, Mo.  
Miss Mary M. Lenhoff, Allied Kid Company, Wilmington, Del.  
Mrs. Margaret W. Lucal, Ohio Rubber Company, Willoughby, Ohio.  
Miss Elsa H. Lundstrom, Liberty Mutual Insurance Company, Boston, Massachusetts.  
Miss Agnes Rabitt, Anheuser-Busch, Inc., St. Louis, Missouri.  
Mrs. Mary Lou Scott, Vigo Ordnance Plant, Terre Haute, Ind.  
Mrs. Christian F. Seabrook, Metropolitan Life Insurance Company, Chicago, Illinois.  
Miss Elizabeth Sennewald, Dolphin Jute Mills, Paterson, N. J.  
Miss Lillian M. Tilley, White Oak Mills, Greensboro, N. C.  
Miss Iva G. Wait, AC Spark Plug Division, General Motors Corporation, Flint, Michigan.  
Miss Heiltje Wolzak, Owens-Illinois Pacific Coast Company, Los Angeles, California.

#### MEDICAL CARE FOR SMALL INDUSTRIES

In New York City a group of small industries has been considering a plan to provide medical care for their workers on a cooperative basis. The plan was drawn at their request by Group Health Cooperative, Inc., a non-profit medical insurance organization.

The problem in small plants has been one of dealing with unfamiliar industrial hazards, inexperience with industrial medical service, and lack of funds to supply needed medical service. A solution seems to be some outside agency with the necessary organization to provide a common service for a number of small plants in a given area on a cooperative basis.

The plan drawn up would supply in-plant services through full-time industrial physicians (a ratio of one physician for each 2,000 employees) and nurses (one for each 500 employees). These in-plant services would include emergency treatment of accidents and illness while on the job, pre-employment and periodic physical examinations, medical check-ups on employees returning to work after absence, supervision of plant hygiene, and cooperation in safety programs and health education. The industrial physician would render only emergency treatment in compensation cases, and the patient would, under the New York State Law, be free to choose his own physician for subsequent care.

Closely correlated with these in-plant services is provision for home and office care and diagnostic specialist service for non-industrial conditions, which constitute the major cause of absenteeism. The out-of-plant service would be rendered by a panel of doctors open to any licensed physician in the community. The employee would have completely free choice of any physician on the panel.

Because of objections raised by some employee groups to physical examinations conducted by industrial physicians, the plan provides alternatively for pre-employment and periodic examinations to be rendered by the panel physician of the employee's choice.

It is hoped that close cooperation can be obtained between the in-plant and outside services through the medium of the central organization. The family doctor and the industrial physician should not operate as two separate units, but as equal guardians of different phases of the employee's health.

It is intended that this service should be financed by the employer at a basic premium per employee of \$1.42 each month. For each home visit by the physician of his choice, the employee would incur a charge of \$1.00 payable directly to the physician.

In addition to this projected plan, Group Health Cooperative now has in operation a plan covering surgical, obstetrical and in-hospital medical care. This plan costs \$9.60 a year for an individual or \$24 for a family. The combination of these two plans would provide workers in war industries with comprehensive and integrated medical care at the plant, at home, and in the hospital.

#### BUFFALO DISTRICT COMMITTEE FOR INDUSTRIAL HEALTH

"Industrial health, at this time, calls for the education of three groups: the medical profession, management and labor," according to the Buffalo District Committee on Industrial Health, which is a subcommittee of the Council Committee on Public Health and Education of the Medical Society of the State of New York.

The Buffalo District Committee consists of men and women in the medical profession, in management, and in labor who are already informed and who will map out a program for immediate action toward better industrial health resulting in a stronger production front. The committee will function as a public relations body, a fact-finding body, and one that will actively promote changes called for.

One of the immediate objectives is education of physicians, management, and labor. Among physicians, the committee seeks to develop interest in industrial medicine, to rally volunteers willing to sacrifice some time on it, and to emphasize medicine's responsibility toward the industrial worker as a factor in winning the war.

In educating management, the committee will make available factual material on benefits both in savings and increased output brought about through better industrial health procedures. These methods include environmental hygiene as well as physicians and nurses care.

Regarding labor, the committee will try to develop in the trade unions an educational program dealing specifically with industrial health, including personal health and hygiene. It will attempt to encourage, within the unions, presentations on industrial health questions by specialists, separate and apart from organization and business problems.

One of the first things started by this committee was a survey of all plants including type of manufacture, number of employees (if possible the percentage of male and female employees), labor status, medical and nursing provisions and eating facilities. These plants will be considered in order of their importance in the war effort and a maximum health and safety program promoted among them.

Meetings of the committee thus far have featured the problems of kerato-conjunctivitis, needs and inadequacies in plants with less than 500 employees, industrial nursing, absenteeism, nutrition, recreation and publicity to reach the worker.

### CONTROL AND TREATMENT OF NITROUS FUME POISONING

A conference on nitrous fume poisoning held in Cincinnati, Ohio, on January 28, 1943, was attended by about 35 people, including among others representatives of explosives manufacturing companies, the Office of the Chief of Ordnance, U. S. Army, the Office of the Surgeon General, U. S. Army, the U. S. Bureau of Mines, and the U. S. Public Health Service.

The literature on poisoning by nitrous fumes and case histories of recent fatal and non-fatal cases of poisoning were reviewed. Suggested engineering control measures were: (1) Ventilation; (2) Adequate exits; (3) Proper storage of materials likely to cause nitrous fume exposures.

Several medical control measures were suggested:

1. Pre-employment examinations should include X-ray of the chest, excluding from employment individuals with certain upper respiratory conditions, asthma, reactivated tuberculosis, and diseases of the heart.
2. Any exposure should be reported promptly and the worker referred to the hospital for an evaluation of exposure.
3. Any workers showing evidence of burning of the throat or chest, epistaxis, lassitude, pallor, cyanosis, and abnormal breathing should have absolute bed rest for 24 hours as a minimal period of observation (distressing symptoms may show up as long as 72 hours after exposure). During the observation period the patient should

be kept warm, supplied with oxygen if necessary, given a liquid diet, and have his blood pressure and pulse taken at regular intervals and recorded. The blood picture should also be studied periodically, particularly as regards red blood cell count, and hemoglobin and methemoglobin determinations.

If definite evidence is obtained that pulmonary edema is developing:

1. Bleed the patient 500-600 cc.
2. Use plasma to combat the hemoconcentration.
3. Administer oxygen continuously; administration under pressure may be advisable.
4. Do not give morphine. If sedation is necessary, allonal or luminal should be used.
5. Use of cardiac stimulants should be discouraged.
6. As this is an uncompensated alkalosis, soda is contraindicated.
7. Give concentrated glucose intravenously.
8. Mercury diuretics may be tried.
9. Adrenal cortical hormones may be tried.
10. The most satisfactory treatment is prevention.

#### PRIORITY PROCEDURE FOR OBTAINING SAFETY EQUIPMENT

The policy of the War Production Board regarding the manufacture of safety equipment is outlined in a memorandum from the Division of Labor Standards, U. S. Department of Labor. The manufacturers of safety equipment have agreed to an expansion of manufacturing facilities wherever possible, and a program of substitution of materials insofar as possible to relieve a demand on critical materials. As an indication of the expansion already under way, equipment manufacturers are now producing at a rate approximately 4 times that of 1940.

Through the priority system, workers in plants engaged in direct war production will be provided safety equipment first; other workers in less essential industries will be cared for as soon as equipment is available.

When safety equipment cannot be purchased without a priority rating, priority assistance may be applied for in the following ways:

1. Where safety equipment is purchased as "capital equipment," Form PD-1A is filed with the War Production Board.

2. Where safety equipment is purchased as "operation supplies" or "maintenance," a company under the Production Requirements Plan may extend ratings authorized for "maintenance, repair and operating supplies." A company not under Production Requirements Plan and under a limited blanket or P Order may extend ratings as provided in the particular P Order. A firm not under PRP may choose to apply for a priority rating by filing PD-1A application.

3. For installations involving construction, Form PD-200 is filed with the War Production Board.

If the application for a priority is based upon an order from a State or municipal enforcement agency, that fact should appear on the application or a copy of the order attached.

#### WPB DISTRIBUTING PLANT PROTECTION FACT SHEET

The War Production Board is distributing the Plant Protection Fact Sheet prepared by the U. S. Office of Civilian Defense (OCD Publication 5214, January 1943) to all Labor-Management War Production Drive Committees. This pamphlet contains the highlights of a booklet entitled "Passive Protection for Industrial Plants," recently issued by the U. S. Office of Civilian Defense and summarizes the plant activities necessary to develop an adequate plant protection program.

The Office of Civilian Defense states, "Although the primary responsibility for Plant Protection rests with management, a Labor-Management Committee on Plant Protection composed of representatives of both management and workers should be formed in each plant." The War Production Drive Headquarters and the Office of Civilian Defense suggest that if a joint committee is to participate in this activity, it could appropriately be a subcommittee of the War Production Drive Joint Committee.

Plant protection includes both internal protection and security (fire, accident, espionage, sabotage); and passive plant protection (protection of production, personnel, property, and materials from the effects of air raids). Passive plant protection requires personnel management and organization for organizing and training for the five protection services (fire, air raid warden, police, medical, and operation and maintenance). It also requires physical installations for Blackout, Protective Construction, and Protective Concealment.

Copies of this pamphlet may be secured from the Labor Division, Office of Civilian Defense, Washington, D. C.



NOTES FROM THE DERMATOSES INVESTIGATIONS SECTION

At the request of the General Aniline Works, an investigation was made of the skin irritating properties of vinyl carbazole, a new di-electric. It was found to be a powerful sensitizer and recommendations were made for its safe handling.

Requests for testing the skin irritating properties of fabrics to be used by our Armed Forces, which have been treated with antimildew, are increasing. The work is being done by Dr. John Dunn on volunteers at the Walter Reed Hospital and the Naval Medical Center. A great many more volunteers are needed because of the large number of fabrics to be tested.

At the request of the Burroughs Wellcome Company, Inc., Tuckahoe, New York, an outbreak of dermatitis from emetine hydrochloride, being prepared for the use of our troops in the tropics, was investigated. Emetine hydrochloride is a sensitizer and many of the personnel handling it have been affected by dermatitis. Recommendations have been made for its safe handling.

The article, "A Practical Plan for the Treatment of Superficial Fungus Infections," by Samuel M. Peck, Surgeon (R), and Louis Schwartz, Medical Director, was considered to be of such great interest to Latin American physicians in the Canal Zone that Dr. John R. Murdock, Chief Traveling Representative, Pan American Sanitary Bureau, requested permission to translate it in South American languages for publication in their official bulletin. This permission was granted. The article will appear in the Bulletin simultaneously with its publication in Public Health Reports on February 26.

The course on occupational dermatitis, given by Dr. Schwartz and Dr. Peck, under the auspices of the American Medical Association, in Chicago, was attended by 38 physicians. The course was well received and there were many letters of appreciation.

NOTE ON PUBLIC HEALTH ENGINEERING ABSTRACTS

The responsibility for soliciting and editing the Industrial Hygiene Section of Public Health Engineering Abstracts has been assigned to Passed Assistant Sanitary Engineer (R) Harry E. Seifert. The present policy of requesting abstracts of specific articles will be continued.

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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.

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STATE ACTIVITIES

INDIANA: Special Industrial Number Issued.

The January issue of the Monthly Bulletin of the Indiana State Board of Health is a special industrial hygiene number. It contains excellent articles on such problems as food and nutrition of industrial workers, environment sanitation, nurses in industry, venereal disease, tuberculosis, mothers in industry, and grade A milk. The Bulletin was prepared with the cooperation of industrial hygiene personnel and heads of other departments. It is an unusually good source of factual reference. Posters and photographs from the Division of Industrial Hygiene, National Institute of Health, illustrate the various articles.

Course for Nurses

Indiana University is holding a course in Industrial Hygiene for Nurses at the Indianapolis Extension Center on Wednesday nights. The first meeting was held January 13. Classes will continue through April 28. The course is open to graduate nurses. Registration fee: \$10. Miss Frances Orgain, Assistant Professor of Nursing Education, Indiana University, and Miss Ruth M. Scott, Industrial Nursing Consultant of the Indiana State Board of Health, will coordinate the course.

MASSACHUSETTS

Everyone knows it is difficult to get workers to wear respirators. The Division of Occupational Hygiene of the Massachusetts Department of Labor and Industries reports that one company pays the sprayer \$0.03 extra per hour for wearing respirator!

MICHIGAN: Course in Air Sanitation.

"Air Sanitation in Industry" is the name of a course now given by the University of Michigan between 7 and 9 p.m. on Tuesdays and Thursdays in the Rackham Educational Memorial, Detroit. Mr. W. E. Witheridge, Director, Bureau of Industrial Hygiene, Detroit Department of Health, is the instructor.

The course covers effective, practical engineering methods of preventing disabling occupational diseases, accidents, or ill health traceable to the atmospheric environment in industry. The prerequisite for entrance is high school graduation plus two years of engineering college or the equivalent in industrial experience.

VERMONT: Systemic Poisoning from Cutting Oils.

The Indiana Bureau of Industrial Hygiene and the Division of Industrial Hygiene, National Institute of Health, have reported on hazards of systemic poisoning from cutting oils. (Indiana Ind. Hyg. News Bull. 1, 9, Sept. 1941, and Pub. Health Repts. 57, 47, Nov. 20, 1942.) The Vermont Office of Industrial Hygiene reports the satisfactory solution of an oil vapor problem by the installation of an exhaust system which had several interesting features incorporated in its design.

A plant which manufactured precision tools employed approximately 400 persons, with 48 engaged in the department under study. Before control was initiated, the conditions resulting from the operation of its thread grinding machines were of considerable concern to the company. There were material loss of oil, the safety hazard from oily surfaces, and the effect on employee morale due to the heavy concentration of oil vapor and smoke haze in the atmosphere.

The department had a total of 36 thread grinding machines in operation which were of three different types. For one type, which was sufficiently compact, an enclosing exhaust hood was found most satisfactory. It was necessary to handle 780 c.f.m. which resulted in a face velocity of 200-300 f.p.m. at all critical openings. Although this hood enclosed a large portion of the top of the machine, access for adjustments and inspection was readily attained by having the sides of the hood hinged.

The second type, which possessed a comparatively large carriage, was controlled satisfactorily by attaching two exhaust connections to the machine. In this manner, a negative pressure was created in the interior of the machine and when exhausting a total of 700 c.f.m. the face velocity at all critical openings was around 300 f.p.m., which was also sufficient to retain vapors given off at the grinding wheel.

The third type of grinder had a relatively slow speed grinding wheel, and it was found that an 8" diameter flanged exhaust hood 6" above the wheel would control the vapors given off when exhausting 625 c.f.m.

A steel mesh filter was placed in an inclined position in the duct directly above each hood to remove entrained oil droplets from the air stream. Due to its inclined position, the collected oil drained back to the machines by gravity. All sheet metal seams and joints in the system were soldered to prevent leakage of oil when the exhaust system was shut down. This measure has proved very worth while.

The air cleaning unit, a Precipitron, with the cells arranged in a horizontal bank, removed the oil vapor and smoke with sufficient efficiency to permit 100% recirculation without

noticeable re-contamination. With the fan handling a total of 23,000 c.f.m. the department was afforded a complete air turnover every 5-1/2 minutes.

Although no definite health hazard existed in this particular oil vapor problem, the individual features related to its control can be adapted to those of a more serious nature. For specific information regarding these installations, it is suggested that the reader write to Mr. Frank E. Adley, Industrial Hygiene Engineer, Industrial Hygiene Office, Vermont Department of Public Health, City Hospital, Barre, Vermont.

### WISCONSIN

The Industrial Hygiene Unit of the Wisconsin State Board of Health has just published a 31-page bulletin, entitled "The Lead Hazard in the Milk Canning Industry." The study is based upon surveys made in the can-making plants and the filling departments of five milk canning companies in Wisconsin.

Atmospheric lead concentrations above the maximum permissible concentration of 1.5 mg. per 10 cubic meters of air were found in the general atmosphere of four can plants. Sources of lead contamination were the body seam soldering machines, the end-seam or floater machines, and the loading and remelt kettles. A lead hazard was not associated with the operations of casting solder pigs, or by the mechanical soldering operation of the filler machines.

Recommended control measures include local exhaust ventilation, vacuum cleaning and process changes in the solder recovery operation.

### PERSONNEL NOTES

Surgeon (R) Christopher Leggo and Passed Assistant Industrial Hygiene Engineer (R) Joseph E. Flanagan, Jr., have reported for duty with the Industrial Hygiene Division of the Ohio State Department of Health, at Columbus.

Mr. H. N. Doyle, an engineer with the Division of Industrial Hygiene of the Alabama Department of Public Health, has reported to the Division of Industrial Hygiene, National Institute of Health, for in-service training. He also plans to spend several weeks with the Georgia Industrial Hygiene Service before returning to Alabama.

Mr. Morris Nussbaum has been commissioned as an Assistant Chemist (R) and assigned to the Division of Industrial Hygiene of the Mississippi State Board of Health. He reported for duty at Jackson, Mississippi, February 13, 1943.

## NEW PUBLICATIONS

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

DISTRIBUTION OF HEALTH SERVICES IN THE STRUCTURE OF STATE GOVERNMENT.  
CHAPTER VIII. INDUSTRIAL HEALTH ACTIVITIES BY STATE AGENCIES. J. W. Mountin and Evelyn Flook. Pub. Health Repts. 58, 33-58 (Jan. 8, 1943).

It is estimated that approximately five million dollars are expended annually by State health departments, labor departments and industrial boards or commissions for the purpose of lowering illness and accident rates. This comparative study of State activities describes the wide range of such industrial health work: advisory and consultative services, educational activities, factory inspection, labor regulation, workmen's compensation, etc.

ELECTROPHORETIC PATTERNS, COLLOID OSMOTIC PRESSURE, AND VISCOSITY OF SERUM DENATURED BY ULTRAVIOLET RADIATION. B. D. Davis, Alexander Kollaender and J. P. Greenstein. J. Biol. Chem. 146, 663-71 (Dec. 1942).

Ultraviolet irradiation of horse and of human serum and of certain protein fractions of the latter results in a marked increase in relative viscosity and decrease in colloid osmotic pressure. The electrophoretic pattern becomes homogeneous, with approximately the mean mobility of the components initially present. In conjunction with evidence from other sources, it is concluded that the major effect of irradiation of serum proceeds through unfolding and splitting of the protein molecules with subsequent aggregation.

METHYL BROMIDE AS A FUMIGANT FOR FOODS. H. C. Dudley and P. A. Neal. Food Research 7, 421-29 (Nov.-Dec. 1942).

In this experimental study, the problem of the consumer hazard of methyl bromide has been approached from two angles: First, determination of the rate of release of methyl bromide from foodstuffs, and the amount of residual bromide following methyl bromide fumigation; and, second, the physiological and pathological changes induced in experimental animals by consumption of methyl bromide-treated foods. It appears that foods fumigated with methyl bromide under commercial conditions would, on the basis of evidence available, probably not contain sufficient quantities of bromine residue to produce deleterious effects.

THE TOXIC PRINCIPLES OF POISON IVY. (A letter.) H. S. Mason and Louis Schwartz. J. Am. Chem. Soc. 64, 3058 (Dec. 1942).

Preliminary chemical investigations into the active principles of poison ivy have indicated that the toxic oil is a complex of at least three active components and several innocuous concomitants.

DETERMINATION OF ALIPHATIC NITRATE ESTERS: A COLORIMETRIC METHOD. Herman Yagoda. Ind. and Eng. Chem., Anal. Ed., 15, 27-29 (Jan. 15, 1943).

The author describes a colorimetric method for the determination of aliphatic esters based on the hydrolysis of the ester in 62.5 percent sulfuric acid and the nitration of m-xylene by the nitric acid liberated. The method has been applied to nitroglycerine, erythritol tetranitrate, and pentaerythritol tetranitrate over a range of 3.0 to 0.005 mg. The nitroxylene is readily volatilized by a steam-distillation which permits the application of the method to complex systems. The reaction proceeds in stoichiometric proportions, so that the quantity of ester present can be evaluated from a potassium nitrate standard.

U. S. PUBLIC HEALTH REPORT REPRINTED

REPRINT #2421. Chloracne from cutting oils. Louis Schwartz. From Pub. Health Repts. 57, 1747-1752 (Nov. 20, 1942).