

WRITTEN COMMENTS
OF THE
NATIONAL PAINT AND COATINGS ASSOCIATION

ON

PROCEDURES FOR IMPLEMENTING THE LEAD-BASED
PAINT POISONING PREVENTION ACT, AS AMENDED,
BY PUBLIC LAW 93-151.

Submitted to:

Assistant Secretary for Policy Development and Research
Department of Housing and Urban Development
451 Seventh Street, S.W.
Washington, D.C. 20410

To the attention of:
Lead-Based Paint Committee, Room 4120

MAY 8, 1974

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The National Paint and Coatings Association (NPCA) is a trade association representing the manufacturers of more than 90 percent of the dollar volume of paints, varnishes, lacquers and allied products produced in the United States. It also represents major suppliers of raw materials from which the industry's products are made. Industry sales amount to more than \$5 billion annually at retail level, providing employment for more than 70,000 persons at the paint manufacturing level alone and more than 200,000 at the retail level. In addition, the number of union painters whose livelihood is dependent on the industry is 110,000.

The National Paint and Coatings Association and its industry members have a serious concern over the problems of lead poisoning in children which is occurring today in most metropolitan areas. NPCA has pledged its full support to continue to work to solve this serious problem. The health of the public, particularly our children, must now and always be the paramount consideration.

THE PROBLEM OF OLD LEAD-BASED PAINTS

In this regard, the major contribution of paint to the poisoning of children today was identified many years ago as the old lead-based paint which is flaking or peeling from the walls of dilapidated housing in the urban areas, particularly in the slum areas where maintenance has been neglected. It is the pre-World War II housing that is most hazardous because, more than 30 years ago, the paint industry began eliminating these old heavily-lead-based paints, which often contained 50% or more basic carbonate of lead (white lead), a soluble and admittedly hazardous compound. These were, of course, the best quality paints produced at that time, and -- the type prescribed by government specifications.

However, as is well understood now, the paint industry started phasing out white lead as a basic ingredient of interior paints more than 30 years ago, when titanium dioxide became

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commercially available. It is no longer necessary (or economical) to use white lead in interior paints because 1 pound of titanium dioxide will "cover" the equivalent of 5 to 7 pounds of white lead, depending on the formulation.

THE SAFETY OF MODERN PAINTS

When discussing modern paints, we are no longer talking about "lead-based" paints. What we are really talking about are "lead-containing" paints, which actually contain only small quantities of lead. Lead pigments, such as lead chromates and lead molybdates, have been used to provide the popular bright colors -- reds, yellows, greens and oranges; and, of course, lead compounds have been used, where appropriate, in corrosion-resistant exterior coatings because they are especially valuable for such uses. The use of lead in corrosion-resistant coatings today is not being questioned because it is recognized that these are essential to property maintenance and no hazard to children exists from such uses.

Lead pigments for colors and most other uses were largely discontinued in interior residential paints some years ago to ensure that these products would not exceed the one percent level which was established by ANSI Standard Z66.1. (Further discontinuances of lead pigments for colors have been occasioned by the subsequent reduction of the permissible lead level to 0.5% by law and regulations.) This voluntary standard was developed in 1955, under the sponsorship of the American Academy of Pediatrics, to deal with the toxicity hazards which may be encountered through the ingestion of dried coatings on toys, other articles or surfaces accessible to children.

The voluntary standard (ANSI Z66.1) served as a pattern for the several statutes, regulations and ordinances dealing with the subject, which were adopted by more than twenty juris-

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dictions between 1955 and 1970. Although the record shows that there was substantial compliance with the voluntary standard and a related labeling program, sponsored by our Association, this Association cooperated to the fullest extent in proper discussions initiated by the Food and Drug Administration, U. S. Department of Health, Education and Welfare; looking to the establishment of regulations under the Federal Hazardous Substances Act.

Our industry supported FDA's proposal to reduce the one percent lead standard, which was incorporated in P.L. 91-695, by fifty percent to 0.5%, which level was established by an Order of March 11, 1972. Our Association announced its support publicly as an additional margin of safety and urged membership support. This 0.5% level also was incorporated in the recent amendments to the Lead Based Paint Poisoning Prevention Act (P.L. 93-151). However, as will be discussed in greater detail later, we are concerned particularly over the impact of any further reduction in the permissible lead level in paints which may be directed. Both the FDA Order mentioned above and the amendments in P.L. 93-151 provide for such further reduction -- to the 0.06% level if shown to be necessary by valid scientific research.

A 0.06% lead limit means, in effect, that no lead may be intentionally added during the manufacturing process. Such a reduction would have significant impact on the industry because the small quantities of lead compounds presently used in modern residential paints are added to promote drying properties. They are used so the paint will dry properly within reasonable times to a tack-free, hard, durable surface. Paints without driers remain tacky for days, and weeks in some cases. Lead driers are unique in that they promote through drying with better adhesion, and they prevent loss of drying properties on storage of the paint. The establishment of a 0.06% lead limit would eliminate the use of lead driers altogether.

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A great deal of research work has been done in recent years to find suitable substitutes for lead driers. Combinations of other metallic compounds such as zirconium, calcium, manganese, zinc and cobalt have been partially successful in certain specific paints and coatings. To date, however, no "across the board" substitute has been found which imparts the same good properties of lead driers. Many paint products which seemed to perform well initially with substitute driers, lost their drying properties after a few months storage on paint store shelves. This caused considerable expense and trouble for the consumer as well as the paint manufacturer.

Of equal concern to the industry over a reduction to 0.06% permissible lead level is the very real possibility that impurities and contamination in the water supply, the air, and the paint raw materials can easily raise the level above 0.06% in the finished product.

We do not agree that this elimination is in any way necessary for the safety and health of children today, or yet unborn. It is our contention that neither human experience, records of the poison control centers, nor adequate research and animal-feeding studies have shown the need for such action. However, before turning to this critical issue of how much lead can be safely used, I would like to touch upon a common misconception often quoted by those not informed regarding the paint industry; namely, that all manufacturers can easily remove all lead now.

Those who insist that all lead in paint should and can be eliminated, and those who advance the 0.06% level, base their demand on the assumption that lead levels in excess of this amount would build up to a hazardous level over the years after several layers of modern paints had been applied. This assumption includes consideration of the lead taken into the body from natural sources as well as lead pollution from automotive and all other industrial

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sources. I feel constrained to comment briefly on this point for it is such a vital issue in these proceedings.

THE LIMITATIONS OF EARLY RESEARCH

The proponents of the 0.06% level base their conclusions principally on the work of Dr. Robert A. Kehoe at the Kettering Laboratory, University of Cincinnati. Dr. Kehoe was a true pioneer in the field of lead ingestion and its effects. We do not dispute the validity of his work. In fact, we accept it for what it is, a truly dedicated scholarly effort. However, we must challenge the misapplication and misinterpretation of his work when applied by others to the peculiar circumstances of lead in paint. It must be recognized that Dr. Kehoe worked with a highly soluble lead compound, known as lead acetate, which is not used in paint and coatings formulations. He did not work with the kinds of lead compounds used in paint today. And, finally, Dr. Kehoe engaged in the daily feeding of lead acetate to human subjects through its introduction into their drinking water; no attempt was made to feed actual paint chips to his subjects. From this study, he arrived at a calculation of the rate of absorption in the human system of lead acetate. From his work, others, most notably Dr. Barry King of the U. S. Public Health Service, Department of HEW, whose work appears to have been principally relied upon by the American Academy of Pediatrics, extrapolated mathematical conclusions and erroneously applied them to the rate of absorption of lead from the ingestion of paint chips. Dr. King's conclusions do not take into consideration the fact that the lead compounds actually used in paint are far less soluble than lead acetate and, when ingested in the form of dried paint chips, should be absorbed by the human body at a much slower rate, if at all. A dried film of modern paint is a hard, fairly insoluble substance containing resins, pigments and other ingredients that are not easily dissolved in the human system. It is not

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known what amount, if any, of lead compounds -- encapsulated in paint films -- is absorbed (made biologically available) into the human system.

In contrast to Dr. King's work, other more recent research based on animal-feeding studies of actual paint films indicates a much higher level to be safe. This is the work done by Drs. Gage and Litchfield, who published their findings in 1969. In brief summary, this research indicates limits that are conservatively from 4 1/2 to 9 times higher. Furthermore, these limits are based on a daily intake over a period of years, a much more dramatic situation than is the case today with young children. Considering that these are safe values for daily feeding, then the hazardous level must be very much higher. In fact, Drs. Gage and Litchfield showed that the danger dose is 50 times the safe dose.

Even more recently, in October 1971, the Director, Division of Hazardous Substances and Poison Control of the Food and Drug Administration commented on the absence of hard scientific data. He wrote: "There is no data from scientific studies to show how much lead in the form of paint chips a child might ingest per day, nor what fraction of such daily "dose" will be absorbed although several scientists have used assumption on the quantities in developing their models. We have never seen any epidemiological evidence that lead poisoning has resulted from ingestion of paint chips containing 0.3% lead, nor can we produce toxicological data to support a finding that such a concentration will result in poisoning. In fact, we are unable to produce epidemiological evidence of lead poisoning even at 1% in dried paint films or documentary scientific evidences to support a finding that this level is enough to result in overt symptoms of lead poisoning." In short, until recently there was an absence of scientific data establishing the hazardous level of lead in paint.

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In its deliberations over legislation to amend the Lead-Based Paint Poisoning Prevention Act, Congress recognized the inadequacy of existing scientific knowledge as applied to modern paints with their low levels of lead compounds. Section 301 (b) of P.L. 93-151 specifically directed the Chairman of the Consumer Product Safety Commission to "conduct appropriate research on multiple layers of dried paint film, containing the various lead compounds commonly used (in paint and coatings products) in order to ascertain the safe level of lead in residential paint products."

THE FOCUS OF MODERN RESEARCH

Recognizing the priority need for factual information, the National Paint and Coatings Association, almost one year prior to the passage of P.L. 93-151, commissioned a study with the objective of finding out what a "no effect level" of lead in modern residential paints might be. This Study was conducted by the Biological Sciences Division of Midwest Research Institute, in Kansas City, Missouri. Using 200 rats as experimental animals, the researchers incorporated finely ground dried paint chips into their daily diet. Some of these paint chips contained varying amounts of modern lead ingredients incorporated in a conventional interior type flat wall paint. In similar fashion other rats were fed "white lead" paint typical of those used in the 1920's; still others were fed paint chips taken from the walls of old dwellings in large cities. The last two types of paint chips contained basic lead carbonate, a very soluble type of lead, while the modern paints contained lead octoate drier and lead chromate (yellow pigment) as their lead sources. After 13 weeks of feeding, all rats were sacrificed and a complete histopathological examination of bones and vital organs was made for lead absorption. Analysis of blood and urine for lead was carried out during the course of the feeding study. A great deal of important, helpful technical data was developed from this study. The final report, a

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60 page document has been written and three copies of this report have been given to the Consumer Product Safety Commission. The report is being printed and will be made available to all interested parties.

The complete report should be studied to gain the benefit of the great amount of scientific data developed, however, the results strongly support the contention of NPCA that a 0.5% level of lead in paints for household use is adequate to protect future generations of children from any potential hazard of lead poisoning from paint. In fact, it indicates that the 0.5% limit provides a considerable margin of safety. Quoting from the conclusions section of the Study Report; "The quantity of lead fed as paint chips containing either 2.05% lead octoate (drier) or 1.95% lead chromate (pigment) would have approximated an intake of 40 mg. per day in a 3 year old child weighing 14.6 kilograms. This daily intake has been reported to produce lead poisoning in children if the lead was available for absorption. Since the body lead-burdens of the rats fed 2.05% lead octoate or 1.95% lead chromate were not increased, it can be assumed that the lead in these paint chips was not absorbed from the gastro-intestinal tract." Based upon the results of this independent research, our Association is of the opinion that the present 0.5% lead level provides a substantial margin of safety, and that any further reductions, especially to the 0.06% level are unnecessary. We are confident that the ongoing research of the Department of HEW and the Consumer Product Safety Commission (CPSC), conducted at the direction of the Congress, will confirm the results of the MRI study in establishing that present levels of lead in paint do not present a lead poisoning hazard to children.

THE IMPACT OF FURTHER RESTRICTIONS

There can be no doubt that the imposition of a 0.06% standard would have a very serious impact on the paint and coatings industry. However, if this is established as the level

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necessary to provide safety for our children, all manufacturers must and should comply or cease making the product. Nonetheless, in view of the absence of reliable data on this subject, it is important to illustrate why we feel such a standard should not be arbitrarily imposed.

As previously stated, 0.06% means for all practical purposes that the manufacturer can add no lead during the manufacturing process. Inasmuch as there is no fully tested "off the shelf" substitute, at the very outset, extensive and costly reformulation and testing of entire product lines would be necessary. Any substitutes would themselves have to be tested, not only for effectiveness, but also toxicity. Many of the smaller paint companies could be severely penalized by the tremendous expense in research, testing and reformulation.

In view of the contamination problem previously mentioned, it would be necessary, in order to prevent an inadvertent violation, for the manufacturer to install very expensive pharmaceutical-type analytical equipment into the production line or, in the alternative, have each batch of his product tested by outside laboratories before marketing. Both systems are very costly and would be a serious economic burden on the manufacturer. Many small manufacturers probably would find this added economic burden would make it impossible for them to continue a competitive posture in the market place.

The immediate result, therefore, is a complete disruption of an industry with grave doubt as to the ability of many manufacturers to survive. The ultimate result is a more costly, less satisfactory product. If this is necessary from a health standpoint, so be it, it should and must be accomplished. However, we urge only that the necessity be established, by competent, thorough research and not just assumed.

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What I am trying to highlight -- without further debating whether or not modern paints might cause lead poisoning in the distant future to unborn children of unborn parents -- is that the most hazardous source of lead poisoning of our children today has been identified. This can be corrected if adequate funds are provided and if this effort is given priority attention by authorities in those jurisdictions where such conditions are most prevalent. We recognize, of course, that the sums of money required to accomplish this task are very great. Therefore, it is imperative that the Department of Housing and Urban Development concentrate its most intensive effort toward the greatest-known hazard -- the elimination of the most highly toxic sources of lead paint poisoning, namely, the older paints still existing on the walls of substandard, primarily pre-1950 housing, with its possibly high concentrations of highly soluble lead compounds.

THE DELINEATION OF FEDERAL RESPONSIBILITIES

Under existing statutory authority, other federal agencies and departments are charged with the responsibility for determining safe lead levels in modern residential paints and the application of safe coatings to children's articles and other covered consumer products. We do not suggest by this statement that HUD should not concern itself with this problem but, rather, that the elimination of the lead based paint poisoning hazards existing now (and a major problem now) should be distinguished from the level of lead in modern paints. Unfortunately, the level of lead in modern paints seems to have received much more attention during the past three or four years than the real problem, the detection and elimination of the old heavily-leaded paints from the walls and other surfaces of existing housing.

At this juncture it should be pointed out that the change in definition of "lead-based paints" in P.L. 93-151 (from those paints containing more than 1% lead to those paints con-

taining more than 0.5% lead) operated to declare much more existing housing to be unsafe and require costly procedures for elimination of the lead poisoning hazards. To again change the definition of "lead-based paints" by further reducing the permissible lead level in modern paints would greatly compound the aforementioned problem.

If the evidence, based on reliable technical research shows that 0.5% is not a safe level and that the level should be further reduced, then such action should be taken without delay. However, we are of the opinion that no further reduction is necessary, and suggest that the definition of "lead-based paint" not be changed until definite need has been shown.

Principal responsibility for the eradication and prevention of lead-based paint poisoning was assigned by P.L. 91-695 to the Department of HEW. Under that law, HEW was authorized to make grants to units of general local government in any State for the purposes of assisting such units in developing and carrying out local programs to detect and treat incidents of lead-based paint poisoning, and to identify those areas that present a high risk to the health of the residents because of the presence of lead-based paint on interior and certain exposed exterior surfaces, and to develop and carry out programs to eliminate those hazards. In addition, P.L. 91-695 directed the Secretary of HEW to prohibit, as may be necessary, the use of lead-based paint in residential structures constructed or rehabilitated by the Federal government, or with Federal assistance in any form.

Under that same Act, the Department of HUD was to conduct a demonstration and research program to determine the nature and extent of the problem of lead-based paint poisoning in the U.S. and the most effective method of removing lead-based paint, and was to report its findings and recommendations to the Congress. Prior to the filing of that report, however, the

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Congress enacted P.L. 93-151, which expanded the responsibilities of both HEW and HUD in relation to lead-based paint poisoning, and gave the Consumer Product Safety Commission significant new statutory authority and responsibilities.

Statutory responsibilities under the Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) were transferred from the Food and Drug Administration (FDA) to the Consumer Product Safety Commission when that agency became operational on May 14, 1973. Previously (on March 11, 1972), the FDA had taken action, under the Federal Hazardous Substances Act, to regulate paints and other similar surface-coating materials, containing lead. That regulation declared to be banned hazardous substances any paint or other similar surface coating materials intended, or packaged in a form suitable, for use in or around the household, containing more than 0.5% lead, and toys or other articles intended for use by children bearing such paint or similar surface coating-materials, shipped in interstate commerce between December 31, 1972 and December 31, 1973. After that date, the applicable lead level would have been changed to 0.06%, except that the Consumer Product Safety Commission, on December 27, 1973, took action which conformed the regulation to the time table prescribed by P.L. 93-151.

Under P.L. 93-151 the Consumer Product Safety Commission is to conduct research using multiple layers of dried paint film, containing the various lead compounds commonly used, in order to ascertain the safe level of lead in residential paint products. A report on the Commission's findings and recommendations is due on or before December 31, 1974. Pending the outcome of the CPSC study, the Congress established a 0.5% lead standard, in conformity with existing regulations, until December 31, 1974, when the level will be reduced to 0.06% unless the Commission determines that another level (not to exceed 0.5%) is safe, then that level will go into effect after December 31, 1974.

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HEW's statutory responsibilities in the lead-based paint poisoning area also were significantly enlarged by the new act. The limitations upon eligibility for grants were extended to include public agencies of units of general local government in any State. HEW's authority, to prohibit the use of lead-based paint in federally-constructed or financed residential structures, was altered to include appropriate consultation with HUD, and its authority expanded to include, "...in consultation with HUD", to take such steps and impose such conditions as may be necessary or appropriate - "(2) to prohibit the application of lead-based paint to any toy, furniture, cooking utensil, drinking utensil, or eating utensil manufactured and distributed after the date of enactment of the Act." Hopefully, these regulations will clarify those items on which coatings containing more than 0.5% lead may continue to be used because no lead poisoning hazard exists from such uses.

Finally, the Department of HUD was directed to establish procedures to eliminate as far as practicable the hazards of lead based paint poisoning with respect to any existing housing which may present such hazards and which is covered by an application for mortgage insurance or housing assistance payments under a program administered by the Secretary. These procedures, which would apply, at least, to all such housing constructed prior to 1950, must, among other things, provide for appropriate measures to eliminate as far as practicable immediate hazards due to the presence of paint which may contain lead and to which children may be exposed.

Therein, in our opinion, lies the most urgent problem in the area of lead-based paint poisoning. Due to the common presence of older paints containing high concentrations of very soluble lead compounds in housing constructed prior to 1950, and, more particularly, because of a high incidence of deterioration and substandard maintenance in older residential structures,

we would like to address our remaining remarks to this last-mentioned grant of authority to HUD contained in Section 302 of The Lead-Based Paint Poisoning Prevention Act, as amended.

THE URGENCY OF ELIMINATING IMMEDIATE HAZARDS

According to a report issued by the National Bureau of Standards in December of 1972 entitled "Estimates of the Nature and Extent of Lead Paint Poisoning in the United States (NBS Technical Note 746) "... pediatric lead poisoning is a solvable problem. It has a known cause (the ingestion of lead-based paint), there is a known test for the early identification of children with the disease, the method of treating children with the disease is known, and the lead hazard in homes can be identified and removed. However the cost to do all this is high and may be prohibitive". (Emphasis supplied)

There can be no question but that the prompt treatment of known cases of lead poisoning and the screening and testing of children, particularly those who live in "high risk" areas, to identify those with dangerously elevated blood levels, is a matter of the utmost priority. Because screening programs in most areas are inadequate, where they exist at all, accurate statistics on the extent of lead poisoning are hard to come by. Such is the conclusion of the National Bureau of Standards in its Technical Note 746. However, as HUD stated in its recent report to Congress, NBS studies estimate that at any given time the number of children with elevated levels of lead in the blood can be as high as 600,000, although a portion of this population experiences no observable symptoms. Similarly, HEW estimates of the number of children with symptoms which should be treated could range as high as 125,000, and those possibly suffering neurological handicaps as high as 6,200. Most alarming, however, is the estimate that places childhood mortalities from lead poisoning as high as 100 per year.

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The need is obvious. Screening and testing programs must be expanded where they exist and initiated where they do not. But this is only a partial solution. For the only way to insure protection of a child with lead paint poisoning and to prevent future cases is to remove the immediate existing lead hazard. It is here that the Department of HUD can play a vital role in eradicating the disease of lead poisoning.

Although many metropolitan areas have screening programs, few have programs to remove the lead paint hazard from dwelling units. The National Bureau of Standards concluded that the principal reason for such is lack of money. It is no wonder, since NBS estimates that some 5 to 7 million dwelling units could offer a potential hazard if inhabited by children in the susceptible age range and deleading could cost anywhere from a few hundred to several thousand dollars per unit. And these statistics relate only to those residences estimated to be painted with lead-based paint which is peeling, cracking or blistering.

Assuming that the National Bureau of Standards was correct in suggesting that the cost may be prohibitive, it will be necessary to concentrate the limited available financial resources on eliminating the greatest and most immediate hazards. In its report to Congress the Department of Housing and Urban Development had little difficulty in identifying that immediate hazard, it is characterized by two interrelated factors: first, a dangerous level of lead in the paint; and, second, the condition of that paint. According to that report "Most of the paint with a high lead concentration was applied prior to 1950" and "...over 90% of the cases of lead poisoning in children can be associated with older homes characterized by peeling, cracking or blistering paint."

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The urgent nature of this immediate and serious hazard was recognized by HUD in its Housing Management Circular (HM 7482.1) of May 5, 1972, whereby it identified the existing health hazards as "Cracking, scaling, peeling and loose lead-based paint on surfaces in dwelling units ..." and directed that, for testing purposes, "...priority action and attention is required for residential structures built in 1950 or before."

Our primary concern in submitting these comments to the Department is to reemphasize the urgent need for priority action in this area. The question of whether modern paints with reduced lead levels are entirely safe for ingestion remains to be decided when all of the results of the ongoing research, which we discussed earlier, are in. The real, most serious hazard has been identified, however, and can be eliminated. Nor do we suggest that elimination of even the most immediate hazards will be an easy task. What we are certain of, however, is that prompt attention to removing cracking, peeling or blistering old lead-based paint in older homes where young children reside will drastically reduce the number of lead paint poisoning cases encountered each year. Recognition of this fact is implicit in the language of Section 302 of the Lead-Based Paint Poisoning Prevention Act, as amended.

THE ROLE OF INDUSTRY IN RESEARCH

The paint and coatings industry recognizes that this is not an easy task. However, from the outset we have been actively involved in a variety of research projects to discover new technology for the detection and elimination of lead paint hazards. The Atomic Energy Commission had in operation a lead detection device which they had developed for purposes other than the detection of lead in paint. After witnessing a demonstration of this device, a member of our technical staff suggested the possibility of applying that same technology to lead

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paint detection. We encouraged both the AEC and instrument manufacturers to undertake such research, and, at various stages in the development process, we provided technical advice and assistance in the evaluation of various instruments, which included providing panels which simulated the build-up of paint films on interior surfaces of houses and apartments in large cities. (These panels made use of old paint formulations which were in popular usage over the past 40 years and provided a composite paint film build-up composed of the various paint ingredients in use at different periods of time.)

Realizing that accurate detection of dangerous levels of lead in dried paint films on the walls of residences was only a part of the solution to the lead paint poisoning problem, research was begun into eliminating the hazards once detected. As a result, individual paint manufacturing companies have undertaken research in an attempt to render old lead-based paint, still existing on interior surfaces of residential buildings, either unpalatable or less harmful if eaten. One company has spent substantial amounts of time and money developing a harmless latex type paint that would impart a bitter, acerbic taste to any old paint surface over which it is applied. Another company has developed a paint, said to be completely harmless itself, which would add chelating agents to old paint films over which it is applied. The lead in composite chips of paint flaking from this surface (the new plus the old paint) would be eliminated from the body as wastes rather than being absorbed into the blood or body organs.

We will not go into further details on this research as it is our understanding that the results thereof will be presented in oral testimony by the companies involved.

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THE ROLE OF INDUSTRY IN EDUCATION

Recognizing the need for more public awareness on the problem of lead poisoning, the Association developed a variety of communications materials for use in various lead-poisoning prevention programs, and for dissemination through the media. These materials included hundreds of thousands of handout pamphlets printed in both English and Spanish, news announcements in both languages, a nationally-distributed film, numerous radio spot announcements in both English and Spanish and, finally, a Community Action kit containing information on lead poisoning and advice on how to initiate a lead poisoning prevention program on the local level.

Concentrated public education on lead poisoning symptoms and prevention is essential in a total program for lead poisoning prevention. Parents and guardians who are aware of the danger of lead poisoning from paint are more likely to discourage or prevent children from eating old paint chips and painted plaster, to recognize symptoms of lead poisoning in children, and to have children routinely tested for lead poisoning symptoms.

The importance of education was emphasized on February 1, 1973, in a statement distributed by the Health Services Administration (HSA) of the City of New York, saying that the lead poisoning case rate in New York City had dropped by 70% since 1970, when HSA launched an intensive program against lead poisoning. The release further stated: "HSA Administrator Gordon Chase ... gave primary credit for the drop to the health education provided by HSA's Screening and Outreach Program ... Chase said the outreach and education program has had major impact." (emphasis provided)

Lead programs conducted by cities such as Washington, D.C.; Cleveland; Springfield, Mass.; St. Louis; Charleston, S.C.; Baltimore and many others have indicated the importance of community education. The Association has cooperated with many groups to accomplish the public education process. For example, we actively participate in National Poison Prevention Week, the National Conference on Lead Poisoning and have had joint projects with Council of Better Business Bureaus. An important program is our work in the District of Columbia with various agencies who are keenly interested in lead poisoning prevention. We are also currently involved in information activities with the Committee for LEAD, a coalition of the public and private sectors in the District of Columbia whose goal is to eliminate lead poisoning in D.C.

While it is difficult to assess the precise results of these public information programs, we are confident that the Association's role in this work and related activities of a number of other agencies have enabled hundreds of communities to bring this serious problem to the attention of many additional persons.

THE IMPACT OF REMOVAL PROGRAMS

Thus far, our statement has attempted to focus on the actual hazard of old lead-based paint in older deteriorating residences, and the urgent need to eliminate that hazard. We have done so based upon existing statistical, medical and scientific knowledge. There are, however, additional practical considerations that should be taken into account. Funds for lead paint removal or, better yet, lead paint hazard elimination, are extremely limited. Yet, in his testimony of March 6, 1972, before the Senate Subcommittee on Health of the Committee on Labor and Public Welfare, Harold B. Finger, HUD Assistant Secretary for Research and Technology, using the figure of 7 million housing units that offer a present lead hazard and the estimated removal costs of the NBS at between \$5,000 and \$10,000 per unit, concluded that total re -

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moval or elimination costs could run as high as 35 to 70 billion dollars. Even his lowest estimate, using actual removal costs as experienced in Washington, D.C. and Chicago, remains quite high at between \$2 billion and \$14 billion. Consider, if you will, the potential costs of removing "lead paint" from the interior surfaces of all housing where it is believed to exist. The National Bureau of Standards equates potentially "lead hazardous" housing with standing housing built prior to 1940, and estimates those units to be in the neighborhood of some 30 million. It is generally conceded that pre-1940 housing contains paint with high concentrations of basic white lead carbonate. Even using the lowest conceivable per unit cost for removal (around \$300.) we arrive at a total removal cost for all pre-1940 housing of at least \$9 billion. I must call your attention to the fact that this figure represents the most conservative estimate possible. It is entirely conceivable that the total costs could well exceed 150 billion or, run as high as 300 billion.

It is presently inconceivable that such levels of funding (using even the most conservative cost estimates) can be made available in the reasonably foreseeable future. However, as Mr. Finger's testimony indicates, perhaps the need for such a level of funding for removal purposes has not yet been convincingly demonstrated. In his testimony he stated that of the total number of houses that may have interior lead paint (estimated at some 30 million), many are still in good condition and, "therefore, do not appear to offer a present hazard ..."

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As representatives of the manufacturers of over 90% of the dollar volume of paint and coatings products, we sincerely hope that the Department of HUD will perceive the importance in terms of concentrating the available financial resources on the greatest and most immediate hazard, of maintaining the definition of "lead-based paint" for removal purposes, at its present level.

Perhaps the recent crisis in the city of Philadelphia will serve as a learning experience to us all, in that it demonstrated the limitations of our ability to manufacture a quick, easy and final solution to this problem. There is, in our opinion, no such quick and easy solution. Those that appear to be often generate many new problems while contributing little or nothing at all to the real solution.

THE NEED FOR ADDITIONAL RESEARCH

We feel that more research is certainly required. Not only on what is truly a safe level of lead in residential paints, but also on the development of better devices to detect dangerous lead levels; on less expensive methods for eliminating potential as well as immediate hazards; on more effective means of educating the public on the dangers and symptoms of lead poisoning; and, finally, on all possible sources of lead poisoning.

Historically, it has been taken for granted that the ingestion of lead-based paint chips has been the leading cause of lead poisoning in children. However, of late, evidence is surfacing which indicates that lead in paint may not contribute as greatly to elevated lead levels in children as was previously assumed. Indeed, in its studies of the lead poisoning

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problem, the National Bureau of Standards concluded, that "there is little actual data to indicate the fraction of (lead poisoning) cases caused by paint as opposed to other sources."

The Bureau further concluded: "Thus to really insure a solution to the problem of lead poisoning as well as to assess its magnitude, it is necessary to know, with more certainty than is now known, what are the sources of the lead and how much each contributes to the poisoning problem."

Evidence coming from researchers and health officials in Los Angeles and Philadelphia indicates that airborne lead may well be a major contributing source of lead poisoning. Recent studies have indicated that faulty measurement procedures have understated levels of lead in the atmosphere by as much as 25 - 50 percent. These new findings have prompted the U. S. Environmental Protection Agency to promulgate a health regulation reducing by approximately two-thirds the lead content in the overall gasoline supply.

This is not to say that old lead-based paint is not a hazard. As long as the childhood phenomenon of pica exists deteriorating homes having such high lead content paint on their walls will continue to present a serious and immediate hazard to the health and the very lives of children residing therein. Our point is that, more information on the sources, treatment and prevention of the disease of lead poisoning is desperately needed. We further believe that massive infusions of funds at all levels of government will be required if we are to promptly treat known cases of the disease, expand programs to screen children in order to discover those who have elevated blood lead levels, develop more accurate devices to detect dangerous lead levels in paint on the wall, eliminate the hazard by covering it or removing it as necessary, and, finally, determining what are safe lead levels in identified contributing sources of this disease.

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We wish to commend the Department of Housing and Urban Development for their present effort to increase the existing store of knowledge on this vital problem.

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