

Scientific Section

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BALTIMORE CITY HEALTH
DEPARTMENT

National Paint Varnish and Lacquer Association

INCORPORATED
2201 NEW YORK AVE. N.W. WASHINGTON, D.C.

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Dr. John M. McDonald, Director,
Bureau of Occupational Diseases,
Baltimore City Health Department,
Baltimore, Maryland.

Dear Dr. McDonald:

I am submitting a series of six panels which you can use at your lecture before the Baltimore Production Club early in October. These panels are coated with bright colors that toy manufacturers would be interested in. The colors used are all free from lead compounds, and, insofar as we know, are non-poisonous.

In making these tints, we took a non-poisonous white opaque base pigment, and to approximately 20 parts of this pigment we added one part by weight of the solid color, and secured the bright tints.

Red. This was produced with lithol toner.

Green. This was produced with tungstated organic green toner.

Blue. This was produced with tungstated organic blue toner.

Blue. This was produced with Prussian blue.

Orange. This was produced with a mixture of medium lithol toner and Hansa yellow.

Yellow. This was produced with Hansa yellow G. As you may know, Hansa yellow is a nitraniline coupled with aceto-acetanilide.

With the above six strong colors, admixed with whites in different proportions, a manufacturer could make most of the desired bright shades of yellow, orange, green and blue.

The colors referred to above sell at prices ranging from 35 cents to over \$3.00 a lb. They are very strong colors and will stand large reductions with white base pigments.

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Other lead-free pigments that could be used for painting toys are the iron oxides in red, yellow or brown; chromium oxide and chromium hydroxide which are of a green color; carbon black and graphite which are black. Insofar as whites are concerned, titanium oxide, titanium-barium, and titanium-calcium pigments are absolutely non-toxic. In my opinion, zinc oxide, zinc sulphide and lithopone are non-toxic. Although slight solubility of some of the zinc compounds might be observed in acid gastric juice, zinc is not a toxic material as compared to lead, and zinc pigments therefore could probably be used with safety. A wide range of inert pigments could be employed, such as barium sulphate, calcium carbonate, magnesium silicate, aluminum silicate, etc. As you know, soluble barium compounds are poisonous, but barium sulphate is an insoluble substance which I believe is absolutely non-poisonous.

I might also suggest that the so-called "F.I.D. Colors" which are now used in foodstuffs under the approval of the U. S. Department of Agriculture, could be used in making stains for toys. Where an absolutely opaque color is not desired, a stain made with a thin binding solution and the desired amount of F.I.D. organic dyestuff colors could be used.

You can bring out the fact that there is relatively little danger of lead poisoning from paints which are now furnished by the paint manufacturer to the toy manufacturer, as most paint manufacturers are familiar with the non-poisonous types of pigments to use. The danger lies with the householder. He may have a crib which needs repainting, and he may use some old paint which is around the house, regarding which he has no information. Or he may go to a paint store and buy a can of vivid yellow enamel made with lead chromate. In other words, in all cases where children have been poisoned, the poisoning has come from paint applied by the householder rather than paint applied by the manufacturer. You should therefore point out that paint is not a substance which people eat. The householder, unless he uses care, is exposed to many more serious dangers. For instance, he may sprinkle kitchen lye on food, mistaking the lye for salt. Or he may use borax as an eye wash instead of boric acid. Or he may drop iodine in his eyes instead of argyrol, which is of about the same color, with resulting serious effects. Therefore, I understand that you will cite a few examples of this character, so that the householder will not get a bad impression of paint.

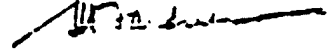
As you know, there is relatively little lead poisoning today because of the sanitary precautions observed in factories where lead pigments are manufactured, and because of the reasonable care exercised by the painter in the application of paints containing lead. But there are places, such as upon toys, where lead compounds should not be employed.

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In exhibiting the panels which I am sending you, please point out that these paints were made by rubbing the colors with oil on a slab with a muller. They were not ground in a mill. They look rather coarse in appearance but would make perfectly smooth paints if ground in a mill.

Trusting that I have given you the information you desire,
I remain,

Yours very truly,

A handwritten signature, possibly reading "J. M. ...", written in dark ink.

HAG-P

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