The Lead-in-Paint Issues

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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 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 industry's products protect, beautify or contribute to the usefulness of hundreds of thousands of products manufactured nationwide. Although the monetary value of paint for a house, automobile or appliance is a very small part of the total monetary value of any of the items, the "value added" by paint is extraordinarily high. There is probably no single component in all these products that contributes as much protective value and aesthetic appeal per dollar as paints and coatings.

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

The major relationship of paint to the lead poisoning problem of today was identified 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. More than 30 years ago, the paint industry began eliminating these old heavily-leaded paints which often contained as much as 50% basic carbonate of lead (white lead), a highly soluble lead compound. These were the best quality paints known to man at that time, and the type prescribed by government specifications.

In inner-city dwellings, particularly slum housing where maintenance is minimal or non-existent and where housekeeping is below standard, chips of paint or paint-impregnated plaster may be eaten by young children. This is recognized now as one of the causes of childhood lead poisoning, and, according to medical experts, generally is associated with a condition known as "pica" — a compulsion to eat non-food materials such as dirt, wood, paint chips, paper, and plaster. When children are living in old, dilapidated, pre-World War II housing, they are exposed to the many coats of old paint on the walls and woodwork. The paint frequently contains significant amounts of old white lead pigments. Additionally, inner-city children are generally exposed to greater lead pollution in the air and on the ground caused in part by combustion sources. Under such circumstances, lead poisoning is likely to occur.

The National Paint and Coatings Association considers it most unfortunate, however, that the subject of lead in **modern paints** seems to be getting more attention today than the real problem — the old paint in the inner cities. The focus seems to have changed from the detection and elimination of the old lead-based paints to the question of what further reduction in the amounts of lead used in **modern paints** should be made by the industry. This does not suggest that the paint industry is opposed to laws or regulations on lead content. It has actively supported those which are accurate and in the public interest. It does not support laws and regulations which are arbitrary or misrepresent the problem.

Lead in Modern Paints

Of particular concern to the paint industry are regulations and/or legislation which would reduce the lead-content standard for household paints to 0.06 percent lead in the total non-volatile content of liquid paints or in the dried film of paint already applied.

The term "lead-based" paint has been used very loosely. It is more accurate to discuss very small quantities of lead in paints. The industry started phasing out white lead as a basic ingredient of interior paint more than 30 years ago, when titanium dioxide became com-

[illegible] because lead chromates, lead sulfochromates and lead molybdates, have been used to provide popular bright colors – reds, yellows, greens and oranges; and, of course, lead compounds have been used, where appropriate, in corrosion-resistant 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 already had been largely discontinued in interior residential paints to ensure that these products would not exceed the 1 percent level established some years ago by a voluntary standard and incorporated into the Lead-Based Paint Poisoning Prevention Act in 1971. Effective January 1, 1973, household paints now must comply with the order of the Food and Drug Administration which further lowered the lead-content standard to .5 %.

The small quantities of lead compounds used in some modern residential paints are added for 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 have a synergistic effect in the action of other ingredients; they promote proper film drying with better adhesion, and they prevent loss of drying properties during storage of the paint.

A .06 percent lead limit means that no lead may be added during the manufacturing process. The use of lead driers would therefore be eliminated.

NPCA does not agree that reducing the lead content to .06% is in any way necessary for the safety and health of children today, or yet unborn. It is NPCA's 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. **The primary problem to be resolved, then, is what is a safe standard, or said another way, what is the hazardous level of lead in paint, and how is this level to be determined?**

What is a Hazardous Level of Lead in Paint?

There are those who suggest that all lead in paint should and can be eliminated. As indicated previously, other groups have suggested that lead levels in paint be reduced to a .06% level. Both situations would constitute a **ban**. In both cases the **assumption** has been made that lead levels in excess of these amounts would build up to a hazardous level over the years after several layers of modern paints had been applied.

The proponents of the .06% level base their conclusion principally on the work of Dr. Robert A. Kehoe at the Kettering Laboratory, University of Cincinnati. The validity of Kehoe's work is not being questioned by NPCA. However, NPCA is questioning the assumptions made and conclusions drawn from Kehoe's research by others. Included is Dr. Barry King of the U.S. Public Health Service, Department of Health, Education and Welfare, whose work (which is also the basis for the position of the American Academy of Pediatrics), NPCA contends is based more on mathematical extrapolations from Dr. Kehoe's work than on research on dry paint films and appropriate animal-feeding studies incorporating these films.

[illegible] paint quality" recently when it accepted that Dr. Kehoe worked with a compound called lead acetate, a very soluble lead compound, which was introduced into the drinking water of the adult human subjects. He did not work with the kinds of lead compounds used in paint today and no attempt was made to feed paint chips to his subjects. The conclusions of Dr. King 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 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 of lead to be safe. This is the work done by Drs. Gage and Litchfield, who published their findings in England in 1969. In brief summary, this research indicates lead limits that are conservatively from 4½ 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 than the proposed .06% lead level. In fact, Drs. Gage and Litchfield showed that the danger dose is 50 times the safe dose.

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.**" (emphasis provided).

There is an absence of empirical data and to impose an arbitrary standard at this time is, in effect, condemning a useful consumer product which has not been fairly tested.

Research is Underway

Research is underway which will provide a sound and reasonable basis for legislation, if needed. NPCA has undertaken a research program, being conducted by an independent laboratory, involving animal-feedings of paint chips with the ingredients used in modern paints. The test protocols have been established, with the assistance and advice of FDA, the Bureau of Community Environmental Management (BCEM), – both part of the Department of Health, Education and Welfare – leading medical authorities, and others. The project is ongoing.

Meaningful results will be available during 1973, probably within 6 to 8 months.

Also, the Institute of Environmental Medicine of New York University Medical Center has a research program underway, funded by the City of New York. In addition, it is understood that FDA and BCEM have undertaken research programs of their own. Certainly, the scientific knowledge being developed by those studies will provide many of the answers to the questions which exist today.

Until these studies are completed on dried paint film containing the types and amounts of lead compounds actually used by the paint industry today, the reduction of the lead content in paints to an exceedingly low level, such as any proposal to establish a .06% standard, would be a precipitous and unnecessary action. NPCA is confident that research will prove that the 1.0% level of lead in modern paints is not a hazard to children. However, as evidence of its real concern and to provide an additional margin of safety, NPCA has actively supported a reduction to .5% lead in household paints effective since December 31, 1972. The .5% lead standard allows for limited use of lead driers and environmental and raw material contaminants. Contamination can occur because lead is such a common element.

General Impact on Paint Industry

As previously stated, a .06% level means for all practical purposes that the manufacturer can add no lead during the manufacturing process. Many manufacturers do not have available any "off the shelf" substitute. Therefore, at the very outset, extensive and costly testing and reformulation of entire product lines would be necessary. Any substitutes for lead compounds would themselves have to be tested, not only for effectiveness, but also toxicity.

In addition, it would be necessary, in order to prevent an inadvertent violation, for the manufacturer to install very expensive pharmaceutical-type analysis and testing equipment into the production line or have each product batch tested by outside laboratories before marketing. Outside testing is prohibitively expensive, particularly for small companies.

The immediate result of a .06% lead level would be a complete disruption of an industry with 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, the industry will do it. However, NPCA urges only that the necessity be established (not assumed) by competent, thorough research.

Federal Preemption

NPCA urges one other important provision in new laws. It asks that a full Federal preemption provision be inserted, similar to that in the Federal Hazardous Substances Act. Federal preemption is extremely important to manufacturers to avoid the undue and unnecessary burden of being required to comply with the proliferating and varying state and locally-established standards. Many of these differ in lead level standards, effective dates, and labeling requirements, resulting in confusion and obstacles for those manufacturers moving their products in interstate commerce. The Federal preemption would establish a uniform standard for the entire country.

In summary, NPCA is vitally concerned with the lead poisoning problem of today and strongly supports efforts to eradicate it. This can be accomplished by the removal or masking of the old paint peeling from the surfaces of dilapidated housing. The generations of tomorrow, yet unborn, must be protected by the production of safe products today. The safe lead level then is the key and should be finally and conclusively determined by adequate scientific research. This level, once determined, should become our nationwide standard. NPCA has urged that these objectives be accomplished as follows:

a. Incorporation of a requirement for research by HEW to determine the safe level of lead in residential paint products with the additional requirement of a timely report to Congress. This research requirement should be part of Federal law.

b. Deferral of any further reduction below the currently effective .5% lead standard unless and until the need for such reduction is established by the ongoing research.

c. Provision for Federal preemption which sets a uniform, national standard for lead levels in paint.

d. Aggressive detection, and correction programs at the state and local levels to eliminate the hazard of old lead paint. The programs should be sponsored and funded by the Federal Government to the maximum degree possible. This is a medical as well as housing problem, and programs to eliminate the hazard must be directed to both aspects.