

U. S. DEPARTMENT OF LABOR
CHILDREN'S BUREAU
WASHINGTON

October 20, 1942

AIR MAIL

Dr. Robert A. Kehoe
Kettering Laboratory of
Applied Physiology
Eden Avenue
Cincinnati, Ohio

Dear Dr. Kehoe:

Thank you very much indeed for your letter of October 15 with reference to the preliminary draft of our standard for minimum age for employment in industries involving exposure to lead. We are very glad to know that you are in accord with the spirit and statements contained in the draft, even though you feel that in some plants significant exposure may occur in offices and other places where isolation is not adequate and control measures are lacking.

There is, of course, at present no Federal minimum age standard for occupations involving lead exposure, so that we hope the effect of this voluntary standard will be to improve the placement of young workers to some extent and to supplement existing State laws and regulations.

Some reviewers of the draft have suggested an addition to item 4 for the purpose of clarification, so that it would read as follows:

"4. Work in connection with tetraethyl lead.

- (a) The manufacture of tetraethyl lead
- (b) The mixing of antiknock compound
- (c) The blending of gasoline and antiknock compound."

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I would like to know whether you think that this list makes the coverage clear and specific.

May I again thank you for giving us your detailed comments and suggestions.

Sincerely yours,

William M. Schmidt
William M. Schmidt, M. D.

KE 0002370

October 15, 1942.

Dr. William M. Schmidt,
Medical Consultant, Industrial Division,
U. S. Department of Labor,
Children's Bureau,
Washington, D. C.

Dear Dr. Schmidt:

I have your letter of October 10, together with the attached preliminary draft of certain policies with respect to the employment of minors in the lead trades.

I find myself in complete agreement with the principles and statements in the preliminary draft. There is no question, I think, concerning the greater susceptibility of minors to the toxic effects of lead absorption. For this reason alone, minors should be protected against any other than slight lead exposures. Nevertheless, there are a number of jobs available in most of the lead-using industries, that involve little or no exposure to lead compounds. There is no good reason why such jobs could not be handled satisfactorily and without undue risk by persons under eighteen. There is only one difficulty that I anticipate in this connection. There are still a considerable number of industrial plants, some large, but for the most part small, in which there is no adequate medical or hygienic supervision of workmen and working conditions. In some of these plants, and I fear in many of them, there is no adequate knowledge of the severity of the hazards, and there is no such isolation of different parts of the plant as will provide safety against lead exposure in offices, shipping rooms, and in other places where exposure need not exist. It seems reasonably certain to me that if the bars are let down, youngsters will be employed in some of the presumably safe areas in plants of this type. If I were sure that there was a sufficient amount of general control to provide against lead concentrations in excess of the present standard of 1.5 milligrams of lead per 10 cubic meters of air, I should have very little anxiety about the results. I am somewhat disturbed, however, by the fact that large numbers of plants have no knowledge of the magnitude of their lead exposure, have never had a plant survey, and do not even know that such a standard as indicated above has been promulgated. My guess, which is based on experience, is that the largest proportion of lead workers in the United States are working under conditions in which there is neither adequate

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Dr. William M. Schmidt - (2) - October 15, 1942.

medical supervision nor engineering control beyond that provided by the use of masks and by improvised and untested ventilating equipment. Accordingly, I am disposed to feel that any apparent relaxation of standards might have disadvantageous results at this time. I believe that considerable care should be exercised in the manner and in the locality in which this policy is applied.

I repeat, however, that despite all of the reservations indicated above, I am in complete agreement with the spirit and the statements of fact contained in the draft.

Cordially yours,

Robert A. Kehoe, M. D.

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U. S. DEPARTMENT OF LABOR

CHILDREN'S BUREAU

WASHINGTON

October 10, 1942

Dr. Robert Keyhoe
The Kettering Laboratory of
Applied Physiology
Eden and Bethesda
Cincinnati, Ohio

My dear Doctor Keyhoe:

The Division has the responsibility of issuing standards for minimum age for employment in various occupations. Under the Fair Labor Standards Act, which establishes a general 16-year minimum age for factory employment, the Chief of the Children's Bureau may issue hazardous-occupations orders which have the effect of raising the minimum age for employment to 18 years. Six such orders have been issued.

At the present time, we are contemplating the issuance of certain minimum age standards, not as mandatory orders under the Act, but as standards recommended for voluntary compliance. These standards would be distributed to the industries concerned, to Employment Service offices and the like as a guide for their employment policies in an effort to encourage well-planned placement for boys and girls 16 and 17 years old. The standard on occupations with lead exposure has been informally discussed and well received by several persons connected with the industry.

Because of your long experience and extensive studies in this field, we should appreciate it very much if you would review the draft which is enclosed and let us have your comments and suggestions. We hope to proceed with publication in the near future, and we will be glad to have your comments as soon as possible.

Sincerely yours,

William M. Schmidt

William M. Schmidt, M. D.
Medical Consultant
Industrial Division

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Kettering
Laboratory

William H. Schmidt, M.D.
October 7, 1942

Preliminary Draft. For Discussion Purposes Only

WARTIME EMPLOYMENT OF 16- AND 17-YEAR-OLD MINORS IN
OCCUPATIONS WITH EXPOSURE TO LEAD AND ITS COMPOUNDS

Lead is extensively used in industry under normal circumstances, and as an important war metal it is being even more widely used at present. In 1941 previous consumption records for lead were broken. In spite of notable progress in control of the hazard of exposure to lead and its compounds, lead remains one of the leading causes of occupational disease other than industrial dermatoses.

There is an increasing employment of young persons today and, to an extent greater than ever before, boys and girls are being called upon to fill jobs ordinarily held by adults. Many of these jobs are suitable and reasonably safe for young workers, but some are not, and among the latter are occupations with exposure to lead dust or fumes.

Especially under conditions of relative labor shortage employers will want to exercise the best judgment in placement of young workers, reserving the more hazardous occupations for the mature workers who are, as a group, better adapted for such employment physically and better prepared to protect themselves because of their experience and more careful habits of work.

On the basis of visits to a number of factories using or producing lead in various forms and consultation with persons familiar with the industries, the Children's Bureau is presenting in this leaflet a list of occupations for which a minimum age for employment of 18 years is recommended. Some plants using lead conduct operations

of so varied a nature that employment of persons between 16 and 18 years of age in some occupations in many of these plants is not only feasible but may be advantageous both to relieve the immediate labor situation and for purposes of training. Careful placement of young workers will help to meet the demand for labor without subjecting this group of potential soldiers and war workers to unnecessary hazard of occupational disease.

The maximum permissible limit of 1.5 milligrams of lead per 10 cubic meters of air, which has been widely accepted, represents good engineering practice and a reasonably safe working condition for adults except for those who are unusually susceptible. However, young workers 16 and 17 years of age as a group are considered to be more susceptible than older workers.

Work in which no young workers under 18 years of age should be employed

The following list is illustrative and necessarily incomplete.

1. Work in connection with the production of white lead or other salts or oxides of lead.

There is a considerable evolution of dust in some of the workrooms of plants producing lead salts or oxides. Certain occupations in themselves in these establishments are not accompanied by the evolution of lead dust or fume, such as the milling of white lead after it is incorporated in oil, but they may be accompanied by exposure to lead dust arising in other departments. There is, therefore, a potential hazard in all production jobs, and a minimum age of 18 should be observed except for work in offices which are fully segregated and free from the possibility of contamination with appreciable concentrations of lead dust.

2. Work in workrooms in which lead salts or oxides are used in such a state that they give rise to appreciable concentrations of lead dust in air.

(a) Compounding and batch-mixing in the manufacture of rubber, paint, lead-containing

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insecticides, linoleum, and other products into which lead compounds enter;

- (b) The manufacture of storage batteries;
- (c) Spray painting and vitreous enamelling when lead-containing materials are used;
- (d) Other occupations in which lead dust may arise from the materials of work such as storage battery repair and salvage, junk yard work, sanding lead-covered surfaces, and the like.

3. Work in occupations in which metallic lead is regularly used in the molten state.

- (a) Lead burning
- (b) Cable covering
- (c) Type casting
- (d) Foundry work with lead-bearing metals
- (e) Cutting of lead-coated metals
- (f) Soldering, when carried on continuously as a regular part of the process of production.

4. Work in connection with the manufacture of tetraethyl lead.

Work in lead industries suitable for 16- and 17-year-old workers.

The following list is illustrative and necessarily incomplete.

- 1. Can filling and labelling in paint factories.
- 2. Marking and testing of storage battery cases, and shipping department work.
- 3. Office and laboratory work in lead industries.

The handling of lead salts or oxides which are completely incorporated in a solution or suspension or are in impervious containers does not involve appreciable hazard, provided the workrooms are segregated from those in which lead compounds are used in the dry state, and are essentially free from lead in the atmosphere.

Observance of legal standards

Where legal standards under State and Federal laws are applicable to employment of young workers in occupations involving exposure to lead and its compounds, these should be fully observed.

In specific situations in which the illustrations are not directly applicable, it is suggested that further information regarding the suitability of the work for young people under 15 years of age should be secured from State departments of labor or from the Children's Bureau, U. S. Department of Labor, Washington, D. C.

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