

National Paint, Varnish and Lacquer Association

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June 14, 1960

TO THE MEMBERS OF THE SCIENTIFIC COMMITTEE:

Toxicological Study

At our meeting on March 13, Mr. A. E. Van Wirt was requested to summarize the present state of knowledge as to the toxicity of our industry's products and make suggestions as to the next step.

Mr. Van Wirt's report has been circulated to the members of the Subcommittee on Toxicology and Labelling and has been approved by them for circulation to the Scientific Committee, although a couple of members had reservations about the relative emphasis given to various features. A copy is attached for your consideration.

When you have had time to digest this report, I would appreciate your thoughts as to whether this should go on the agenda of the next Scientific Committee meeting in September or should we have a meeting before that time to formulate a recommendation to the Paint Research Institute and others.

Yours truly,



FRANCIS SCOFIELD, Director
Scientific Section

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enclosure

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THE ROAD TO PROSPERITY IS PAVED WITH COLOR
73rd Annual Meeting • October 27, 28, 29, 1960 • Chicago, Illinois

PROGRESS THROUGH COOPERATION

N 4169

June 14, 1960

SUGGESTIONS ON TOXICOLOGICAL STUDY

The last several years has seen an intensification of interest in materials which may be harmful to our health - - an interest which has been fostered and encouraged by many private and public agencies and individuals. Regardless of how worthy and sound such interest may be, there are always a few people and organizations willing to take unfair advantage of such a situation to improve their political stature. This can best be accomplished by acts which the public can understand and with materials with which the public is familiar. It is not surprising, therefore, that the paint industry should find itself in some trouble since paint, particularly lead containing paint, has long had an unfavorable reputation.

The death of a number of children of lead poisoning from eating old, loose paint from walls in under-privileged housing, resulted in the American Standards Association Specification Z-66.1, and several municipal and state laws, in effect, restricting the total lead content of paints for interior walls and toys. No study was instituted to see if all lead compounds used in paint were poisonous. No determination of the amount of lead which can be safely used in paints was made. No interest was shown in what might be substituted for the lead, or the toxicity of other constituents. The permissible amount of lead was arbitrarily set at 1% in any form. It is indeed fortunate that the representatives of the paint industry were able to obtain this 1% limitation, lacking as they did, any comprehensive scientific data to substantiate their objections to this type of approach.

This lead restriction is a handicap itself, even though white lead, undoubtedly the culprit in the children's deaths, today is obsolete for interior paints and toys, and Chrome Yellow can be replaced in some cases with a fairly satisfactory substitute at a higher cost. The 1% allowance permits the use of sufficient lead drier. However, the significance of ASA Z-66.1 lies not in its economic or technical consequences, but in the example it may set for future legislation affecting the paint industry. If this same method of declaring a paint toxic because it contains material chemically related to a toxic material is continued, the industry could be in serious trouble. Many of our pigments contain metals which are toxic in other forms. Many of our vehicles and plasticizers have organic groupings which could be interpreted as toxic under certain conditions. Since it can be almost certainly assured that the public interest in toxic materials will continue, the paint industry can expect its products to be challenged in the future. The industry wants to poison no one. Neither does it want unnecessary restrictions. However, if the industry itself has little evidence of the toxicity or inertness of its products, it can scarcely guide the most enlightened body into intelligent action. The industry should be giving serious consideration to a study of its own potential toxicity problems.

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Any attempt to set up such a program is immediately faced with a difficult decision. Can an investigation sufficiently comprehensive to be of value be accomplished with the amount of time and money which might be available? How can the program be restricted to keep costs at a minimum without sacrificing its major usefulness?

Since the industry is concerned with the public, it would seem reasonable to eliminate the study of any hazards which may exist in manufacturing paints, and in its application by industrial consumers. These people should be able to take care of themselves.

The consumer might conceivably encounter the following hazards:

(1) The liquid paint itself might be eaten by children, or cause dermatitis. Such cases have not been common.

(2) The application of paint can be dangerous from volatile constituents. It has long been recognized that closed unventilated location can produce a concentration of vapors which can be a fire and health hazard. The spray application of lacquer under similar conditions in inexperienced hands adds another -- liquid droplets which may be breathed into the lungs. Can labels warn of these dangers.

(3) The dried film of paint may present a hazard during removal by sanding or burning, if chewed by children, or if the loose paint is eaten by children. This hazard is the source of the recent troubles, and presents a logical starting point for a study.

It is suggested that the paint industry consider a long range program to investigate the toxicity hazard of its important products, along the broad lines indicated below:

(1) All organizations interested either directly or indirectly in this problem should be asked to cooperate in one comprehensive program -- in some cases with financial support. This would include the related associations, manufacturers and suppliers. One group, either existing or newly formed, should have the responsibility of activating and later guiding the work.

(2) A comprehensive literature search should first be made. While it is doubtful if much specifically applicable data will be found of direct value, what is available will be helpful in planning the program and as supplemental evidence.

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(3) It is anticipated that such a program might cost upwards of \$50,000.00 per year and continue for a number of years.

(4) The work should be done by a laboratory of recognized standing in the field.

(5) The study should be kept practical, and reveal whether a hazard actually exists under normal conditions of use. The determination of why or how a material is toxic should be beyond the scope of this study. The fact that some paint constituents may be somewhat toxic should not be accepted as evidence that the dried paint film is toxic.

(6) It is suggested that animal studies be used, and that they be carried through the acute stage of toxicity only. The study of chronic toxicity is too long and expensive, and does not appear justified at this time.

(7) At the start, dried films might be tested. Several typical vehicles might be crossed with a number of pigments, each dried or baked as custom requires, and used as food additives in varying amounts. The program should be designed statistically to reduce the individual experiments to a minimum. Any degree of toxicity should be related to probable film area, as well as weight.

(8) If some toxicity is found, it may be that use of a simulated gastric juice as a quick method of test should be studied. For instance, it would be expected that the amount of a metal, such as lead, soluble in such a juice would be a good indication of the lead toxicity of a paint film. Such tests, related experimentally to toxicity data, could become valuable control tests in the future. Other control tests may be developed.

(9) Isotopes may be useful to prove the non-absorption of certain constituents - i.e., Pb^{210} , C^{14} , etc.

(10) The final scope of the investigation need not be determined now. The initial study should be comprehensive enough to be of value, but the final extent of the work can best be determined later when it will be technically and financially easier to decide.

(11) Consideration should be given to the advisability of publicizing such an investigation. Will the study be accepted as an indication of hazard, or interest in the welfare of the public?

A. E. Van Wirt

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