NATIONAL LEAD COMPANY

111 BROADWAY

NEW YORK 6, N. Y.

ALEX. STEWART
DIRECTOR OF RESEARCH

September 22, 1948.

Dr. Robert A. Kehoe,
University of Cincinnati,
Kettering Laboratory of
Applied Physiology,
Eden Avenue,
Cincinnati 19, Ohio.

Dear Dr. Kehoe:

In reply to your letter of August 20 and in connection with various matters which I have wanted to discuss with you, I have been somewhat negligent when visiting Cincinnati in not advising you beforehand. However, in connection with the program which we attempted to develop with respect to the toxicity of materials employed in the production of paints, we have considered the possibility of a program as follows.

1. Inhalation, primarily in reference to volatile liquids and pigment dusts.

2. Ingestion, primarily in reference to pigments, but also all others.

3. Skin contact, primarily in reference to liquids, but also some pigments dispersed in liquids (i.e. paints).

In further attempting to develop a program, attached you will find a memorandum prepared by Mr. W. Gloger, who heads up our Paint Research and Development Laboratory.

In the development of our relations with you and the Kettering Laboratory, I wonder if the next time you are coming in to New York, you would be kind enough to advise me and we might get together and attempt to conclude the various matters which we have discussed along with a discussion of the proposed program, attached.

Yours very truly,

Alex. Stewart

PROPOSED ADDITIONS TO THE PROGRAM ON THE TOXICITY OF PAINT MATERIALS

The following suggestions are offered in order to make the proposed program of study of the toxicity of paint materials apply more directly to the conditions prevailing within the paint division and its ultimate customers. Within the paint division, as a manufacturing unit, almost all of the raw materials included in the original draft are of particular interest. The original list needs to be expanded to include the following raw materials which now are, or may be in the future, in use in the plants:

Fish oils, especially sardine and menhaden
Guaiacol
Sodium hydroxide
Phenolic resins, such as Bakelite 254 and Durez 550
Phthalic anhydride
Maleic anhydride
24% lead naphthenate
8% zinc naphthenate
8% calcium naphthenate
Representative varnishes on the basis of their lead content and otherwise

In addition to the specific raw materials mentioned above, there are also conditions of exposure which deserve to be considered such as the effects of fumes resulting from the manufacture of varnishes and alkyd resins, and the necessity for wash bins for cleaning portable equipment.

It is suggested that the definition of toxicity be broadened to include irritations of the eyes, mucous membranes, and skin, as well as the more functional physiological disorders considered in the original draft. For example, liquids present in wash bins usually include an accumulation of a large number of the raw materials used in a paint plant or laboratory. Such wash bin solvents appear to be more potent in causing pimples, skin cracking, and infection than the original clean solvent. The study should include the consideration of medications to relieve or prevent irritations such as those listed. Neither rubber gloves nor any proprietary compound now available is particularly effective in preventing skin lesions.

With respect to the customers of the paint division, consideration should be given to the effects on painters and home owners, of the volatile portion of paints, particularly with respect to its effect on very young children and semi-invalids.

W. A. Gloger
9/17/48

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Proposed Program

on

The Toxicity of Paint Materials

The program of the Kettering Laboratory of Applied Physiology of the University of Cincinnati on the toxicity of paint materials could be undertaken in two parts:

Part I:-

A literature survey of the toxicity of paint materials.

This survey would determine the available information on the toxicity of the various materials used in protective and decorative coatings. A list of the common materials used by the paint industry is appended. Those of particular interest to National Lead Company are marked with an asterisk.

Part II:-

A study of the toxicity of selected pigments.

This study would supply information on the toxicity of selected pigments which may be incomplete or lacking under Part I. The following pigments would be included in this study:

Antimony Oxide

Basic Carbonate White Lead

Basic Sulphate White Lead

Basic Silicate White Lead - 45 X

Barytes

Whiting

Barium Potassium Chromate (Pigment E)

Red Lead

Consideration should be given to making paints with some of the pigments listed above and studying the toxicity of the paints themselves and also the toxicity connected with various types of exposure contacts. In certain paints the amount of the pigment might be varied within a range of normal use; for example, mixed pigment house paints might be prepared with a low and high lead pigment content.

The toxicity of the paints might be studied in the form of dried paint films as well as in the form of wet paint. This would show to what extent the toxicity may be affected by the drying process.