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INDUSTRIAL HYGIENE

Current News of Official Industrial Hygiene Activities

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NATIONAL JOINT CONFERENCE OF INDUSTRIAL HEALTH ORGANIZATIONS

The first joint meeting of the American Association of Industrial Physicians and Surgeons, the American Industrial Hygiene Association, and the National Conference of Governmental Industrial Hygienists was held in Rochester, New York, on May 24-27, 1943.

Attendance exceeded expectation in all of the meetings, there being nearly 600 physicians, engineers, chemists, and nurses registered for the Conference.

Considerable progress in the organization of additional industrial health services, and in the study and control of health hazards incident to war production was reported. Cooperative arrangements between agencies having responsibility for the health of workers in industries producing war material were emphasized as effective means of utilizing available industrial hygiene personnel and of pooling knowledge being gained on many fronts.

National Conference of Governmental Industrial Hygienists.

Mr. J. J. Bloomfield of the U. S. Public Health Service, program chairman of the National Conference of Governmental Industrial Hygienists, reported that new industrial hygiene units had been established in the States of Oregon and Washington, in Newark, New Jersey, in New York City and Syracuse, New York. There are now 47 industrial hygiene units in 38 States with some 300 personnel, professional and clerical.

Although the coverage of area was never so extensive, the work of these 47 units reaches only a fraction of the total number of industrial workers, because of the limited number of professional workers in each State unit.

The shortage of trained industrial hygiene personnel was a major topic of discussion in papers presented in formal sessions, in business meetings of the associations, and in private conversations between meetings.

Mr. Bloomfield explained the reasons why the Division of Industrial Hygiene in the U. S. Public Health Service cannot hope to increase the number of its professional workers loaned to States and local industrial hygiene units. Financial limitations and

the freeze of Federal employment, as well as the problem of finding qualified persons, will make it difficult to maintain the present staff in Bethesda, and the 60 additional personnel now on loan to State units.

In executive session, a resolution was adopted by the National Conference of Governmental Industrial Hygienists recommending that appropriate representatives of the U. S. Army, the U. S. Navy, the U. S. Public Health Service, and the U. S. Maritime Commission confer jointly to determine the most efficient utilization of existing industrial hygiene personnel and facilities. The American Industrial Hygiene Association voted a similar resolution, adding the recommendation that selected representatives of the Association meet with the authorities named in the previous resolution of the Governmental Industrial Hygienists.

The recruitment of medical personnel for industries in Pennsylvania was described by Dr. Joseph Shilen, Director of the Bureau of Industrial Hygiene in that State. He gave the results of a county by county survey of medical service available to industry conducted in 24 counties in Pennsylvania to date.

Surveys are made in each county upon the request of a county medical society through its industrial hygiene committee, and reports are presented upon completion at a joint meeting of the county medical society and industrial leaders. A list of all members of the medical society who wish to cooperate is drawn up, stating those who wish to serve on an hourly, daily or full time basis. Lists of physicians in the county who have agreed to serve on a particular time basis are sent to the plants requesting a physician for that specific amount of time.

The different arrangements for health services for industrial establishments producing war materials are explained by Lieutenant Colonel W. J. McConnell, M.C., U. S. Army, including the separate programs for Government-owned plants operated by the Army; for Government-owned, contract-operated plants; and for privately owned plants having contracts with the Government.

Another development of collaboration between governmental agencies was described by Lester M. Petrie, M.D., Director, Industrial Hygiene Service, Georgia Department of Public Health, in an account of "Administrative and Working Relationships between the Georgia Industrial Hygiene Service and the U. S. Maritime Commission." A Health Control Division was established in the Division of Shipyard Labor Relations of the Maritime Commission as a result of proposals made by a Georgia shipyard following receipt of recommendations from the Georgia Department of Public Health. The management of this particular shipyard on being urged by the department to initiate health measures felt that the responsibility for initiation of an industrial health program rested with the Maritime Commission, and that the responsibility for adminis-

tration should be assumed by the insurance carrier. The insurance company proposed that the plan for an industrial health program be submitted to the Maritime Commission for approval. The outcome of this plan proposed for a single shipyard was a survey of shipyards throughout the United States made by the Navy and the Maritime Commission. Following the survey a manual containing minimum standards for health services and health protection was prepared for all shipyards.

The Health Control Division, under Consultant Directors Phillip Drinker (Health) and John M. Roche (Safety) has a staff of assistants for each of four regional districts. The staff for the Atlantic Coast region is working with the Georgia Industrial Hygiene Service to improve health services in Georgia shipyards. Joint surveys, mutual exchange of reports, and joint presentation and follow-up of reports are carried out insofar as possible.

The development of a State service, like National agencies' programs, requires full cooperation and strong emphasis on educational promotion.

Dr. Lloyd M. Farner, Director, Division of Industrial Hygiene, Washington State Department of Health, in his discussion of the "Effects of the War in the Scope of Industrial Hygiene Services," pointed out that it is first necessary to devote a major proportion of time and the facilities of a new State division to an educational program in order to sell industrial hygiene services. In Washington, a State Industrial Hygiene Advisory Committee was organized including representatives of the Industrial Commission, the medical profession, management, labor, and other interested non-governmental agencies. The State Health Commissioner has been the chairman, giving the Committee the full support of the entire health department. Dr. Farner indicated the importance of gaining cooperation of all related State departments, professions and groups who may either assist the State Division of Industrial Hygiene or benefit from its services.

On the subject of cooperative relationships within State departments, Mr. Bloomfield had previously stated the philosophy of the U. S. Public Health Service. Since industrial hygiene has broadened in the past few years to include the concept of adult hygiene, some industrial hygiene units have branched out into general health programs. The interest in a particular health program may develop to the exclusion of essential work in the control of mechanical and chemical hazards. "The industrial hygienist's first and most important responsibility is to establish and maintain a safe and healthful working environment. His first and most important duty is the reduction of industrial disability in its strictest meaning. There is not a single industrial hygiene unit that can claim to have carried out this responsibility to so great a perfection that it can branch away from this objective and actively undertake tuberculosis control, venereal disease control, or nutri-

tion work in the plant, as some are doing. The industrial hygienist should be interested in all phases of adult health work, but his activities should be limited to referring the plant to the proper agency, making the contact for the plant with the agency."

American Industrial Hygiene Association

The meetings of the American Industrial Hygiene Association arranged by J. H. Sterner, M.D., program chairman, were entirely on control of exposures to specific industrial hazards, and methods of determination of amounts of harmful substances in the atmosphere or in the body. Since these reports will be or have already been published in other journals, and are too detailed to be given proper consideration in this brief news letters, discussion of them will be omitted.

American Association of Industrial Physicians and Surgeons

The American Association of Industrial Physicians and Surgeons program was under the direction of William A. Sawyer, M.D. Four papers on the general and special problems of women workers were presented in one session. Dr. Leonard Greenburg, Director of the Division of Industrial Hygiene, New York State Department of Labor, described the physical and psychological differences between men and women which affect their working capacities.

The factors which cause more easily induced fatigue among women as compared to men were discussed by Dr. Melville Manson, Medical Director of the New York Telephone Company. He stressed the importance of rest periods, of eliminating constant standing or sitting for women, and having chairs designed to allow correct posture.

The value of providing pelvic examinations for women workers was the major point of a paper presented by Dr. Wesley T. Pommerenke, of the University of Rochester Medical School.

In these discussions of the fitness and limitations of women for the many kinds of industrial work they are attempting today, there were some differences of opinion, due perhaps in part to the relatively short period of time in which the problems of women workers have been studied.

In a second session, the employment of handicapped and sub-standard workers was the subject of three discussions. Dr. James H. Biram, Medical Director, Colt's Patent Arms, Hartford, Connecticut, gave a very encouraging picture of the training and employment of handicapped workers in Connecticut industries. A training program has been established in the trade schools for those without previous industrial experience. State and Federal funds are used to pay physicians for services given those who need physical rehabilitation in the form of corrections of defects. Two thousand five hundred handicapped persons have been placed in employment during

the past year, and 2,500 more are being rehabilitated. At the beginning of this new program waivers for compensation rights were given to 8 to 10 percent of the workers. At present this percentage has increased 20 to 30 percent of all employees. Among new applicants, waivers are granted to 50 to 60 percent, while about 7 percent of applicants must be rejected.

Dr. Palmer, substituting for Dr. H. A. Vonachen, Medical Director of the Caterpillar Tractor Company, Peoria, Illinois, told how the Tractor Company has been rehabilitating men on the job for many years. Each job in the plant is evaluated to determine the specific minimum physical qualifications it requires. Two hundred have been employed who had never been employed previously because of congenital deformities or other defects. The accident and absenteeism rates for these workers are better than for normal individuals.

In summarizing the reports given in this session, Dr. C. O. Sappington, of Chicago, commented on a particular need for improvement of methods in giving visual tests. These tests should include measurement of muscle balance and depth perception. The visual requirements of individual jobs should be determined.

The popular subject of absenteeism was reviewed in one afternoon session, three papers being presented on various factors causing loss of time.

Doctor D. L. Lynch, Medical Director of the New England Telephone and Telegraph Company, discussed sickness, the cause of 88 percent of absenteeism for both sexes. The 30 year record of absenteeism kept by his company shows a definitely higher rate among women than men. He indicated that present records do not give proper weight to all factors which cause absence from work, and that much remains to be done in securing accurate reports.

The relation of nutrition to absenteeism, though not a measurable relationship, was considered by three contributors. One mentioned that the Japanese solve the problem of industrial feeding by having small containers of food for individual workers sent out from a central place of preparation. The nutrition education program was evaluated by another speaker who stated that we have reached the limit of accomplishment of results from use of literature, pamphlets and posters. What is needed now is good food that is well merchandised, and more individual instruction. The employment of trained dietitians to conduct company managed cafeterias that can provide well balanced meals with consideration of cost a secondary thought, are basic requirements.

In concluding the discussion, Dr. Clarence W. Selby of the General Motors Corporation pointed out that absences of key employees were very important. In the General Motors plants, absences greater than seven days are decreasing while shorter absences are increasing. The majority of cases are found to occur in 10 percent of the working

force. These chronic absentees cannot be put in key positions of line operations, because of the serious effect on production of their repeated absences.

Exhibit

The Public Health Service contributed an exhibit on "Tuberculosis Control in War Industry" showing the X-ray equipment and films used by the Office of Tuberculosis Control.

Officers of National Conference of Governmental Industrial Hygienists

The following officers and Executive Committee were elected by the Conference membership on May 24, 1943:

Dr. P. A. Brehm, Chairman
Mr. Manfred Bowditch, Vice Chairman
Mr. J. J. Bloomfield, Secretary-Treasurer
Mr. M. F. Trice
Mr. W. N. Witheridge
Mr. H. T. Walworth
Dr. L. W. Foker

Officers of the American Industrial Hygiene Association for 1943-44:

| | |
|-----------------|-----------------------|
| President | Dr. H. H. Schrenk |
| President-Elect | Mr. J. J. Bloomfield |
| Past President, | |
| Director | Dr. Philip Drinker |
| Secretary | Mr. E. C. Barnes |
| Treasurer | Mr. J. B. Littlefield |

Officers of the American Association of Industrial Physicians and Surgeons for 1943-44:

| | |
|------------------------|------------------------|
| President: | Dr. Harvey Bartle |
| President Elect: | Dr. Frederick W. Slobe |
| First Vice President: | Dr. Melvin W. Newquist |
| Second Vice President: | Dr. Loyal A. Shoudy |
| Treasurer- | |
| Managing Director | Dr. Edward C. Holmblad |

NEW CONSULTANT SERVICE IN HEALTH EDUCATION

The Division of Industrial Hygiene, National Institute of Health, in cooperation with the Division of Sanitary Reports and Statistics, is developing a consultant service to stimulate health education programs for industrial workers. Miss Elna I. Perkins was appointed on April 1 to the position of Associate Health Education Specialist in the Division to assume responsibility as liaison in the development of this much needed service.

Previous to this appointment she had been the Educational Secretary of the Massachusetts Tuberculosis League, and in the past year an active member of the Massachusetts Committee on Industrial Health, under the chairmanship of Manfred Bowditch, Director of the Massachusetts Division of Occupational Hygiene.

An essential function of the new service will be maintaining of contact with other Federal agencies concerned with health education of workers, including the War Production Board, the Food Distribution Administration, the Office of Education and the Department of Labor, in order to help coordinate effort in this field. In addition, cooperative relationships will be established with other national agencies, such as the National Association of Manufacturers, the U. S. Chamber of Commerce, and the national headquarters of labor unions.

It is expected that the State and local divisions of industrial hygiene will utilize this consultant service in considering methods for promotion of health education activities.

SMALLPOX THREATENS UNVACCINATED WORKERS

There are definite indications that there is a focus of smallpox in Ohio and Pennsylvania at the present time. Two epidemics have occurred within the past six months in these States, over 100 cases being reported. It is significant that there have been no cases at all reported in the panhandle of West Virginia, undoubtedly the result of application of the compulsory vaccination law of that State.

Probably 80 percent of the population in the areas where the disease has broken out had not been vaccinated for smallpox.

It appears that the disease is spreading westward and northward, and there is fear that it will soon become epidemic in the highly industrial areas in the Great Lakes region. On May 8, a case of smallpox was reported on the S. S. Marquette plying Lake Erie.

An active program of vaccination seems indicated to insure that industrial workers in this region are protected. All workers--new and old--should be vaccinated if they do not have evidence of a satisfactory vaccination within the past three years.

It is important to remember that vaccine used must be fresh. It must be kept at freezing temperature continuously in order to be effective when used.

Manual of Industrial Hygiene

A copy of the new "Manual of Industrial Nutrition," prepared by the Nutrition in Industry Division, Food Distribution Administration, is attached. Additional copies can be secured from any one of the 7 regional offices of the Food Distribution Administration or from the Washington office.

Guide for Plant Labor-Management Production Committees

Suggestions for action on problems affecting absenteeism including health, housing, and transportation, are given in a new booklet from the War Production Drive Headquarters, War Production Board. Copies of this booklet can be provided by local War Production Board offices.

STATE ACTIVITIES

Kentucky. The Kentucky State Medical Association is sponsoring a series of five extension courses in medicine to be given in several sections of the State. A number of lectures on industrial hygiene are included, these being given in the first course by Dr. W. E. Doyle, Director of the State Bureau of Industrial Hygiene.

At a meeting of the House of Delegates of the Kentucky State Dental Association, a resolution approving plans for industrial dental service was adopted.

Missouri. A series of industrial health institutes were held in Kansas City, Missouri, during April. These were sponsored cooperatively by Jackson and Clay County Medical Societies, the Kansas City Association of Railway and Industrial Physicians and Surgeons, the Kansas City Area Industrial Hygiene Service, Public Health Committee of the Kansas City Chamber of Commerce, and the Kansas City Tuberculosis Society.

New Hampshire. The Division of Industrial Hygiene of the New Hampshire State Board of Health is presenting a series of broadcasts on industrial health problems.

PERSONNEL CHANGES

Assistant Sanitary Engineer (R) Yale Rosenfeld, U. S. Public Health Service, has been appointed Acting Director of the Division of Industrial Hygiene in the City Department of Health, Los Angeles, California. Dr. Edward E. Dart, formerly director of this division resigned to accept a position with the Chrysler Corporation in Chicago, Illinois.

Assistant Sanitary Engineer (R) Kenneth N. Fluckey, U. S. Public Health Service, has been transferred from the California State Bureau of Industrial Health to the Oregon State Division of Industrial Hygiene. Mr. Fluckey is taking the place of Emil Chanlett, who has accepted a commission in the Army Sanitary Corps.

Dr. Clifford Kuh has resigned from the position of Director of the California State Bureau of Industrial Health to accept a position with the Permanente Foundation in California. Mr. Fred T. Ingram, Supervising Engineer, is serving as Acting Director in California.

Dr. Harold T. Castberg, Passed Assistant Surgeon, U. S. Public Health Service, formerly Acting Chief of the California Bureau of Industrial Health, who had been sent to Oregon to initiate the development of the Oregon State Industrial Hygiene Division, has been assigned back to California as of July 1.

Dr. Thomas F. Mancuso, Assistant Surgeon (R), U. S. Public Health Service, who has been on assignment to the Michigan Department of Health, is being transferred as of June 15 to the Oregon Division of Industrial Hygiene to take the place of Dr. Castberg.

COOPERATIVE ACTIVITIES OF THE U. S. PUBLIC HEALTH SERVICE AND STATE DIVISIONS OF INDUSTRIAL HYGIENE

Administration. Mr. Bloomfield visited the State divisions in Utah, California, Oregon, and Washington in April. A thorough survey of the program of the California State Bureau was made. An appraisal of the Washington State division needs for additional personnel resulted in the granting of \$20,000 of special emergency funds by the Governor to expand the staff of the division.

Dental Programs. Dr. Lyman D. Heacock, Dental Surgeon (R), visited the State divisions of Utah, Washington, Oregon, and California in April and May. He presented a paper on "Dental Care--Present and Future" at the annual meeting of the California State Dental Association; also one on "The Place of Dentistry in Industrial Health Programs" at the annual meeting of the Western Association of Industrial Physicians and Surgeons. Conferences were held with key dentists of the Southern California State Dental Association and with the Association's Committee on Industrial Dentistry, which has recently made a dental service survey of the expanded industrial areas in Southern California to determine the dentist-time spent in serving industrial workers.

Industrial Dental Committee of American Dental Association. The first meeting of the above committee was held in Chicago on May 8 and 9. The members present were: Dr. Hugo Kulstad, Chairman, Dr. R. M. Walls, Dr. Ernest Goldhorn, and Dr. L. D. Heacock. Dr. Carl M. Peterson, Secretary of the Council on Industrial Health of the American Medical Association, also attended. After discussion of policies, it was agreed that the committee would initiate plans for developing liaison and close working relationships with several national agencies interested in industrial health.

Nursing. Miss F. Ruth Kahl, Public Health Nursing Consultant, visited Ohio, Illinois, Indiana, and Michigan in May, to confer with industrial nursing consultants. Many industries were visited to observe and advise on nursing services.

Dermatoses Investigations. Dr. Louis Schwartz assisted the New York Department of Labor in investigating an outbreak of dermatitis in a plant at Long Island City. He also addressed the annual meeting of the New York State Medical Society on "Occupational Acne," and the Philadelphia Regional Safety Conference on "Dermatoses in our War Industries."

The Indiana State Board of Health received assistance from Dr. Beck in a study of dermatitis occurring in a plant processing raw carrots.

POSTAL ZONE NUMBER TO BE ADDED IN ADDRESS

Hereafter, the postal delivery Zone No. 14 should be added to the address of the Division of Industrial Hygiene, National Institute of Health. Will you please reciprocate by including your postal zone number when corresponding with the Division.

CORRECTION

Due to a clerical error, the title of Dr. DallaValle's new book on the study and science of dust particles was announced incorrectly in last month's issue of this publication. The correct title, derived from a word coined by Dr. DallaValle, is "Micromeritics: The Technology of Fine Particles." "Micromeritics" is a noun derived from the adjective "micromeritic" (Greek: mikros - small; meros - part) meaning "granitic, with grains so small as to be invisible without the microscope." (Cf. Webster's "New International Dictionary.")

NEW PUBLICATIONS

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

PHOTOMETRIC DETERMINATION OF BENZENE, TOLUENE AND THEIR NITRO DERIVATIVES.

H. D. Baerstein. *Ind. Eng. Chem., Anal. Ed.*, **15**, 251-53 (Apr. 15, 1943).

The colored compounds formed by shaking *m*-dinitrobenzene and its homologs with ketones and alkali are probably quinoids formed by condensation of the *aci*-nitro and enol forms with the elimination of water. Various factors concerned with the production of these colors have been studied, and certain modifications recommended for their quantitative determination. Mixtures of benzene and toluene have been satisfactorily analyzed by oxidation of dinitrotoluene, presumably to dinitrobenzoic acid, which gives no color under the conditions chosen.

A MODIFICATION OF THE SILICA GEL METHOD FOR THE DETERMINATION OF ATMOSPHERIC ORGANIC SOLVENT VAPORES.

Lester V. Cralley, Thomas E. Shea, and Lewis J. Cralley. *J. Ind. Hyg. Toxicol.*, **25**, 173-74 (Apr. 1943).

A general method is presented for the determination of atmospheric organic solvent vapors. In this procedure the organic vapor is adsorbed by silica gel and is then removed from the gel by a second solvent which will not cause subsequent interference. The amount of the organic solvent present is then determined by any acceptable method of quantitative chemical analysis. An example is given of the method as applied to the determination of chlorinated hydrocarbons—in this case, carbon tetrachloride.

Advantages of the method include: simplicity of operation and equipment, elimination of caustic substances in collecting samples, applicability to a large variety of atmospheric organic solvent vapors, and usefulness in atmospheres where explosive substances exist.

THE TOXICITY OF LEAD AZIDE. L. T. Fairhall, W. V. Jenrette, S. W. Jones, and E. A. Pritchard. *U. S. Pub. Health Repts.*, **58**, 607-17 (Apr. 9, 1943).

An investigation of lead azide as an industrial hazard has indicated that the storage and distribution of lead in the tissues following the ingestion of this compound are in general similar to that of other lead salts. The acute toxic effect of this substance, however, is associated with the azoimide radical rather than with the lead. Further evidence confirming this was obtained from observations of the effect of administering sodium azide intraperitoneally, subcutaneously, and orally, in comparison with similar experiments with lead azide.

The effect of exposure to hydrazoic acid gas by inhalation was determined at various concentrations and it has been shown to be invariably fatal to rats in amounts beyond 1160 p.p.m. when breathed for 1 hour. The results of this investigation indicate clearly that hydrazoic acid should be considered a dangerous gas.

SICKNESS ABSENTEEISM AMONG INDUSTRIAL WORKERS, FINAL QUARTER OF 1942, WITH A NOTE ON THE OCCURRENCE OF BRONCHITIS AND PNEUMONIA, 1933-42. W. M. Gafafer. *U. S. Pub. Health Repts.*, **58**, 677-79 (Apr. 23, 1943).

This study of sickness absenteeism among industrial workers during the final quarter of 1942 shows, as have previous studies, the continuing rise in the rate of illness due to respiratory diseases. Particularly notable is the rise in the pneumonia rate which has occurred among all workers, but especially among those in the iron and steel industries.

DIETHYLAMINOETHANOL AS A REAGENT FOR THE DETECTION AND COLORIMETRIC DETERMINATION OF SMALL AMOUNTS OF TRINITROTOLUENE IN AIR. F. H. Goldman and D. E. Rushing. J. Ind. Hyg. Toxicol., 25, 164-71 (Apr. 1943).

A colorimetric method has been devised for the estimation of TNT based on the use of diethylaminoethanol as a reagent for this compound. The color produced is very stable. The authors hope soon to publish a method for dinitrotoluol and for tetryl based on the use of this same reagent.

PROBLEMS OF PROOF IN CLAIMS FOR RECOVERY FOR DERMATITIS. Louis Schwartz. Ann. Int. Med., 18, 500-17 (Apr. 1943). Also: Mich. Law Rev., 41, 893-914 (Apr. 1943).

A worker claiming compensation for an allegedly occupational dermatitis must prove its occupational origin. This paper describes for physicians and lawyers the criteria for determining whether a dermatitis is due to occupation rather than due to occupational environment or nonoccupational causes. Included is a list of points which plaintiff and defendant should try to show in court testimony.

AN OUTBREAK OF DERMATITIS FROM AIRPLANE ENGINE COVERS. Louis Schwartz and S. M. Peck. U. S. Pub. Health Repts., 58, 625-31 (Apr. 16, 1943).

An outbreak of dermatitis was observed among workers manufacturing airplane engine covers made from a special pliofilm. Upon investigation, it was found that a chemical, R. M. F., was added to the pliofilm to prevent deterioration from light. This compound was found to be both a primary irritant and a sensitizer.

Recommendations were made for protective clothing, particularly impervious aprons and washable gloves. In operations in which irritant fumes were developed, so that protection of the face was necessary, the use of a protective ointment of the invisible glove type was suggested.

THE ACUTE TOXICITY OF VAPORS OF SEVERAL MONOALKYL ETHERS OF ETHYLENE GLYCOL. Harold W. Werner, James L. Mitchell, John W. Miller, and Wolfgang F. von Oettingen. J. Ind. Hyg. Toxicol., 25, 157-63 (Apr. 1943).

A summary is given of the methods and results of experiments in which mice were subjected to single, moderately long exposures to various vapor concentrations of the commonly used ethers of ethylene glycol. Minimum lethal concentrations expressed as mg./l. indicate that ethylene glycol ethers decrease in toxicity in the following order: butyl, methyl, n-propyl and ethyl, iso-propyl. Hazard indexes indicate that, with conditions comparable to those in these experiments, the difficulty of controlling potential hazards of the derivatives studied should decrease in the following order: methyl, ethyl, iso-propyl, n-propyl, butyl.

PUBLICATIONS REPRINTED

The paper, "Ventilation for Control of Solvent Exposures in Fabricating Rubber Military Equipment," by T. R. Thomas and B. D. Tebbens, first published in the March 1943 number of "Heating, Piping and Air Conditioning" has been printed also in "Industrial Medicine," April 1943, under the title, "Control of Solvent Exposures in the Rubber Industry."

REPRINT NO. 2439: Distribution of Health Service in the Structure of State Government. Chapter VIII. Industrial Health Activities by State Agencies. J. W. Mountin and Evelyn Flook. From U. S. Pub. Health Repts., 58, 33-58 (Jan. 8, 1943).

REPRINT NO. 2445: The Identification and Localization of Lead in Bone Tissue. L. T. Fairhall. From U. S. Pub. Health Repts., 58, 209-16 (Feb. 5, 1943)